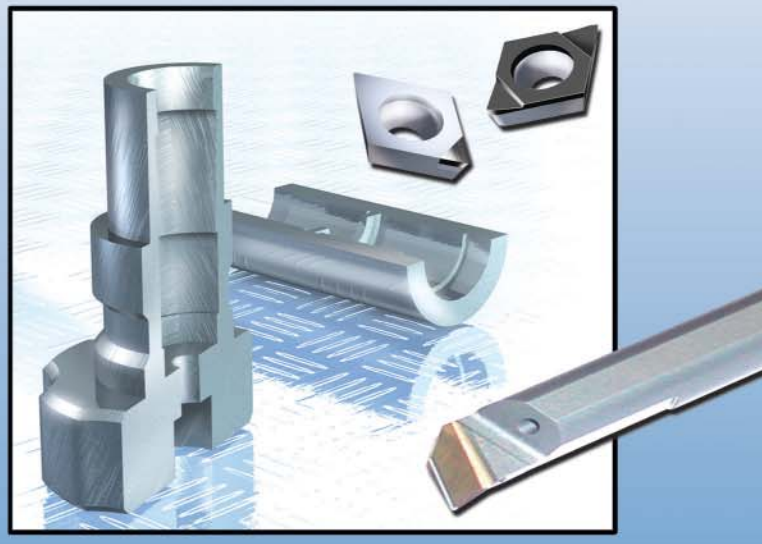
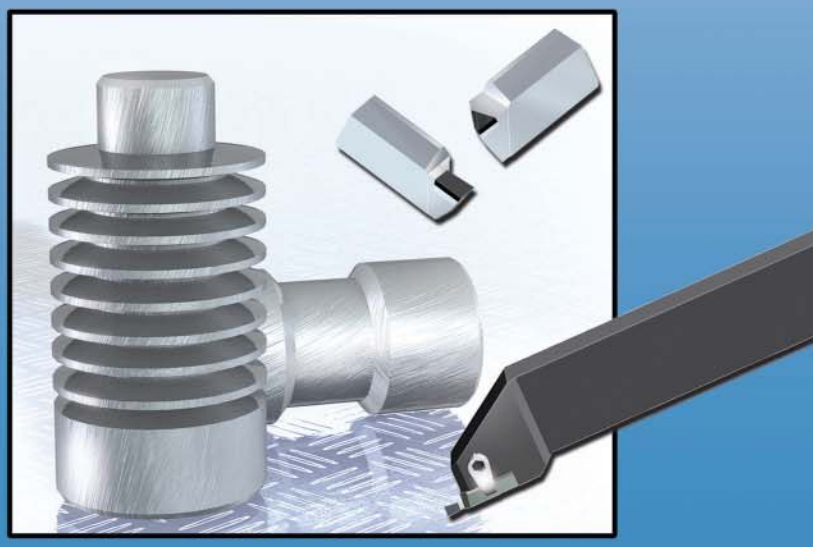
BECKER

PCD / CBN
Inserts & Tooling





TYSON TOOL®

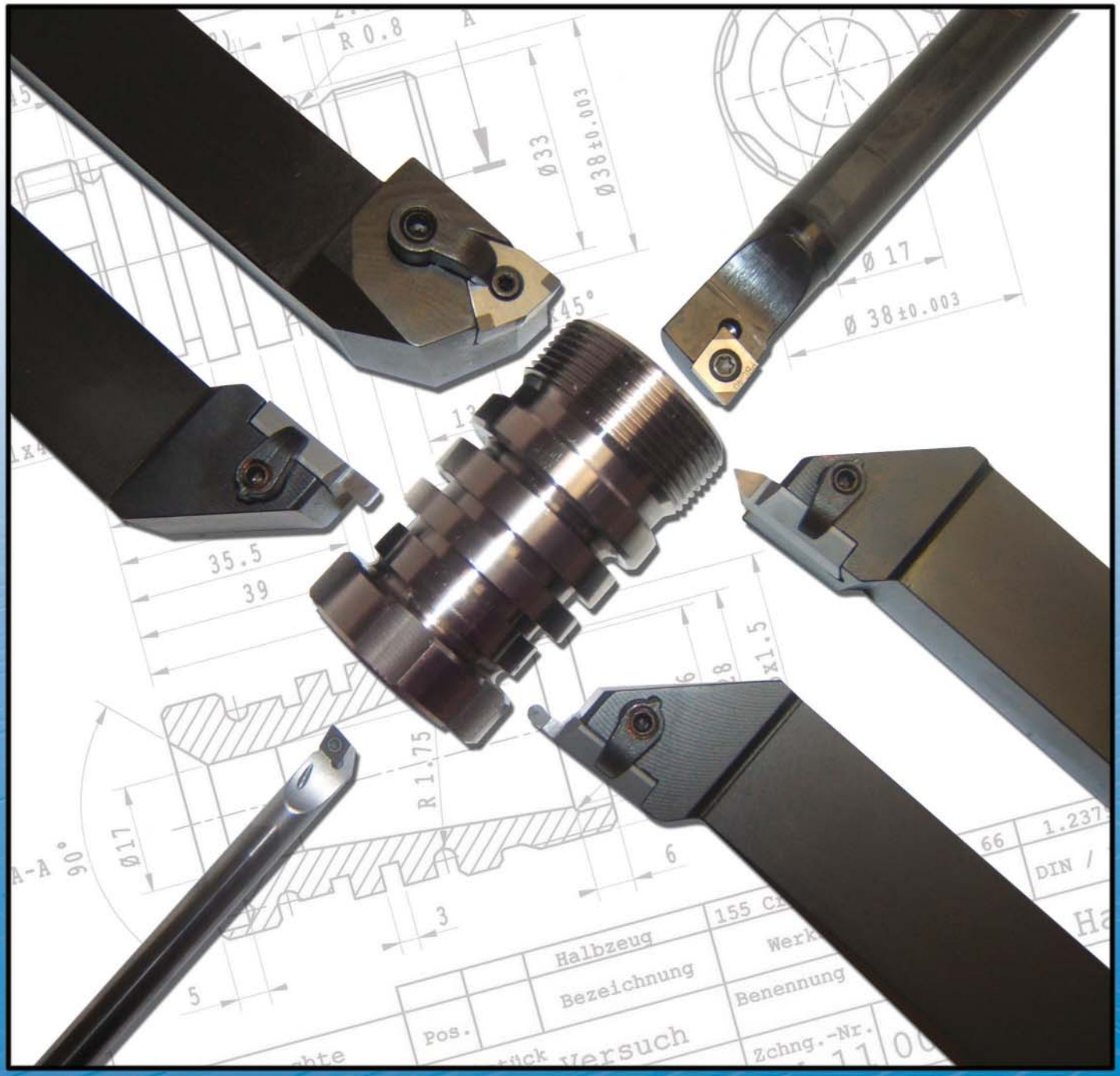
Test Sample

Workpiece Material: D2

Workpiece Hardness: 62 ± 2 HRc

Workpiece Tolerance: ± .0008"

Surface Finish Tolerance: Ra 16 µin

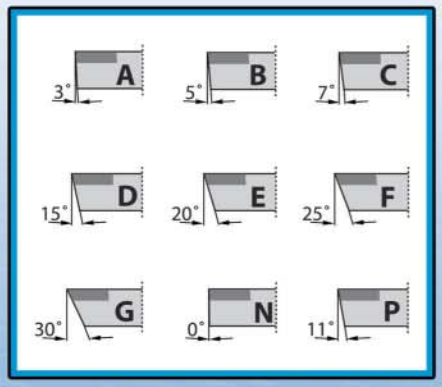


Go Back

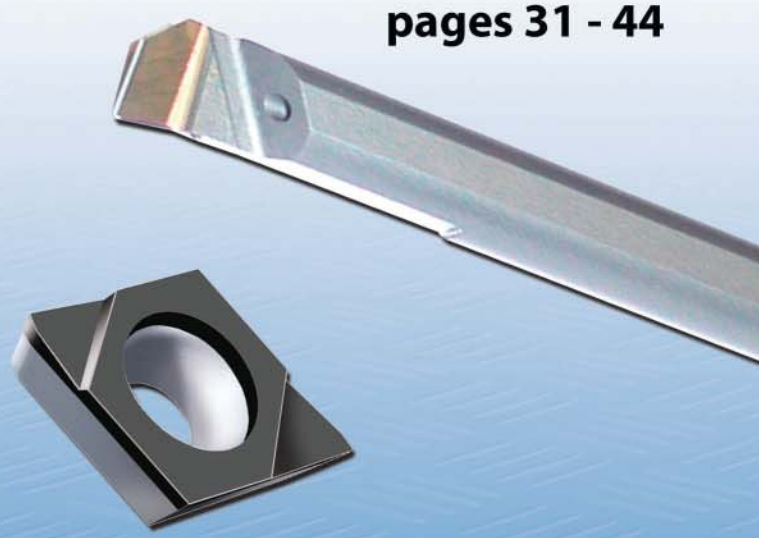
Index

Welcome to the vast product offering from BECKER Diamond of Germany!

Technical Info.
pages 2 - 30

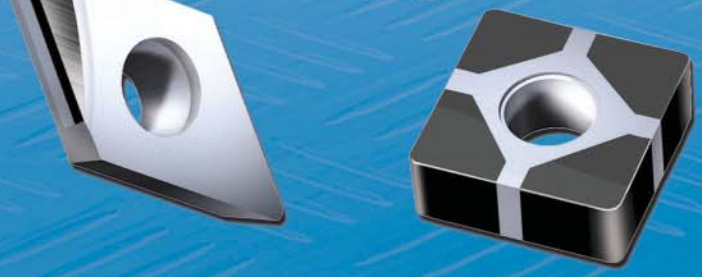


MiniCut
pages 31 - 44



FormCut
pages 45 - 60

ISO-HardCut
PCD pages 65 - 88
CBN pages 90 - 132
Milling pages 134 - 138
Tools pages 139 - 157



Go Back

Technical Info. - Index

Welcome to the vast product offering from Becker Diamond of Germany. To achieve optimum application success, closely follow the enclosed selection checklists. Maximum machining performance with Becker products is achieved through a calculated selection of required cutting materials, and proper macro-cutting edge geometries. Please be advised that machining with Becker tools will be significantly different from what you have become accustomed to with normal carbide tooling. Due to the physical properties of the Becker cutting materials, and the range of micro-cutting edge geometries, it is important that you completely rethink your machining approach when determining selection criteria.

When selecting the Becker grades from our comprehensive range, a complex performance profile of the machining result is required. Due to the different variations of tipped corner styles, macro and micro cutting edge geometries, careful pre-planning is required to ensure that the best tool is selected for the given application.

The overall machining system should also be reconsidered in order to achieve full performance from the Becker product. Use the most rigid and accurate tooling systems available. Machinery and equipment should be compatible with the machining tasks. Particular attention must be paid to the general rigidity, the slideways, spindles and work-holding systems. When all working parameters are optimized, you can achieve surface finishes in a nanometer range as a standard using Monocrystalline Diamond for non ferrous metals and with PCBN for hard cutting of hardened steel.

Using our Ultrahard Cutting Materials - Selection Criteria ..... page 3

Check List for Determining the Cutting Materials Grades (i.e. Hard- Cutting) ..... page 3

Workpiece Material Groups (DIN ISO 513) ..... page 4

Groups of Cutting Materials ..... page 5

Range of Application (DIN ISO 513) For Material Groups, P, M, K, N, S, H ..... page 6

Designation of Tipped Inserts, ISO, BECKER Comparison ..... page 7

Variations of Tipped Corners for all Ultrahard Cutting Materials ..... page 8 & 9

Wear Resistance and Toughness , Comparison of all our Ultrahard Cutting Materials ..... page 10

Positive Top Rake Geometries ..... page 11

ISO Insert Nomenclature ..... page 12 & 13

Flank Wear Characteristics of our Ultrahard Cutting Materials ..... page 14

Cutting Edge Geometry & Surface Finish Surface Roughness Rt & Feed Rates ..... page 15

Ultrahard Cutting Materials Grades - Materials - Performance ..... page 16 & 17

Cutting Data for Turning - P: Sintered Steel, Powdered Alloys ..... page 18

Cutting Data for Turning - K: Cast Iron, Grey & Nodular Cast Iron ..... page 19

Cutting Data for Turning - N: Nonferrous Metals & Nonmetallics ..... page 20 & 21

Cutting Data for Turning - S: Super-Alloys & Titanium ..... page 22

Cutting Data for Turning - H: Hard Materials ..... page 23 & 24

Cutting Data for Milling - K: Cast Iron, Grey & Nodular Cast Iron ..... page 25

Cutting Data for Milling - N: Nonferrous Metals & Nonmetallics ..... page 26 & 27

Cutting Data for Milling - H: Hard Materials ..... page 28

Trouble Shooting for PCD Applications ..... page 29

Trouble Shooting for CBN Applications ..... page 30

Check List for Determining the Cutting Materials Grades (i.e. Hard- Cutting)

1.) Determine the material group as per DIN ISO 513 ..... page 4
2.) Determine the range of application for your material group as per DIN ISO 513 ..... page 6
3.) Then determine the cutting data for your area of application based on the surface quality required, and machining application ..... page 18-28
4.) Check your selection of cutting material based on the grade description ..... page 16-17
5.) Determine the correct insert type including tipped corner style ..... page 8-9
6.) Based on nose radius and finish requirements, determine feed rate ..... page 15

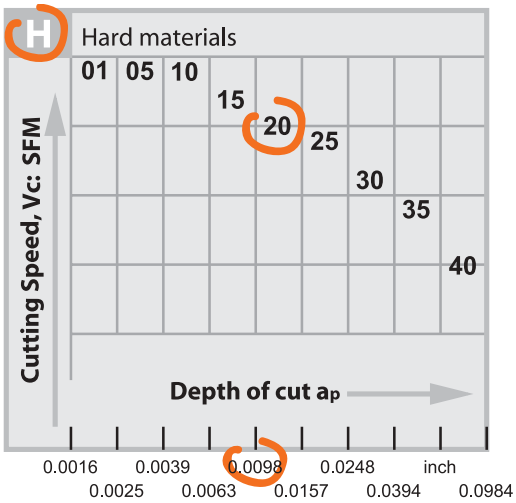
Example: Turning case-hardened steel HRc 62 ap=0.01", continuous cut in stable circumstances, a surface quality of Ra=24µ" must be achieved (At Ra=24µ" the overall machining environment must be checked for suitability)

1st Step
Material group **H**

Identification letter & colour	Main Materials	Range of applica
H	**Hard Materials:** Carburized or fully hardened steels from 48 to 65 HRc HSS, tool steel, cold and hot work steel, spring steel, ball-bearing steel, chilled cast iron, chilled cast iron rolls, chilled cast iron alloys, hardfacing alloys sintered carbide	H01 - H05 - H10 - H15 - H20 - H H35 - H40

Choose material spec. and hardness on page 4

2nd Step
Range of application **H-20**



Based on depth of cut, choose your range of application on page 6

3rd Step
Cutting material: SB40 (T) at Vc=358-520 SFM ap=.01"

Materials	Conditions of chip removal	Range of application H01 - H40					
	Turning	H01 - H15			H05 - H20		
		Ra µin			Ra µin		
		8-32	32-63	63-126	8-32	32-63	6
H Hard materials hardened steel HRc 48-54 hard turning	unstable (varied depth)			PBC-25 (F)			PB
				520-715			4
	continuous	SB40 (T)	PBC-17 (T)	PBC-25 (F)	SB40 (T)	PBC-17 (T)	PB
		390-520	423-585	520-715	358-520	423-553	4
	heavily + slightly interrupted	PBC-20 (T)	PBC-17 (T)	PBC-25 (T)	PBC-20 (T)	PBC-17 (T)	PB
		390-520	488-618	423-585	358-488	455-585	3

With application range and finish in mind, choose grade and specs. range on page 23

4th Step
Nose radius required

Theoretical Surface Roughness		Corner Radius				
		Feed Rate (f=inch/rev)				
Ra µin	Rt µin	r = .008	r = .016	r = .031	r = .047	r = .063
24	100	.002	.003	.004	.005	.006
63	250	.003	.004	.006	.007	.009
125	500	.005	.007	.009	.011	.014
250	1000	.006	.009	.012	.015	.018

With corner radius in mind, choose feed rate required on page 15

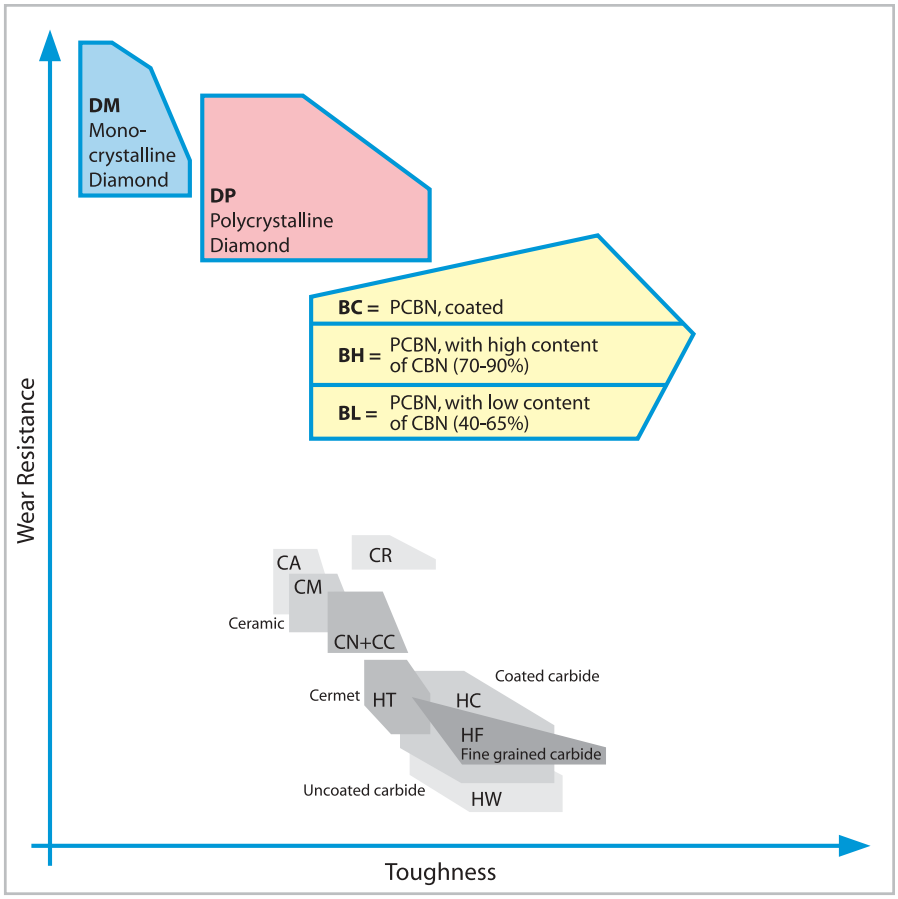
* Please note that these recommendations are guidelines based on rigid part set-up, good machine rigidity, and general machining practices.

Workpiece Material Groups (DIN ISO 513)

Identification letter & colour	Main Materials	Range of applications	ISO	BECKER Grade
P	**Steel** Sintered powdered alloys	P01 - P10	BH	PBC-17
		P05 - P15	BH	PBC-15
		P15 - P25	BH	SB10
		P20 - P40	BH	SBC1
M	**Stainless Steel**	**	CBN or PCD not suitable for this application range. For stainless steels above 48 HRc, refer to application range H	
K	**Cast Iron** **Grey Cast Iron** GG 10 - GG 35 **Nodular Cast Iron** GGG 40 - GGG 40.3 - GGG 50 GGG 60 - GGG 70	K01 - K25	BH	PBC-10
		K01 - K25	BH	PBC-15
		K05 - K20	BH	PBC-17
		K05 - K20	BL	PBC-25
		K05 - K40	BH	SB10
		K10 - K35	BL	SB25
		K15 - K40	BH	SBC1
N	**Nonferrous Metals** **Nonmetallics** Aluminum alloys, Low + High-Silicon Aluminum alloys, MMC's, Magnesium alloys, Copper-Copper alloys, Brass, Bronze, Precious metals, Plastics, GRP, CRP, Carbon and Graphite composits, Ceramics and other high-abrasive Nonmetallics	N01 - N35	DM	MDC
		N05 - N35	DP	PDC-L
		N05 - N40	DP	PDC
		N10 - N40	DP	PDC-S
S	**Super-alloys and Titanium:** Heat resistant special alloys based on Nickel or Cobalt, Titanium and Titanium alloys	S01 - S15	BH	PBC-10
		S01 - S15	BH	PBC-15
		S01 - S20	DM	MDC
		S01 - S30	BH	SB10
		S05 - S25	BL	PBC-25
		S15 - S40	BH	SBC1
H	**Hard Materials:** Carburized or fully hardened steels from 48 to 65 HRc HSS, tool steel, 300 & 400 series stainless cold and hot work steel, spring steel, ball-bearing steel, chilled cast iron, chilled cast iron rolls, chilled cast iron alloys, hardfacing alloys sintered carbide	H01 - H20	BL	PBC-40
		H01 - H25	BL	PBC-25
		H01 - H35	BL	SB40
		H01 - H40	BL	SB25
		H05 - H15	BH	PBC-17
		H05 - H25	BL	PBC-30
		H05 - H30	BL	PBC-20
		H20 - H40	BH	SBC1

As per DIN ISO 513 (2001) there are now additional identification letters for carbide (also cermet) and ceramic.

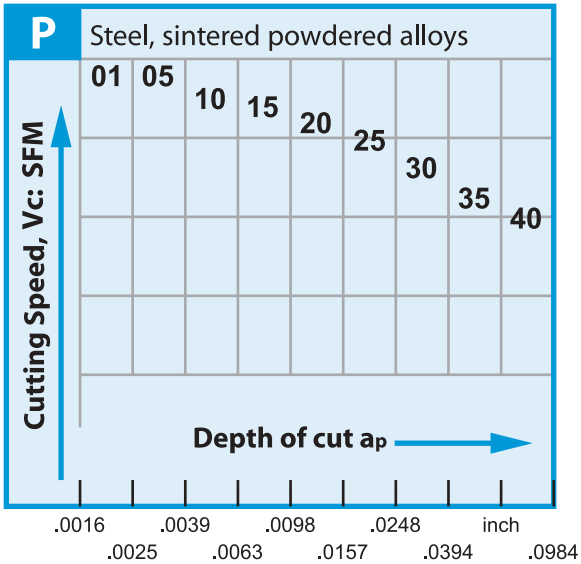
Furthermore new identification letters for the ultrahard cutting materials Polycrystalline Cubic Boron Nitride, Monocrystalline and Polycrystalline Diamond have been introduced.

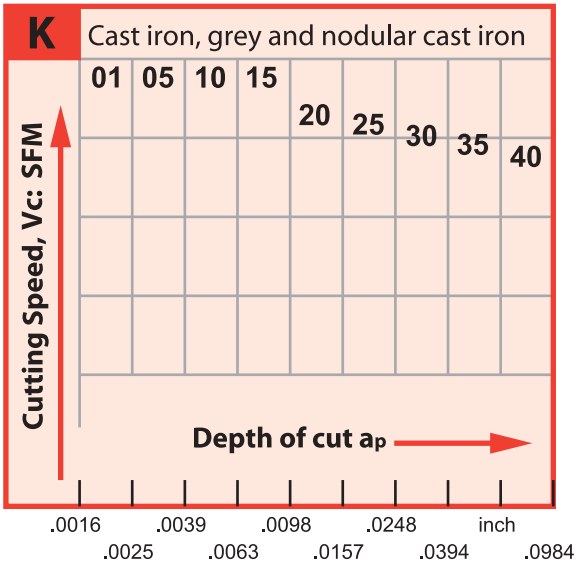


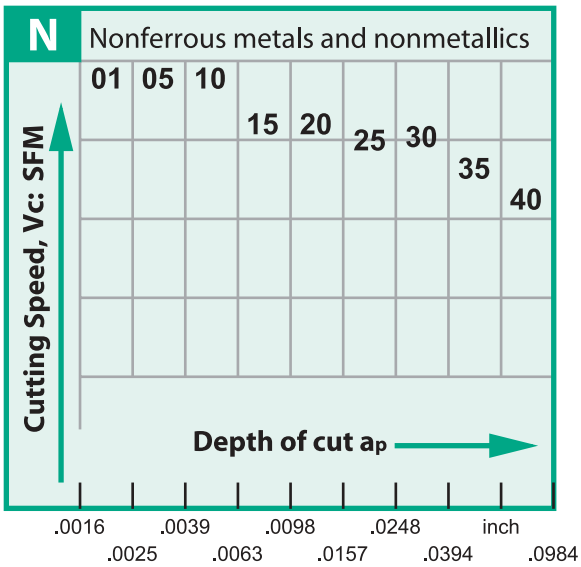
Groups of cutting materials (DIN ISO 513)

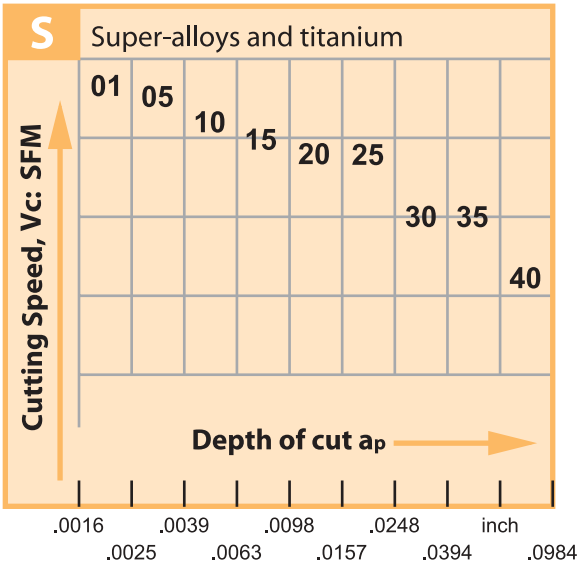
HW=	Uncoated carbide
HF=	Fine grained carbide
HT=	Cermet, TiC, or TiN
HC=	As above, but coated
CA=	Ceramic, main content Al_2O_3
CM=	Mixed ceramic, main content Al_2O_3, plus components other than oxides
CN=	Siliconnitride ceramic, main content Si_3N_4
CR=	Ceramic, main content Al_2O_3, reinforced
CC=	Ceramics as above, but coated
DM=	Monocrystalline Diamond
DP=	Polycrystalline Diamond
BL=	Polycrystalline Cubic Boron Nitride with low content CBN
BH=	Polycrystalline Cubic Boron Nitride with high content of CBN
BC=	Polycrystalline Cubic Boron Nitride as above, but coated

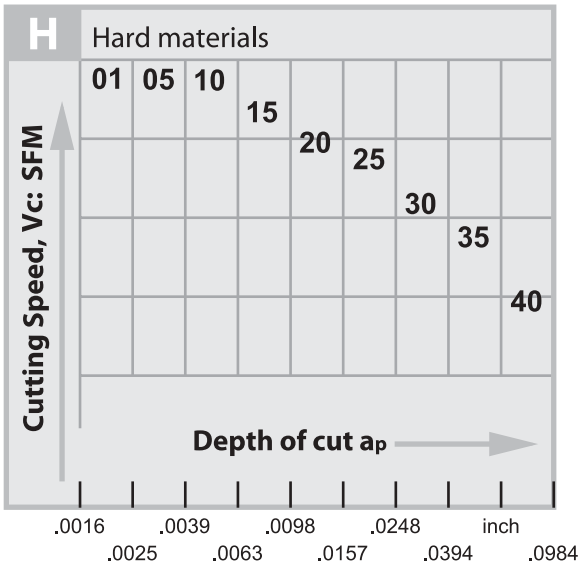
Range of Application (DIN ISO 513) for Material Groups P, K, N, S, H

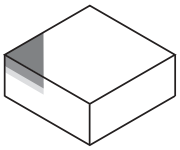
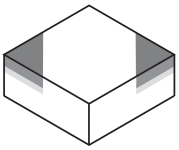
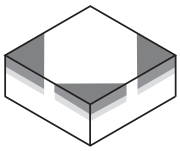
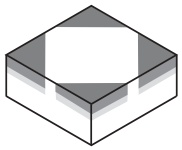
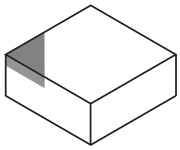
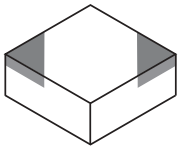
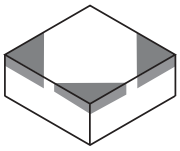
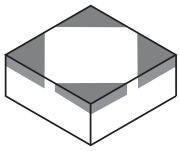
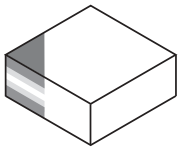
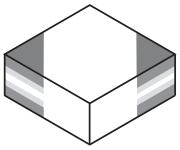
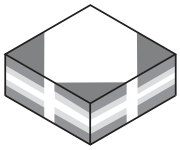
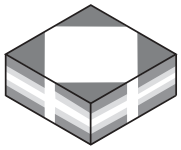
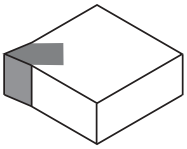
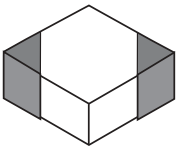
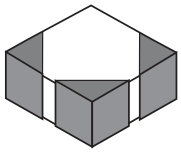
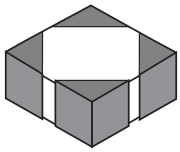
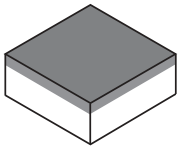
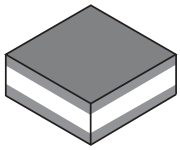
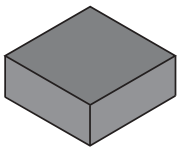




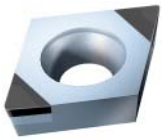
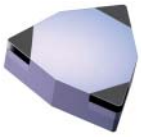
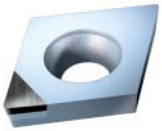
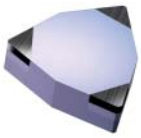
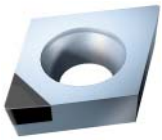
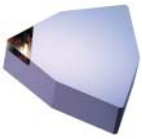


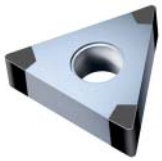
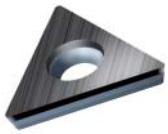
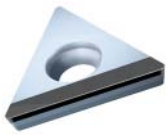
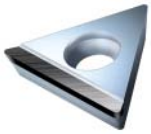




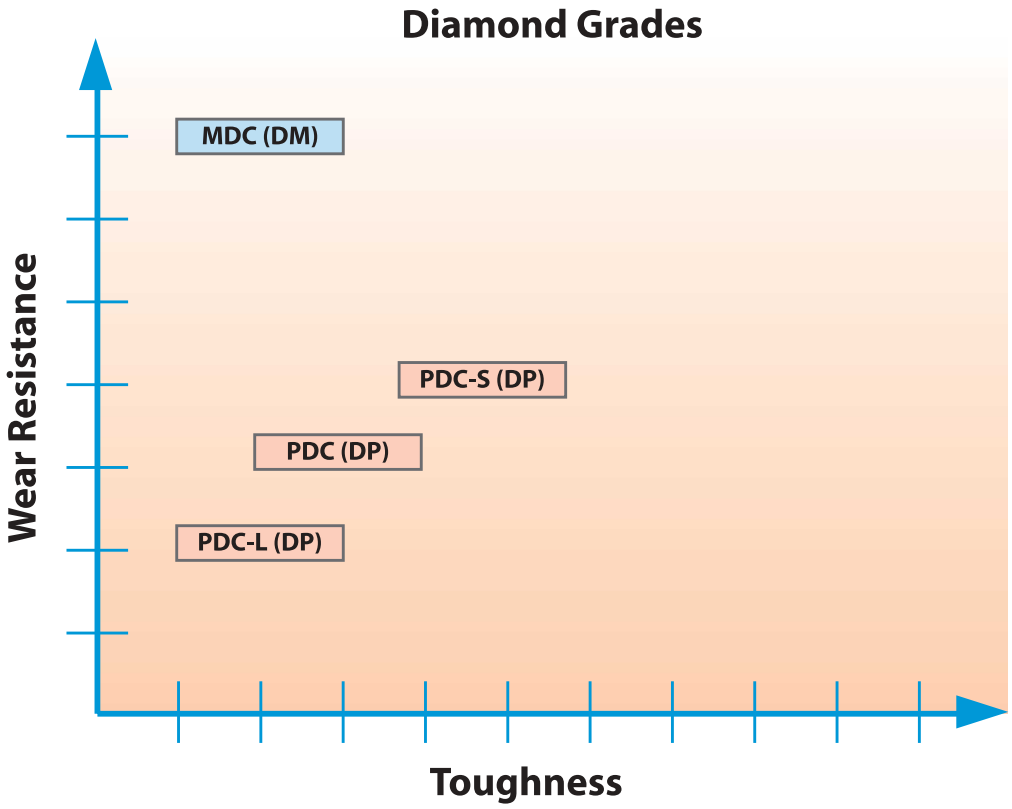
ISO	BECKER Designation	Design	Amount of tipped corners		
			2	3	4
A	EW MW MC PDC	 1 tipped corner, carbide reinforced			
A-S	EWS MC-S MDC	 1 tipped corner, solid grades			
C	***	 2 tipped corner, carbide reinforced			
D	PC-S PC-M	 1 tipped edge, solid grades			
F	VM	 Full face			
E	***	 Double sided full face			
S	SBC SB	 Solid			

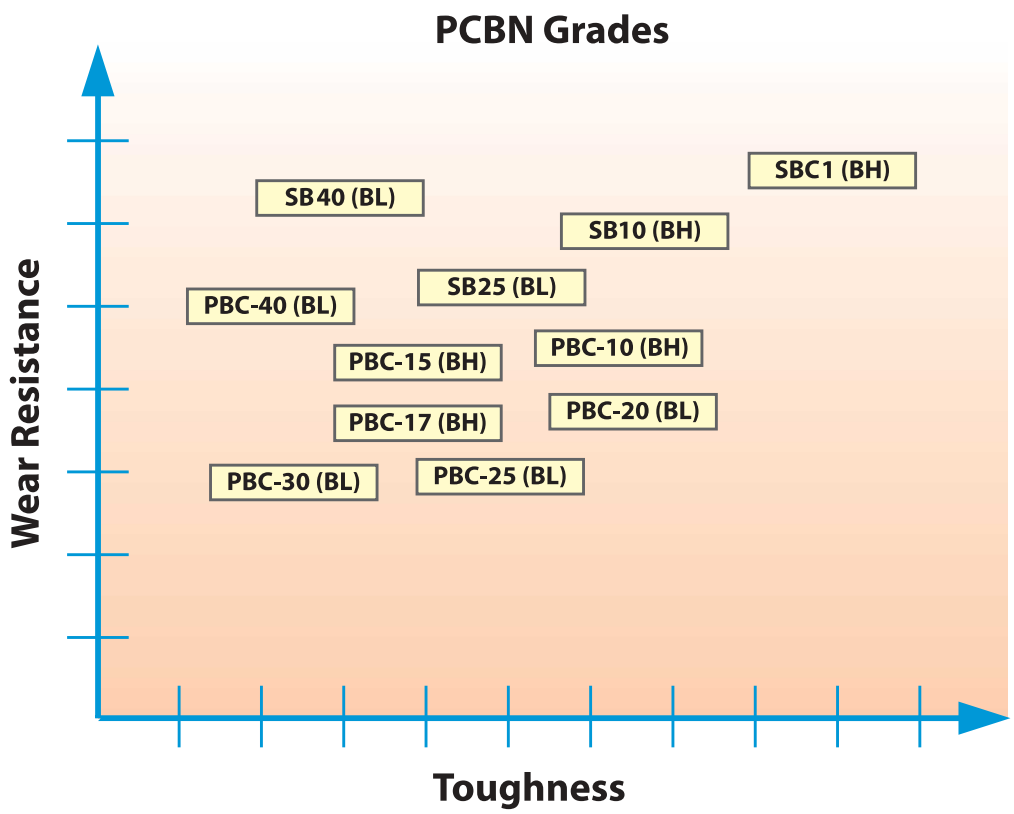
Variations of Tipped Corners for all Ultrahard Cutting Materials

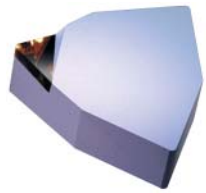
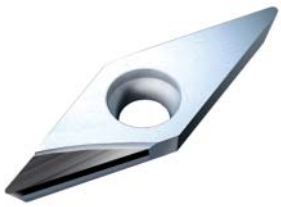
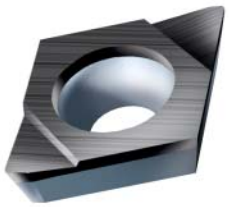
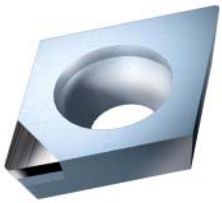
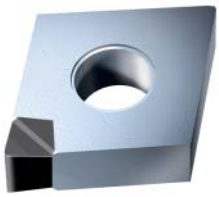
ISO	BECKER Designation	Design	Tip description	Grade	ISO
A	EW MW		Carbide reinforced PCBN - grades, thickness of PCBN layer = .024 - .039"	PBC-10, PBC-15, PBC-17 PBC-20, PBC-25 PBC-30, PBC-40	BH BH BL BL
A-2	MC		Carbide reinforced PCBN - grades, thickness of PCBN layer = .024 - .039"	PBC-10, PBC-15, PBC-17 PBC-20, PBC-25 PBC-30, PBC-40	BH BH BL BL
A-3	MC		Carbide reinforced PCBN - grades, thickness of PCBN layer = .024 - .039"	PBC-10, PBC-15, PBC-17 PBC-20, PBC-25 PBC-30, PBC-40	BH BH BL BL
A	PDC-L PDC PDC-S		Carbide reinforced PCD - grades	PDC-L, PDC PDC-S	DP DP
A-3	MC		Carbide reinforced PCD - grades	PDC-L, PDC PDC-S	DP DP
A-S	EWS		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
A-S2	MC-S		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
A-S	MDC		Solid Monocrystalline Diamond - grade without reinforcement	MDC	DM
D	PC-S		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL

ISO	BECKER Designation	Design	Tip description	Grade	ISO
D-2	PC-M		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
D-3	PC-M		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
D-4	PC-M		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
F	VM		Carbide reinforced PCBN - grades, Fullface	PBC-10, PBC-15, PBC-17 PBC-20, PBC-25 PBC-30, PBC-40	BH BH BL BL
F	VM		Carbide reinforced PDC - grades Fullface	PDC, PDC-S	DP
S	SBC SB		Solid PCBN - grades without reinforcement	SBC1, SB10 SB25, SB40	BH BL
**	SBC-GS SB-GS		Solid PCBN - grades whole cutting edge without reinforcement	SBC1, SB10 SB25, SB40	BH BL
**	PBC-GS		Carbide reinforced PCBN - grades whole cutting edge	PBC-10, PBC-15, PBC-17 PBC-20, PBC-25 PBC-30, PBC-40	BH BH BL BL
**	PDC-GS PDC-S-GS		Carbide reinforced PDC - grades whole cutting edge	PDC, PDC-S	DP

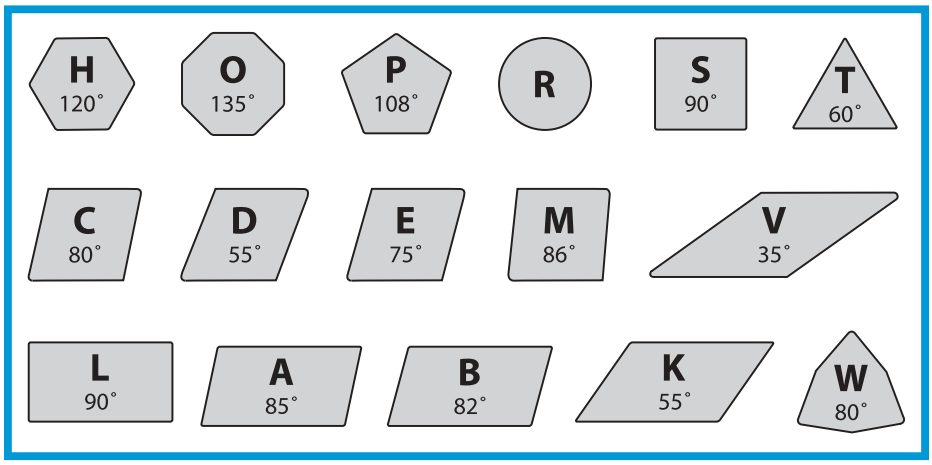
Wear Resistance and Toughness, Comparison of all our Ultrahard Cutting Materials



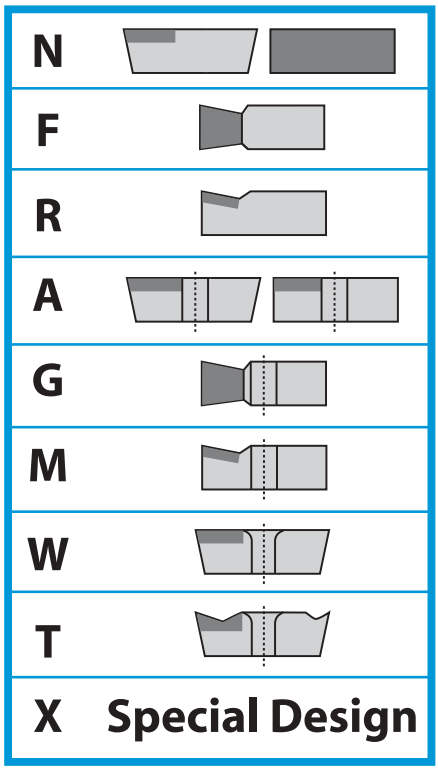


Top Rake		Advantages	Disadvantage
	1) negative insert 2) positive rake angle (R/L) 3) sharp cutting edge	**Cutting Materials:** **MDC** 1) very high cutting speed 2) large depth of cut 3) no cutting pressure 4) absolutely burr-free 5) very small tolerance limits 6) very high tool life	1) little reduction of surface finish caused by positive rake angle
	1) positive insert 2) positive rake angle (R/L) 3) sharp cutting edge	**Cutting Materials:** **PDC and PDC-S** 1) extremely large depth of cut 2) low cutting pressure 3) burr-free 4) small tolerance limits	1) little reduction of surface finish caused by positive rake angle
	1) positive insert 2) positive rake angle (N) 3) sharp cutting edge	**Cutting Materials:** **PBC and PDC for boring** 1) low cutting pressure 2) burr-free 3) small tolerance limits 4) high overhang 5) high cutting speed	1) little reduction of surface finish caused by positive rake angle
	1) positive insert 2) positive rake angle (N) 3) sharp cutting edge	**Cutting Materials:** **PDC, PDC-S, and PBC** 1) low cutting pressure 2) burr-free 3) small tolerance limits 4) high cutting speed	1) little reduction of surface finish caused by positive rake angle
	1) negative insert 2) positive rake angle (N) 3) sharp cutting edge	**Cutting Materials:** **SBC, SB** 1) great depth of cut 2) low cutting pressure 3) small tolerance limits 4) high cutting speed	1) little reduction of surface finish caused by positive rake angle

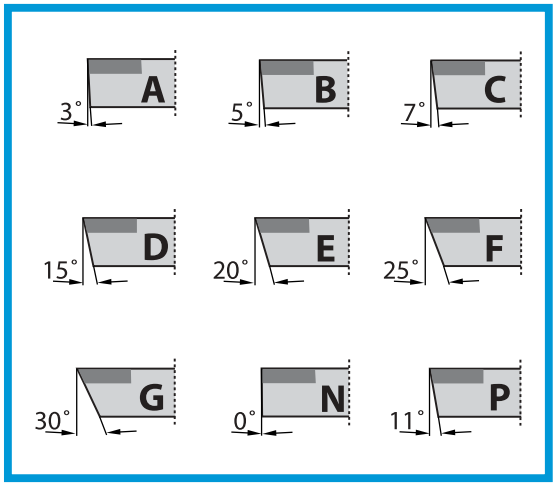
1. Shape



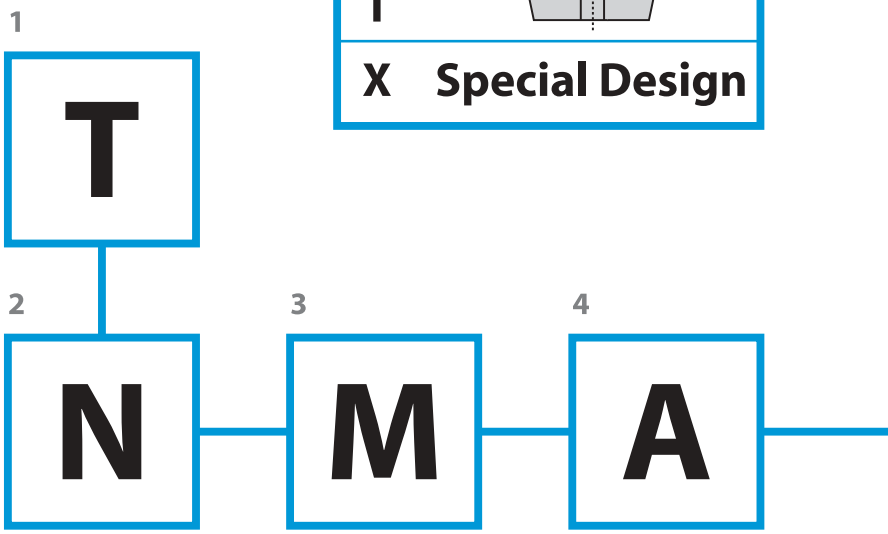
4. Insert type



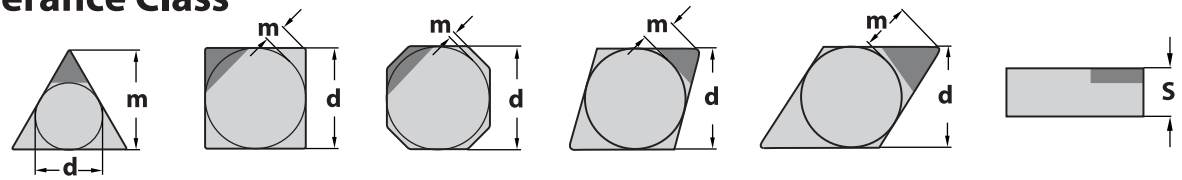
2. Clearance



ISO Designation Code Position 1 - 9



3. Tolerance Class



	m	s	d
A	± 0.0002	± 0.0010	± 0.0010
F	± 0.0002	± 0.0010	± 0.0005
C	± 0.0005	± 0.0010	± 0.0010
H	± 0.0005	± 0.0010	± 0.0005
E	± 0.0002	± 0.0010	± 0.0010
G	± 0.0010	± 0.0051	± 0.0010

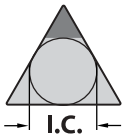
	m	s	d[1]
J	± 0.0002	± 0.0010	± 0.0020 - 0.0059
K	± 0.0005	± 0.0010	± 0.0020 - 0.0059
L	± 0.0010	± 0.0010	± 0.0020 - 0.0059
M[1]	± 0.0031 - 0.0079	± 0.0051	± 0.0020 - 0.0059
N[1]	± 0.0031 - 0.0079	± 0.0098	± 0.0020 - 0.0059
U[1]	± 0.0051 - 0.0150	± 0.0051	± 0.0031 - 0.0059

1) Exact tolerance is determined by size of insert

5. Insert I.C. Size

I.C. shown in 1/8 inch increments on inserts

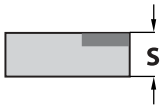
1.2 = 3/32"
1.5 = 3/16"
1.8 = 7/32"
2 = 1/4"
2.5 = 5/16"
3 = 3/8"
4 = 1/2"
5 = 5/8"
6 = 3/4"
8 = 1.0"



6. Thickness

(T) shown in 1/16 inch increments on inserts

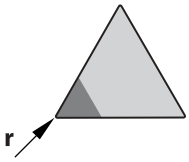
1 = 1/16"
1.2 = 5/64"
1.5 = 3/32"
2 = 1/8"
2.5 = 5/32"
3 = 3/16"
3.5 = 7/32"
4 = 1/4"
5 = 5/16"



7. Corner Configuration

1.) (R) shown in 1/64 inch increments

0 = .004"
0.5 = .008"
1 = 1/64"
2 = 1/32"
3 = 3/64"
4 = 1/16"
5 =5/64"
6 =3/32"
8 = 1/8"



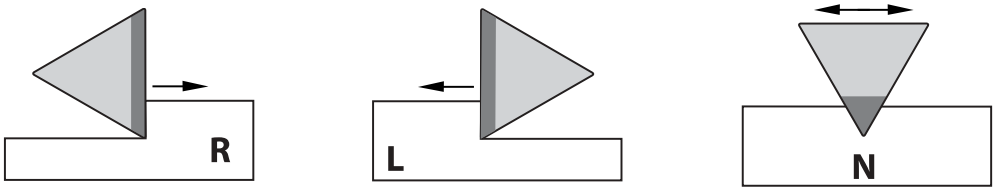
2.) For milling inserts
Major cutting edge angle:
A = 45˚
D = 60˚
E = 75˚
F = 85˚
P = 90˚

ZZ = detailed explanations are necessary

Wiper edge clearance
A = 3˚
B = 5˚
C = 7˚
D = 15˚
E = 20˚
F = 25˚
G = 30˚
N = 0˚
P = 11˚

8. Cutting Edge Condition

9. Cutting Direction



5 **3**

6 **3**

7 **2** 8 **T** 9 **R**

1) MDC - Monocrystalline Diamond (DM)

Monocrystalline diamond is the hardest known mineral. It's outstanding abrasive hardness and highest homogeneity enable the manufacture of ultra sharp and notch free micro-cutting edge qualities, (as it is ground from a single crystal) - not achievable using other cutting materials. The sharpness of the cutting edge produces a slight cutting pressure without any heat generated during machining. The unsurpassable wear resistance retains the perfect micro-cutting edge quality over an extremely long tool life. MDC cannot be used on aluminium with fillers.

2) PCD - Polycrystalline Diamond (DP)

The core structure (ultra-fine to coarse grain) of the Polycrystalline Diamond provides a higher toughness, yet lower wear resistance and reduced micro-cutting edge quality than with Monocrystalline Diamond. The reaction behaviour is identical, yet the higher toughness extends the application range considerably. Materials with a low to very high content (from 2% to 70%) of abrasives fillers can be machined with excellent tool life.

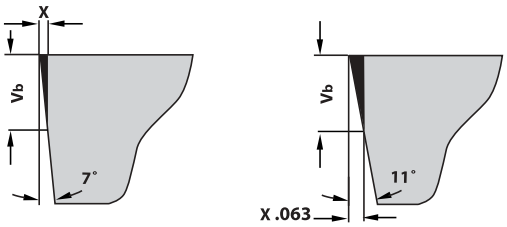
3) CBN - Polycrystalline Cubic Boron Nitride (BH and BL)

Polycrystalline Cubic Boron Nitride is the second hardest cutting material next to Diamond, however, it has far less in common with Diamond. Reaction resistance reaches 1,250°C which makes this cutting material have a very high wear resistance, toughness, compression strength and thermal hardness ideal for self-induced hot cutting mode of hardened steels.

Flank Wear of Ultrahard Cutting Materials

Flank wear has a significant influence on the life of all cutting tools. Due to the excellent flank wear resistance of all Becker cutting materials, they are clearly superior to conventional cutting materials in many fields. Typically, the Becker product will exhibit negligible flank wear - if any at all, thereby resulting in extremely long tool life.

The following drawing shows the difference of tool life under the same machining conditions for inserts with a clearance angle of 7° respectively 11°. Tool life of the insert with 11° angle will be 1.6 times longer than that of 7° before they reach the same width of flank wear. The following aspects should be taken into account in order to choose the adequate cutting edge geometry.



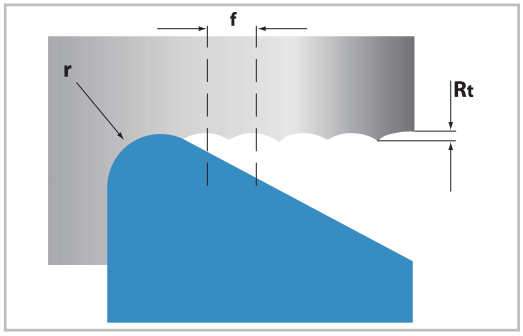
Under normal working conditions, abrasion will usually cause a certain degree of flank wear. Mono- and polycrystalline diamonds, however, are susceptible to abrasion caused by oxidation at a heat exceeding 650°C. The cause of flank wear is due to the extremely high thermal conductivity of diamonds. It is therefore recommended to select the smallest possible clearance angle for all diamond tools (if formation of burrs is of no importance). This selection will increase passive cutting pressure, leading to a better surface finish.

In contrast, CBN's low thermal conductivity flank wear is usually not only caused by abrasion, but also oxidation, diffusion, or adhesion, when applied for high speed cutting (HSC) and also self-induced hot cutting mode of hardened steel. With this point in mind, the correct clearance angle for external and internal turning is pivotal with regards to the friction between flank and the work piece. The passive cutting pressure and the temperature it is reaching can be controlled not only by the clearance angle, but also by the micro cutting edge geometry. In order to obtain maximum tool life, interaction of those facts must be considered.

One can simply calculate the theoretical surface roughness Rt- also known as R max and Rz. (In practice it usually runs up to four times the Ra value). The theoretical value, however, is again based on a perfect cutting edge geometry with a wide minor cutting edge angle. Using Becker MDC and PCD when machining nonferrous metals and non-metallics or CBN for grey cast iron results in hardly any flank wear or deformation of the cutting edge - due to the excellent flank wear resistance of our tools. It is therefore possible to complete the precise data for the required surface roughness, provided the cutting environment in itself will not hamper the machining as such.

In practice, the values of roughness will typically be less than the theoretical calculation when hard-cutting with CBN. This is due to a simple reason: the cutting process itself is influenced by self induced hot-cutting mode which can cause an extremely high passive cutting pressure.

Theoretical Surface Roughness		Corner Radius				
		Feed Rate (f=inch/rev)				
Ra µin	Rt µin	r = .008	r = .016	r = .031	r = .047	r = .063
24	100	.002	.003	.004	.005	.006
63	250	.003	.004	.006	.007	.009
125	500	.005	.007	.009	.011	.014
250	1000	.006	.009	.012	.015	.018

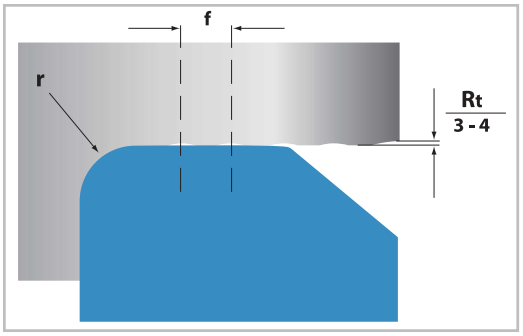


The practical application proves that the theoretically calculated value can hardly be achieved, since the environmental conditions tend to be imperfect. Unstable machining conditions, incorrect workholding, chucking, faulty or wrong tool system, wrong cutting speed and depth of cut etc. will impair the results. Conversely, working towards near perfect working conditions can result in an improved surface finish due to improved and optimized cutting edge geometries. In particular, the general reduction of the minor cutting edge angle, as well as the micro-geometries, with PCBN (for more cutting pressure) should be mentioned. In order to obtain the various stages of excellent surface finishes while hard-cutting, the T-land styles are of great influence. For a mirror-finish surface of nonferrous metals and nonmetallics, Becker is able to supply even MDC-inserts with a T-Land, if necessary.

With regards to high-performance cutting of all types, Becker has developed a variety of inserts with WIPER geometry for internal, external and milling processes. The WIPER edge replaces the above-mentioned minor cutting edge, reducing its angle to a minimum, thereby reducing the theoretically computed surface roughness by 2 to 4 times.

In practice this is the alternative for high-performance and high-tech cutting:

1) 2-4x higher feed rate = same surface finish 2) same feed rate = 2-4x improved surface finish



Wiper inserts are available for:

- FormCut
- MonoCut
- MiniCut
- ISO-HardCut

In addition to the improvements gained in productivity by decreased flank wear, Becker products will result in significant gains in product quality.

Grades	ISO	Composition - Performance	Application
Mono - and Polycrystalline Diamond - PCD & MDC			
MDC	DM	Solid monocrystalline diamond with no structure. Cutting edge is extremely sharp and without microdamages, generating no cutting pressure, allowing burr-free results with tolerances close to zero. Extremely flank wear resistant and maximum thermal conductivity, low toughness.	Superfinishing of all pure nonferrous metals and non-metallics with no abrasive reinforcement or silicon. (HSC - High Tech)
PDC-L	DP	Polycrystalline, carbide reinforced diamond of ultrafine grit size, high cutting edge sharpness, minimal cutting pressure allowing close tolerances. Good flank wear resistance and toughness.	Finishing of all pure nonferrous materials and nonmetallics with verylow content of abrasive reinforcement or silicon.
PDC	DP	Polycrystalline, carbide reinforced diamond of fine grit size, good cutting edge sharpness and low cutting pressure allowing close tolerances. Increased flank wear resistance and toughness.	Finishing and general purpose of all nonferrous metals and nonmetallics with low content of abrasive reinforcement or silicon.
PDC-S	DP	Polycrystalline carbide reinforced diamond of coarse grit size, good edge sharpness and low cutting pressure allowing close tolerances. Best performances for milling. High flank wear resistance and toughness.	Finishing, general purpose and milling of all nonmetallics with medium to high content of abrasive reinforcement or silicon.
Polycrystalline Cubic Boron Nitride - High Content CBN			
SBC1	BH	Solid polycrystalline Cubic Boron Nitride grade with high content of CBN and medium grit size. Designed with exceptional flank wear resistance, thermal stability, compression strength and toughness for roughing and finishing of grey cast iron. HSC and HPC.	Grey cast iron Chilled cast iron Ni-hard Super alloys Sintered powdered alloys
SB10	BH	Solid polycrystalline Cubic Boron Nitride grade with high content of CBN and fine grit size. HSC, HPC and superfinishing of grey cast iron (GG 25) causing excellent flankwear resistance and toughness.	Grey cast iron GG25 Super alloys Sintered powdered alloys
PBC-10	BH	Polycrystalline carbide reinforced Cubic Boron Nitride grade with high content of CBN and fine grit size, perfect flank wear resistance and toughness. HSC and superfinishing of grey cast iron (GG25) and finishing of super alloys.	Grey cast iron GG25 Super alloys Sintered powdered alloys
PBC-15	BH	Polycrystalline carbide reinforced Cubic Boron Nitride grade with high content of CBN and fine grit size. The favourable grade for sintered powdered alloys, very good flank wear resistance and toughness.	Grey cast iron Super alloys Sintered powdered alloys
PBC-17	BH	Polycrystalline carbide reinforced Cubic Boron Nitride grade with high content of CBN and fine grit size. This grade excels in two main fields of application: general purpose and finishing of nodular cast iron, and hard-cutting of hardened steel (HRc 48-54) using flood coolant.	Nodular cast iron (GGG40 - GGG70) Hard-cutting (HRc 48 - 54) Sintered powdered alloys

Grades	ISO	Composition - Performance	Application
Polycrystalline Cubic Boron Nitride - Low Content CBN			
PBC-20	BL	Polycrystalline carbide reinforced Cubic Boron Nitride grade with low content of CBN and fine grit size. Engineered for hard-cutting of hardened steel (HRc 56 - 65) when highest surface finish is crucial (Ra 8µin - 32µin. Good performance in heavy interruptions as well as continuous cutting.	Hardened steels (HRc 56 - 65) dry cutting for Ra 8µin - 32µin ap= .006" - .020"
SB25	BL	Solid Polycrystalline Cubic Boron Nitride with low content of CBN and fine grit size. Highest compression strength, toughness and flank wear resistance when hard-cutting (HRc 56-65) with high depth of cut. (ap = .012" - .079"). Thermal conductivity is reduced and a soft cut attained. Suitable for continuous as well as heavy interrupted cutting. Also finishing of grey cast iron at a very low cutting speed.	Hardened steels (HRc 56 - 65) dry cutting for Ra 32µin - 125µin ap= .012" - .079" Grey cast iron (Vc 800 - 1140 sfm)
PBC-25	BL	Polycrystalline carbide reinforced Cubic Boron Nitride with low content of CBN and fine grit size. Excellent wear resistance, compression strength and toughness for hard-cutting. (HRc 54-62) General purpose for continuous and slightly interrupted cutting at surface finish Ra 32µin - 125µin. Also, finishing of grey cast iron at a very low cutting speed.	Hardened steels (HRc 56 - 65) dry cutting for Ra 32µin - 125µin ap= .003" - .016" Grey cast iron (Vc 975 - 1300 sfm)
PBC-30	BL	Polycrystalline carbide reinforced Cubic Boron Nitride with low content of CBN and fine grit size. Excellent wear resistance, compression strength and toughness for hard-cutting. (HRc 56 - 65 applying flood coolant) Suitable for continuous and heavily interrupted cutting at surface finish Ra 32µin - 63µin.	Hardened steels (HRc 56 - 65) with flood coolant for Ra 32µin - 63µin ap= .003" - .016"
SB40	BL	Solid Polycrystalline Cubic Boron Nitride with low content of CBN and ultrafine grit size. Extreme wear resistance, compression strength and toughness for dry hard-cutting (HRc 56 - 65) at higher feed rates with lower depth of cut. Very soft cut at continuous and slightly interrupted cutting.	Hardened steels (HRc 56 - 65) dry cutting for Ra 8µin - 32µin ap= .012" - .060"
PBC-40	BL	Solid Polycrystalline Cubic Boron Nitride with low content of CBN and ultrafine grit size. Perfect wear resistance for dry hard-cutting at higher feed rates with low depth of cut. Continuous and slightly interrupted cutting.	Hardened steels (HRc 56 - 62) dry cutting for Ra 32µin - 63µin ap= .002" - .012"

Turning

Materials	Conditions of chip removal	Range of application P01 - P40						Vc		
		P01 - P15 see page 6			**P10 - P25** see page 6			**P20 - P40 (HPC)** see page 6		
	Turning	**Vc: SFM**			**Vc: SFM**			**Vc: SFM**		
		1300-2275	**813-1300**	**488-975**	**1300-2275**	**813-1300**	**488-975**	**1300-2275**	**813-1300**	**488-975**
P Steel sintered powdered alloys	unstable (varied depth)	PBC-15 (T)	PBC-15 (T)	PBC-15 (T)	PBC-15 (T)	SBC-10 (T)		SBC1 (T)	SB10 (T)	SBC1 (T)
	continuous	PBC-15 (F)	PBC-15 (F)	PBC-15 (T)	SBC1 (T)	PBC-15 (T)	PBC-17 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)
		PBC-17 (F)	PBC-17 (T)	PBC-10 (F)	PBC-15 (T)	PBC-17 (T)			SB10 (T)	
	heavily + slightly interrupted	PBC-15 (T)	PBC-15 (T)	PBC-15 (T)	SBC-1 (T)	SBC1 (T)	PBC-17 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)
		PBC-10 (T)	PBC-10 (T)	PBC-17 (T)		SB10 (T)			SB10 (T)	

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

Turning

Materials	Conditions of chip removal	Range of application K01 - K40						Vc		
	Turning	**K01 - K15** see page 6			**K10 - K25** see page 6			**K20 - K40 (HSC+HPC)** see page 6		
		Vc: SFM			Vc: SFM			Vc: SFM		
		2925-6500	**1625-2925**	**1138-1625**	**2925-6500**	**1625-2925**	**1138-1625**	**2925-6500**	**1625-2925**	**1138-1625**
K Cast irons (grey cast iron) GG10 GG15 GG20	unstable (varied depth)	PBC-15 (T)	PBC-15 (T)	PBC-25 (T)	PBC-15 (T)	PBC-15 (T)	PBC-25 (T)	SBC1 (T)	SB10 (T)	SB25 (T)
		PBC-10 (F)	PBC-10 (F)		PBC-10 (F)			SB10 (T)	SBC1 (T)	
	continuous	PBC-15 (F)	PBC-15 (T)	PBC-25 (F)	PBC-10 (T)	PBC-10 (F)	PBC-25 (F)	SBC1 (T)	SB10 (T)	SB25 (T)
		PBC-10 (F)	PBC-10 (F)		SB10 (T)			SB10 (T)	SBC1 (T)	
	heavily + slightly interrupted	PBC-15 (T)	PBC-15 (T)	PBC-25 (T)	PBC-10 (T)	PBC-10 (T)	PBC-25 (T)	SBC1 (T)	SBC1 (T)	SB25 (T)
		PBC-10 (T)	PBC-10 (T)		SB10 (T)			SB10 (T)	SB10 (T)	
K Cast irons (grey cast iron) GG25 GG30 GG35	unstable (varied depth)	PBC-15 (T)	PBC-15 (T)	PBC-25 (T)	PBC-15 (T)	PBC-15 (T)	PBC-25 (T)	SB10 (T)	SB10 (T)	SB25 (T)
		PBC-10 (F)	PBC-10 (F)		PBC-10 (T)			SBC1 (T)	SBC1 (T)	
	continuous	PBC-10 (F)	PBC-10 (F)	PBC-25 (F)	PBC-10 (T)	PBC-15 (T)	PBC-25 (F)	SB10 (T)	SBC1 (T)	SB25 (T)
		PBC-10 (F)			PBC-10 (F)		PBC-25 (T)	SBC1 (T)	SB10 (T)	
	heavily + slightly interrupted	PBC-10 (T)	PBC-10 (T)	PBC-25 (T)	PBC-10 (T)	PBC-10 (T)	PBC-25 (T)	SBC1 (T)	SBC1 (T)	SB25 (T)
		SB10 (T)						SB10 (T)	SB10 (T)	
K Cast irons (nodular cast iron) GGG40 GGG50 GGG60 GGG70	unstable (varied depth)			PBC-17 (T)			PBC-17 (T)		SBC1 (T)	PBC-17 (T)
										SBC1 (T)
	continuous		SBC1 (T)	PBC-17 (F)		SBC1 (T)	PBC-17 (F)		SBC1 (T)	PBC-17 (T)
				PBC-17 (T)			PBC-17 (T)			SBC1 (T)
	heavily + slightly interrupted		SBC1 (T)	PBC-17 (T)		SBC1 (T)	PBC-17 (T)		SBC1 (T)	PBC-17 (T)
				PBC-15 (T)			PBC-15 (T)			SBC1 (T)

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

Turning

Materials	Conditions of chip removal	Range of application N01 - N40								
		N01 - N20 (HSC) see page 6			**N20 - N30 (HSC)** see page 6			**N25 - N40 (HSC+HPC)** see page 6		
	Turning (high-speed)	**Rt (Rz) µ**			**Rt (Rz) µ**			**Rt (Rz) µ**		
		3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin
N Nonferrous metals Aluminum alloys without silicon	unstable (varied depth)	MDC	PDC	PDC	MDC	PDC	PDC	MDC	PDC	PDC
		2925-9750	1300-8125	1300-8125	1950-8125	1300-6500	1300-6500	1625-6500	1300-5200	1300-5200
	continuous	MDC	PDC-L	PDC	MDC	PDC-L	PDC	MDC	PDC-L	PDC
		2925-13000	1300-8125	1300-8125	1950-9750	1300-6500	1300-6500	1625-8125	1300-5200	1300-5200
	heavily + slightly interrupted	MDC	PDC	PDC	MDC	PDC	PDC	MDC	PDC	PDC
		2925-9750	1300-8125	1300-8125	1950-8125	1300-6500	1300-6500	1625-6500	1300-6500	1300-5200
N Nonferrous metals Aluminum alloys with less than 12% silicon	unstable (varied depth)		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	PDC-S
			1950-6500	1950-7150		1950-5850	1950-6500		1950-4875	1950-5850
	continuous	MDC	PDC	PDC-S		PDC	PDC-S		PDC	PDC-S
		3900-4875	1300-6500	1300-7150		1300-5850	1950-6500		1300-4875	1300-5850
	heavily + slightly interrupted		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	
			1950-6500	1950-7150		1950-5850	1950-6500		1950-4875	
N Nonferrous metals Aluminum alloys with more than 12% silicon	unstable (varied depth)			PDC-S			PDC-S			PDC-S
				1950-5850			1950-4875			1950-3900
	continuous		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	PDC-S
			2600-3900	1300-5850		2275-3250	1300-4875		1950-2925	1300-3900
	heavily + slightly interrupted			PDC-S			PDC-S			
				1950-5850			1950-4875			

Rt + Vc

Coolant: Air (plastics) or flood coolant (metals), it is tool life only that is reduced when cutting without cooling, the surface finish, however, is not affected.

Turning

Materials	Conditions of chip removal	Range of application N01 - N40								
								Rt + Vc		
		N01 - N20 (HSC) see page 6			**N20 - N30 (HSC)** see page 6			**N25 - N40 (HSC+HPC)** see page 6		
		Rt (Rz) µ			**Rt (Rz) µ**			**Rt (Rz) µ**		
		3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin
N Nonferrous metals Copper and copper alloys brass, bronze, precious metals	Turning (high-speed)									
	unstable (varied depth)	MDC	PDC-L	PDC	MDC	PDC	PDC-S	MDC	PDC	PDC-S
		1950-8125	1300-5850	975-4875	1950-6500	1300-5200	975-4875	1625-5850	1300-4875	975-4550
	continuous	MDC	PDC-L	PDC	MDC	PDC-L	PDC-S	MDC	PDC	PDC-S
		1950-9750	1300-7150	975-5850	1950-8125	1300-5850	975-5525	1625-6500	1300-5200	975-4225
	heavily + slightly interrupted	MDC	PDC	PDC	MDC	PDC	PDC-S	MDC	PDC	PDC-S
		1950-9750	1300-5850	975-5200	1950-6500	1300-5200	975-5200	1625-5850	1300-4550	1300-4875
N Non-metallics pure plactics without re-inforcement	unstable (varied depth)	MDC	PDC-L	PDC	MDC	PDC-L	PDC	MDC	PDC-L	PDC
		1950-9750	1625-5850	1300-3900	1950-5850	1300-3900	975-3250	1950-5850	975-2925	650-3250
	continuous	MDC	PDC-L	PDC	MDC	PDC-L	PDC	MDC	PDC-L	PDC
		1300-11375	975-5850	975-3900	1300-5850	975-3250	650-3250	1300-5850	650-2600	650-2925
	heavily + slightly interrupted	MDC	PDC-L	PDC	MDC	PDC-L	PDC	MDC	PDC-L	PDC
		1950-9750	1625-5850	1300-3900	1950-5850	1300-3900	975-3250	1950-5850	975-2925	650-3250
N Non-metallics plastics with re-inforcement (ie/ GRP, CRP)	unstable (varied depth)	MDC	PDC-S		MDC	PDC-S	PDC-S		PDC-S	PDC-S
		2600-3900	1625-3250		2275-2925	1300-2925	975-2925		975-2600	650-3900
	continuous	MDC	PDC-S		MDC	PDC-S	PDC-S		PDC-S	PDC-S
		1300-4550	1300-2925		1950-3250	975-2600	650-2925		650-2600	650-4550
	heavily + slightly interrupted	MDC	PDC-S		MDC	PDC-S	PDC-S		PDC-S	
		2925-3900	1625-3250		2275-2925	1300-2600	975-3250		975-2600	

Coolant: Air (plastics) or flood coolant (metals), it is tool life only that is reduced when cutting without cooling, the surface finish, however, is not affected.

Turning

Materials	Conditions of chip removal	Range of application S01 - S40								
								Vc		
		S01 - S15 see page 6			**S15 - S25** see page 6			**S25 - S40** see page 6		
		Vc: SFM			**Vc: SFM**			**Vc: SFM**		
		1625-2925	**975-1625**	**650-1138**	**1625-2925**	**975-1625**	**650-1138**	**1625-2925**	**975-1625**	**650-1138**
S Super-alloys heat resistant alloys nickel base alloys Inconel 718, Nimonic, Hastelloy, Waspaloy	Turning									
	unstable (varied depth)		PBC-15 (T)	PBC-25 (T)		PBC-15 (T)	PBC-25 (T)		SB10 (T)	SB25 (T)
	continuous	PBC-15 (F)	PBC-10 (F)	PBC-20 (F)		PBC-10 (F)	PBC-15 (T)		SB10 (T)	SB10 (T)
			PBC-15 (F)	PBC-25 (F)		PBC-15 (T)	PBC-10 (T)			SB25 (T)
	heavily + slightly interrupted	PBC-15 (T)	PBC-10 (T)	PBC-10 (T)	SBC1 (T)	PBC-10 (T)	PBC-10 (T)	SBC1 (T)	SBC1 (T)	SB10 (T)
			PBC-15 (T)			PBC-15 (T)				SBC1 (T)
S Super-alloys titanium titanium alloys	unstable (varied depth)									
	continuous	MDC	MDC	PDC-S	MDC	MDC	PDC-S			SB25 (T)
				PBC-25 (T)			PBC-25 (T)			
	heavily + slightly interrupted			PDC-S		SBC1 (T)	PDC-S		SBC1 (T)	SBC25 (T)
				PBC-25 (T)			SB25 (T)			

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

Turning

Materials	Conditions of chip removal	Range of application H01 - H40								
								Ra + Vc		
	Turning	**H01 - H15** see page 6			**H05 - H20** see page 6			**H20 - H40 (HPC)** see page 6		
		Ra µin			**Ra µin**			**Ra µin**		
		8-32	**32-63**	**63-125**	**8-32**	**32-63**	**63-125**	**8-32**	**32-63**	**63-125**
H Hard materials hardened steel HRc 48-54 hard turning	unstable (varied depth)			PBC-25 (F)			PBC-25 (F)			SB25 (F)
				520-715			488-618			455-585
	continuous	SB40 (T)	PBC-17 (T)	PBC-25 (F)	SB40 (T)	PBC-17 (T)	PBC-25 (F)	PBC-20 (T)	SB40 (T)	SB25 (T)
		390-520	423-585	520-715	358-520	423-553	488-618	325-455	390-520	423-553
	heavily + slightly interrupted	PBC-20 (T)	PBC-17 (T)	PBC-25 (T)	PBC-20 (T)	PBC-17 (T)	PBC-25 (T)	PBC-20 (T)	SB40 (T)	SB25 (T)
		390-520	488-618	423-585	358-488	455-585	358-585	390-488	423-553	390-520
H Hard materials hardened steel HRc 54-60 hard turning	unstable (varied depth)		PBC-30 (T)	PBC-25 (F)		PBC-30 (T)	PBC-25 (F)		SB25 (T)	SB25 (F)
			455-585	585-845		423-585	553-780		390-585	455-585
	continuous	SB40 (T)	PBC-40 (T)	PBC-40 (F)	SB40 (T)	SB25 (T)	PBC-40 (F)	SB40 (T)	SB25 (T)	SB25 (T)
		423-585	488-650	553-780	423-585	423-585	520-780	390-520	390-585	390-585
	heavily + slightly interrupted	PBC-20 (T)	SB40 (T)	PBC-25 (T)	PBC-20 (T)	SB25 (T)	PBC-25 (T)	PBC-20 (T)	SB25 (T)	SB25 (T)
		423-553	455-650	488-650	390-488	455-585	390-585	358-488	423-618	390-520
H Hard materials hardened steel HRc 58-65 hard turning	unstable (varied depth)		PBC-40 (T)	PBC-25 (T)		PBC-30 (T)	PBC-25 (T)		SB40 (T)	SB25 (T)
			520-780	455-585		423-553	455-553		390-520	390-520
	continuous	SB40 (T)	PBC-40 (T)	PBC-25 (T)	SB40 (T)	PBC-30 (T)	PBC-25 (T)	SB40 (T)	SB40 (T)	SB25 (T)
		455-520	520-780	455-585	390-585	390-553	455-553	358-520	390-520	390-520
	heavily + slightly interrupted	PBC-20 (T)	PBC-30 (T)	PBC-25 (T)	PBC-20 (T)	PBC-30 (T)	PBC-25 (T)	PBC-20 (T)	SB25 (T)	SB25 (T)
		390-488	455-585	488-650	358-488	455-585	488-618	325-455	455-585	455-585

T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

Turning

Materials	Conditions of chip removal	Range of application H01 - H40								
								Vc		
		H01 - H15 see page 6			**H05 - H20** see page 6			**H25 - H40 (HPC)** see page 6		
		Vc: SFM			**Vc: SFM**			**Vc: SFM**		
		488-975	**325-650**	**163-488**	**488-975**	**325-650**	**163-488**	**488-975**	**325-650**	**163-488**
H Hard materials Chilled cast irons chilled cast iron rolls chilled cast iron alloys Ni-Hard	Turning									
	unstable (varied depth)									
	continuous	SB10 (T)	SB10 (T)			SBC1 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)
						SB10 (T)			SB10 (T)	
	heavily + slightly interrupted	SBC1 (T)	SBC1 (T)	SBC1 (T)		SBC1 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)	SBC1 (T)
		SB10 (T)	SB10 (T)							
H Hard materials hardfacing alloys	unstable (varied depth)									
	continuous									
	heavily + slightly interrupted		SBC1 (T)	SBC1 (T)		SBC1 (T)	SBC1 (T)		SBC1 (T)	SBC1 (T)
			PBC-10 (T)	SB10 (T)		PBC-10 (T)	SB10 (T)		SB10 (T)	SB10 (T)
H Hard materials sintered carbide	unstable (varied depth)									
	continuous			SB25 (T)			PDC-S			SBC1 (T)
				SBC1 (T)			SBC1 (T)			
	heavily + slightly interrupted									

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

High-Speed Milling

Materials	Conditions of chip removal	Range of application K01 - K40						Vc		
		K01 - K15 (HSC) see page 6			**K10 - K25 (HSC)** see page 6			**K20 - K40 (HSC+HPC)** see page 6		
		Vc: SFM			**Vc: SFM**			**Vc: SFM**		
		3900-8125	**1625-2925**	**1138-1625**	**3900-8125**	**1625-2925**	**1138-1625**	**3900-8125**	**1625-2925**	**1138-1625**
K Cast irons (grey cast iron) GG10 GG15 GG20	High-speed milling									
	unstable (varied depth)	SBC1 (T)			SBC1 (T)			SBC1 (T)		
	continuous	PBC-10 (T)	PBC-17 (T)	PBC-25 (T)	PBC-10 (T)	PBC-17 (T)	PBC-25 (T)	SBC1 (T)		PBC-25 (T)
		PBC-15 (T)			SBC1 (T)			PBC-10 (T)		
	heavily + slightly interrupted	PBC-10 (T)	PBC-17 (T)	PBC-25 (T)	SBC1 (T)	PBC-17 (T)	PBC-25 (T)	SBC1 (T)		PBC-25 (T)
		PBC-15 (T)			PBC-10 (T)			PBC-10 (T)		
K Cast irons (grey cast iron) GG25 GG30 GG35	unstable (varied depth)	PBC-15 (T)			PBC-15 (T)			SBC1 (T)		
	continuous	PBC-10 (T)	PBC-17 (T)	PBC-25 (T)	PBC-10 (T)		PBC-25 (T)	SBC1 (T)		PBC-25 (T)
		PBC-15 (T)			SBC1 (T)			PBC-10 (T)		
	heavily + slightly interrupted	PBC-10 (T)	PBC-17 (T)	PBC-25 (T)	SBC1 (T)		PBC-25 (T)	SBC1 (T)		PBC-25 (T)
		PBC-15 (T)			PBC-10 (T)			PBC-10 (T)		
K Cast irons (nodular cast iron) GGG40 GGG50 GGG60 GGG70	unstable (varied depth)									
	continuous		PBC-17 (T)	PBC-25 (T)	SBC1 (T)	PBC-17 (T)		SBC1 (T)	PBC-17 (T)	
	heavily + slightly interrupted		PBC-17 (T)		SBC1 (T)	PBC-17 (T)		SBC1 (T)	PBC-17 (T)	

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
Milling: without coolant, T-land version only

High-Speed Milling

Materials	Conditions of chip removal	Range of application N01 - N40								
		N01 - N20 (HSC) see page 6			**N20 - N30 (HSC)** see page 6			**N25 - N40 (HSC+HPC)** see page 6		
		Rt (Rz) µ			**Rt (Rz) µ**			**Rt (Rz) µ**		
	High-speed milling	3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin	3.2µin - 100µin	100µin - 200µin	200µin - 400µin
N Nonferrous metals Aluminum alloys without silicon	unstable (varied depth)	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S
		4875-19500	2600-14625	2600-13000	4875-16250	2600-13000	2600-9750	4875-11375	2600-8125	2600-6500
	continuous	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S
		4875-19500	2600-14625	2600-13000	4875-16250	2600-13000	2600-9750	4875-11375	2600-8125	2600-6500
	heavily + slightly interrupted	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S	MDC	PDC-S	PDC-S
		4875-19500	2600-14625	2600-13000	4875-16250	2600-13000	2600-9750	4875-11375	2600-8125	2600-6500
N Nonferrous metals Aluminum alloys with less than 12% silicon	unstable (varied depth)		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	PDC-S
			2600-13000	2600-11375		2600-11375	2600-9750		2600-8775	1950-5850
	continuous		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	PDC-S
			2600-13000	2600-11375		2600-11375	2600-9750		2600-8775	1950-5850
	heavily + slightly interrupted		PDC-S	PDC-S		PDC-S	PDC-S		PDC-S	PDC-S
			2600-13000	2600-11375		2600-11375	2600-9750		2600-8775	1950-5850
N Nonferrous metals Aluminum alloys with more than 12% silicon	unstable (varied depth)			PDC-S			PDC-S			PDC-S
				2600-9750			2275-8125			1950-4875
	continuous			PDC-S			PDC-S			PDC-S
				2600-9750			2275-8125			1950-4875
	heavily + slightly interrupted			PDC-S			PDC-S			PDC-S
				2600-9750			2275-8125			1950-4875

Rt + Vc

Coolant: Air (plastics) or flood coolant (metals), it is tool life only that is reduced when cutting without cooling, the surface finish, however, is not affected.

High-Speed Milling

Materials	Conditions of chip removal	Range of application N01 - N40									Rt + Vc
		N01 - N20 (HSC) see page 6			**N20 - N30 (HSC)** see page 6			**N25 - N40 (HSC+HPC)** see page 6			
		Rt (Rz) µ			**Rt (Rz) µ**			**Rt (Rz) µ**			
		3.2µin - 80µin	100µin - 200µin	200µin - 400µin	3.2µin - 80µin	100µin - 200µin	200µin - 400µin	3.2µin - 80µin	100µin - 200µin	200µin - 400µin	
N Nonferrous metals Copper and copper alloys brass, bronze, precious metals	High-speed milling										
	unstable (varied depth)	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-16250	2600-9750		4875-11375	2600-8125		3900-9750	2275-7150		
	continuous	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-16250	2600-9750		4875-11375	2600-8125		3900-9750	2275-7150		
	heavily + slightly interrupted	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-16250	2600-9750		4875-11375	2600-8125		3900-9750	2275-7150		
N Non-metallics pure plastics without re-inforcement (i.e. plexiglass)	unstable (varied depth)	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-13000	2600-9750		2925-8125	1950-7150		2275-7150	1625-5200		
	continuous	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-13000	2600-9750		2925-8125	1950-7150		2275-7150	1625-5200		
	heavily + slightly interrupted	MDC	PDC-S		MDC	PDC-S		MDC	PDC-S		
		4875-13000	2600-9750		2925-8125	1950-7150		2275-7150	1625-5200		
N Non-metallics plastics with re-inforcement (i.e. GRP, CRP)	unstable (varied depth)		PDC-S			PDC-S			PDC-S		
			1950-7150			1950-5200			1300-3900		
	continuous		PDC-S			PDC-S			PDC-S		
			1950-7150			1950-5200			1300-3900		
	heavily + slightly interrupted		PDC-S			PDC-S			PDC-S		
			1950-7150			1950-5200			1300-3900		

Coolant: Air (plastics) or flood coolant (metals), it is tool life only that is reduced when cutting without cooling, the surface finish, however, is not affected.

High-Speed Milling

Materials	Conditions of chip removal	Range of application H01 - H40								
								Ra + Vc		
	High-speed milling	**H01 - H15** see page 6			**H05 - H20** see page 6			**H20 - H40 (HPC)** see page 6		
		Ra µin			Ra µin			Ra µin		
		8-32	32-63	63-125	8-32	32-63	63-125	8-32	32-63	63-125
H Hard materials hardened steel HRc 54-60 hard milling	unstable (varied depth)									
	continuous	SB40 (T)	PBC-17 (T)	PBC-25 (T)	SB40 (T)	PBC-17 (T)	PBC-25 (T)		SB25 (T)	SB25 (T)
		1625-2925	1463-2600	1625-2925	1463-2925	1300-2600	1463-2925		1138-2600	975-2275
	heavily + slightly interrupted	PBC-20 (T)	PBC-30 (T)	PBC-25 (T)	PBC-20 (T)	PBC-30 (T)	SB25 (T)		SB25 (T)	SB25 (T)
		1300-2275	1463-2925	1788-3900	1138-2113	1300-2925	1463-2925		1300-2600	1138-2275
H Hard materials hardened steel HRc 58-65 hard milling	unstable (varied depth)									
	continuous	SB40 (T)	PBC-17 (T)	PBC-25 (T)	SB40 (T)	PBC-17 (T)	SB25 (T)		SB25 (T)	SB25 (T)
		1625-3088	1625-2925	1950-2925	1463-2925	1463-2925	1788-2925		1300-2600	1138-2275
	heavily + slightly interrupted	PBC-20 (T)	PBC-30 (T)	PBC-25 (T)	PBC-20 (T)	PBC-30 (T)	SB25 (T)		SB25 (T)	SB25 (T)
		1463-2600	1625-2925	2113-3900	1300-2600	1463-2925	1625-2925		1463-2600	1300-2275

PCBN Grades, Position 1: Primary Choice | Position 2: Alternate Choice
T= (T-Land) for interrupted and continuous turning, F= (Sharp) continuous turning only

Trouble Shooting - PCD Applications		
Problem	**Cause**	**Suggested Action**
Poor surface quality	Vibration	**1.** Check rigidity of tool & set-up
	Too high feed rate	**2.** Lower feed rate, increase nose radius or change to wiper
	Wrong grade	**3.** Choose finer grain size
Premature wear	Wrong speed	**1.** Decrease speed (Check cutting data tables)
	Wrong grade	**2.** Choose coarser grain size
Edge chipping	Vibration	**1.** Check rigidity of tool & set-up
	Wrong cutting data	**2.** Check speeds & feeds in cutting data for you application
	Wrong grade	**3.** Choose coarser grain size
Tip dislodging	Excessive cutting temperature	**1.** Increase coolant to tip
		2. Decrease speed
		3. Reduce depth of cut
		4. Increase tip size

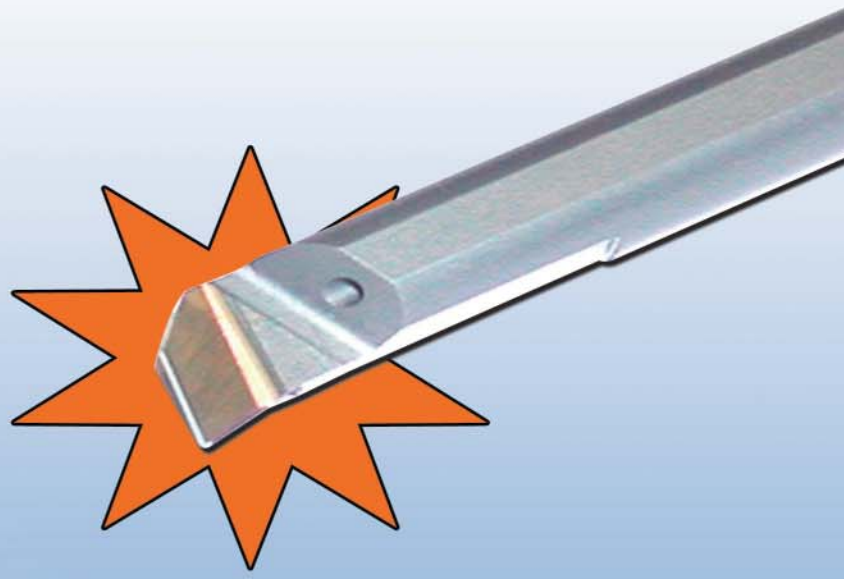
In addition to the recommendations in this catalogue, the following general rules apply to PCD applications:

- Rigid machines and set-ups
- Minimum tool over hangs
- Choose most positive cutting edge angle possible
- Use coolant for metalics
- Use air for non-metalics

Trouble Shooting for CBN Applications

Trouble Shooting - CBN Applications		
Problem	**Cause**	**Suggested Action**
Poor surface quality	Vibration	**1.** Check rigidity of tool & set-up
	Too high feed	**2.** Lower feed rate, increase nose radius or change to wiper
	Too sharp insert	**3.** Increase chamfer angle
	Wrong grade	**4.** Choose finer grain size
Premature wear	Wrong speed	**1.** Increase speed (Check cutting data tables)
	Too sharp insert	**2.** Increase chamfer angle
	Wrong grade	**3.** Choose finer grain size
Edge chipping	Vibration	**1.** Check rigidity of tool & set-up
	Interruption	**2.** Increase chamfer angle and hone
	Wrong grade	**3.** Choose coarser grain size
Vibration	Poor set-up	**1.** Check rigidity of tool & set-up
	Too light feed	**2.** Increase feed / or D.O.C.
	Too much pressure	**3.** Choose more positive insert geometry / cutting edge angle
	Improper edge prep	**4.** Reduce chamfer angle
	Too much pressure	**5.** Reduce nose radius
In addition to the recommendations in this catalogue, the following general rules apply to CBN applications: - Rigid machines and set-ups - Minimum tool over hangs - Choose largest cutting edge angle possible - Negative inserts wherever possible		

MiniCut



Tipped carbide boring bars!

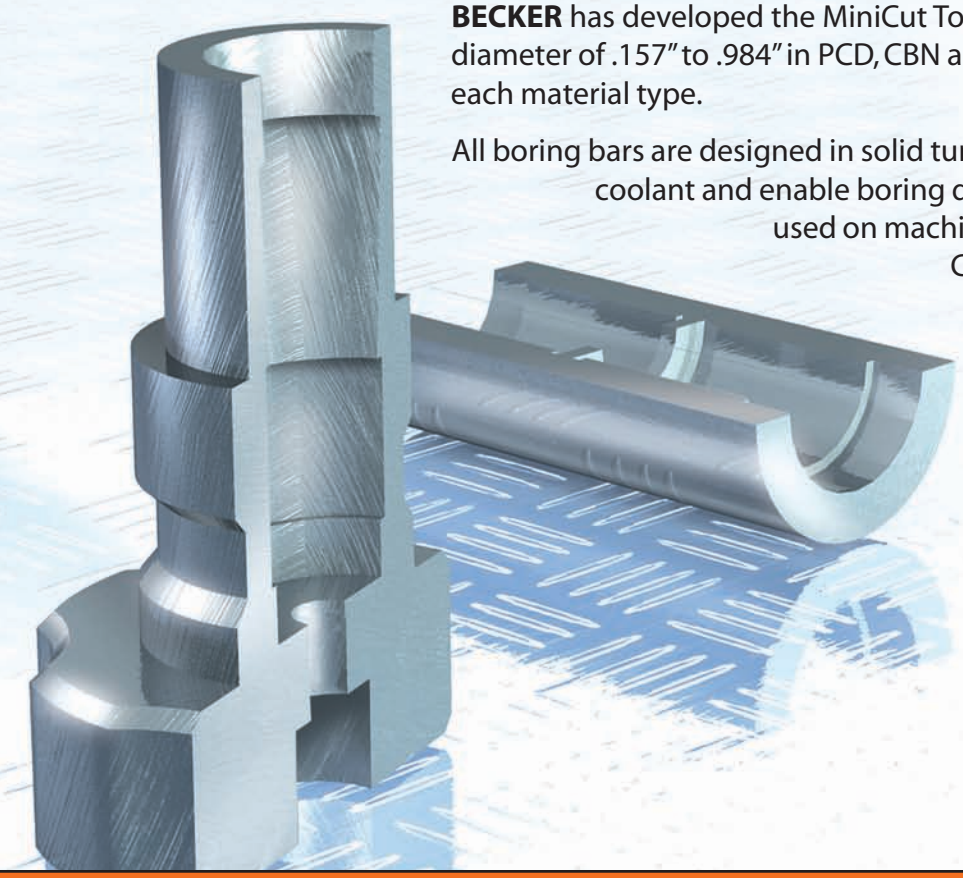
- Able to achieve depths of up to 7 x D!
- Solid tungsten carbide design!
- 75° positive insert style produces excellent cutter performance!
- Featuring MAXICOOL™ through coolant technology!

3/16" & 1/4" I.C. sizes available in PCD & CBN!

Go Back

MiniCut - Index

Tipped Carbide Boring Bars, PCD ..... page 33
Tipped Carbide Boring Bars, CBN ..... page 34 & 35
Adapter Sleeve for Boring Bars ..... page 35
Boring Bar, Solid Carbide, C...SWUC, Inch ..... page 36
Boring Bar, Solid Carbide, E...SEUP, Inch & Metric ..... page 36
EPHT Fullface, fullface wiper edge, PCD ..... page 37
EPHW Fullface, fullface wiper edge, PCD ..... page 37
EPHT wiper edge, MDC ..... page 38
EPHW wiper edge, MDC ..... page 38
EPHT, PCD ..... page 38
EPHT wiper edge, PCD ..... page 39
EPHW, PCD ..... page 39
WCGW Fullface, PCD ..... page 39
EPHT Fullface, fullface wiper edge, CBN ..... page 40
EPHW Fullface, CBN ..... page 40
EPHW Fullface wiper edge, CBN ..... page 41
EPHT EW, EW wiper edge, CBN ..... page 41
EPHW EW, EW wiper dge, CBN ..... page 42
EPHW EWS wiper edge, CBN ..... page 42
WCGW Fullface, CBN ..... page 43



BECKER has developed the MiniCut Tool System especially for boring from a diameter of .157" to .984" in PCD, CBN and MDC optimizing the advantages of each material type.

All boring bars are designed in solid tungsten carbide with integrated through coolant and enable boring depths of up to 7xD. Our MiniCut tools are used on machining centers and turning machines.

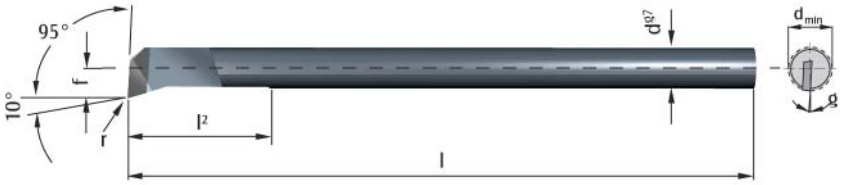
Contrary to most conventional tool systems we use the positive indexable inserts type EPHW and EPHT. The advantages of the 75° insert style enables higher cutting performance and precision. The tipped boring bars have the identical shape for the full diameter range.

The Wiper-Indexable Inserts with neutral or positive rake angle and tipped Wiper- Boring Bars with neutral rake angle are used for high-tech machining with high productivity, also increasing the flexibility of the MiniCut-System considerably.

PCD Tipped Carbide Boring Bars

Cylindrical solid carbide boring bar with one clamping surface, tipped cutting edge and internal coolant feed

For Adapter Sleeves, see page 35



X-GE Right or left hand

Right hand bar shown

Designation Right hand	Designation Left hand	Dimensions dmin	l	d g7	f	l²	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
X3.5F-GEUPR01	X3.5F-GEUPL01	.157	3.15	.138	.079	.47	.004	■			
X3.5F-GEUPR02	X3.5F-GEUPL02						.008	■			
X04F-GEUPR01	X04F-GEUPL01	.197	3.15	.157	.098	.55	.004	■			
X04F-GEUPR02	X04F-GEUPL02						.008	■			
X04F-GEUPR04	X04F-GEUPL04						.016	■			
X05H-GEUPR01	X05H-GEUPL01	.236	3.94	.197	.118	.71	.004	■			
X05H-GEUPR02	X05H-GEUPL02						.008	■			
X05H-GEUPR04	X05H-GEUPL04						.016	■			
X06H-GEUPR01	X06H-GEUPL01	.275	3.94	.236	.138	.79	.004	■			
X06H-GEUPR02	X06H-GEUPL02						.008	■			
X06H-GEUPR04	X06H-GEUPL04						.016	■			

PCD / MDC Tipped Carbide Boring Bars, wiper edge

Cylindrical solid carbide boring bar with one clamping surface, tipped cutting edge and internal coolant feed

For Adapter Sleeves, see page 35

X-GE Right or left hand wiper edge

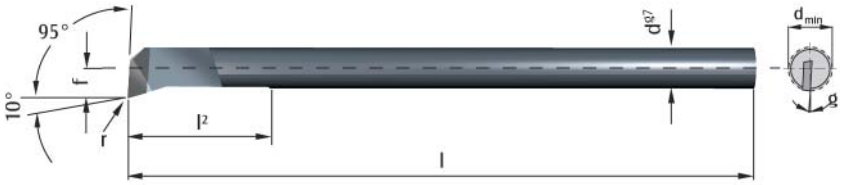
Right hand bar shown

Designation Right hand	Designation Left hand	Dimensions dmin	l	d g7	f	l²	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
X3.5F-GEUPRW01	X3.5F-GEUPLW01	.157	3.15	.138	.079	.47	.004	■			■
X3.5F-GEUPRW02	X3.5F-GEUPLW02						.008	■			■
X04F-GEUPRW01	X04F-GEUPLW01	.197	3.15	.157	.098	.55	.004	■			■
X04F-GEUPRW02	X04F-GEUPLW02						.008	■			■
X04F-GEUPRW04	X04F-GEUPLW04						.016	■			■
X05H-GEUPRW01	X05H-GEUPLW01	.236	3.94	.197	.118	.71	.004	■			■
X05H-GEUPRW02	X05H-GEUPLW02						.008	■			■
X05H-GEUPRW04	X05H-GEUPLW04						.016	■			■
X06H-GEUPRW01	X06H-GEUPLW01	.275	3.94	.236	.138	.79	.004	■			■
X06H-GEUPRW02	X06H-GEUPLW02						.008	■			■
X06H-GEUPRW04	X06H-GEUPLW04						.016	■			■

CBN Tipped Carbide Boring Bars

Cylindrical solid carbide boring bar with one clamping surface, tipped cutting edge and internal coolant feed.

For Adapter Sleeves, see page 35



X-GE Right or left hand

Right hand bar shown

Designation Right hand	Designation Left hand	Dimensions dmin	l	d g7	f	l²	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
X3.5F-GEUPRT01	X3.5F-GEUPLT01	.157	3.15	.138	.079	.47	.004	■	■	■	■
X3.5F-GEUPRF02	X3.5F-GEUPLF02						.008		■	■	■
X3.5F-GEUPRT02	X3.5F-GEUPLT02						.008	■	■	■	■
X04F-GEUPRT01	X04F-GEUPLT01	.197	3.15	.157	.098	.55	.004	■	■	■	■
X04F-GEUPRF02	X04F-GEUPLF02						.008		■	■	■
X04F-GEUPRT02	X04F-GEUPLT02						.008	■	■	■	■
X04F-GEUPRF04	X04F-GEUPLF04						.016		■	■	■
X04F-GEUPRT04	X04F-GEUPLT04						.016	■	■	■	■
X05H-GEUPRT01	X05H-GEUPLT01	.236	3.94	.197	.118	.71	.004		■	■	■
X05H-GEUPRF02	X05H-GEUPLF02						.008		■	■	■
X05H-GEUPRT02	X05H-GEUPLT02						.008	■	■	■	■
X05H-GEUPRF04	X05H-GEUPLF04						.016		■	■	■
X05H-GEUPRT04	X05H-GEUPLT04						.016	■	■	■	■
X06H-GEUPRT01	X06H-GEUPLT01	.275	3.94	.236	.138	.79	.004		■	■	■
X06H-GEUPRF02	X06H-GEUPLF02						.008		■	■	■
X06H-GEUPRT02	X06H-GEUPLT02						.008	■	■	■	■
X06H-GEUPRF04	X06H-GEUPLF04						.016		■	■	■
X06H-GEUPRT04	X06H-GEUPLT04						.016	■	■	■	■

Note: X3.5T-GEUPLT01: F= sharp cutting edge, T= T-Land

CBN Tipped Carbide Boring Bars, wiper edge

Cylindrical solid carbide boring bar with one clamping surface, tipped cutting edge and internal coolant feed.

For Adapter Sleeves, see below

X-GE Right or left hand wiper edge

Right hand bar shown

Designation Right hand	Designation Left hand	Dimensions dmin	l¹	d g7	f	l²	r	SBC1	SB10	SB25	SB40
								BH		BL	
X3.5F-GEUPRTW01	X3.5F-GEUPLTW01	.157	3.15	.138	.079	.47	.004	■	■	■	■
X3.5F-GEUPRFW02	X3.5F-GEUPLFW02						.008		■	■	■
X3.5F-GEUPRTW02	X3.5F-GEUPLTW02						.008	■	■	■	■
X04F-GEUPRFW02	X04F-GEUPLFW02	.197	3.15	.157	.098	.55	.008		■	■	■
X04F-GEUPRTW02	X04F-GEUPLTW02						.008	■	■	■	■
X04F-GEUPRTW03	X04F-GEUPLTW03						.012		■	■	■
X05H-GEUPRFW02	X05H-GEUPLFW02	.236	3.94	.197	.118	.71	.008		■	■	■
X05H-GEUPRTW02	X05H-GEUPLTW02						.008	■	■	■	■
X05H-GEUPRTW04	X05H-GEUPLTW04						.016		■	■	■
X06H-GEUPRFW02	X06H-GEUPLFW02	.275	3.94	.236	.138	.79	.008		■	■	■
X06H-GEUPRTW02	X06H-GEUPLTW02						.008	■	■	■	■
X06H-GEUPRFW04	X06H-GEUPLFW04						.016		■	■	■
X06H-GEUPRTW04	X06H-GEUPLTW04						.016		■	■	■

Adapter Sleeve for Boring Bars form X...GEUP

Adapter Sleeves enable versatile use of the boring bars in all areas

Coolant feed is provided through the adapter.
Only for BECKER - Form X...GE

Inch

Designation	D	d	d H7	d H7 mm	H	l	Boring Bar
ADAP-0.625-35	.625	.157	.138	3.5	.551	3.94	X 3.5 F - GEUP R/L
ADAP-0.625-40	.625	.197	.157	4	.551	3.94	X 04 F - GEUP R/L
ADAP-0.625-50	.625	.236	.197	5	.551	3.94	X 05 H - GEUP R/L
ADAP-0.625-60	.625	.315	.236	6	.551	3.94	X 06 H - GEUP R/L

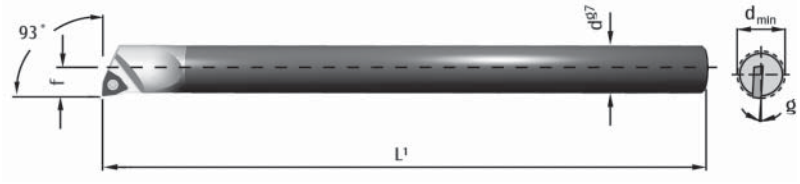
Metric

Designation	D	d	d H7	H	l	Boring Bar
ADAP-1635	16	4	3.5	14	100	X 3.5 F - GEUP R/L
ADAP-1640	16	5	4	14	100	X 04 F - GEUP R/L
ADAP-1650	16	6	5	14	100	X 05 H - GEUP R/L
ADAP-1660	16	6	6	14	100	X 06 H - GEUP R/L

Note: X3.5T-GEUPLT01: F= sharp cutting edge, T= T-Land

Boring Bar, Solid Carbide, Design C...SWUC, right or left hand

Boring bar with cylindrical solid carbide shank



Inch

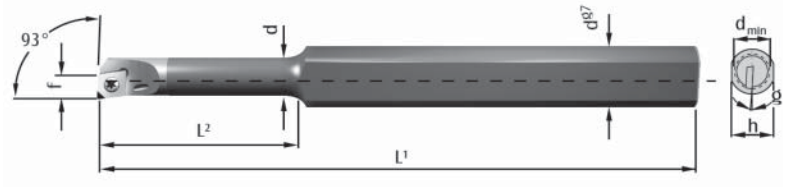
Right hand bar shown

Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
C03A-SWUCR-12	C03A-SWUCL-12	.228	.188	4.78	.114	4.000	17°	WCGW-1.21..
C04A-SWUCR-12	C04A-SWUCL-12	.312	.250	6.35	.156	4.000	17°	WCGW-1.21..
*E04A-SWUCR-12	*E04A-SWUCL-12	.312	.250	6.35	.156	4.000	17°	WCGW-1.21..

*This item is supplied with coolant

Boring Bar, Solid Carbide, Design E...SEUP, right or left hand

Boring bar with cylindrical solid carbide shank, two clamping surfaces and internal coolant feed



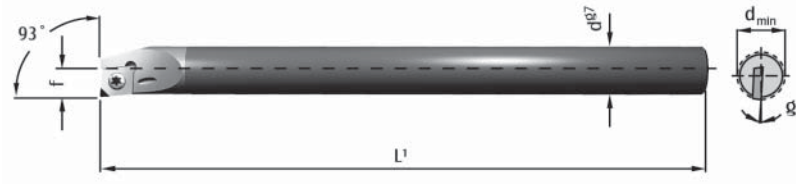
Metric

Right hand bar shown

Designation	d min	d	f	L1	L2	d g7	d g7 mm	h	g	Insert
E0610H-SEUPR/L-04	.268	.236	.134	3.94	1.42	.394	10	.31	9°	EPH.. 1.51..
E0710K-SEUPR/L-04	.331	.276	.173	4.92	1.65	.394	10	.31	5°	EPH.. 1.51..
E0810K-SEUPR/L-04	.374	.315	.193	4.92	1.89	.394	10	.31	5°	EPH.. 1.51..

Boring Bar, Solid Carbide, Design E...SEUP, right or left hand

Boring bar with cylindrical solid carbide shank and internal coolant feed



Inch

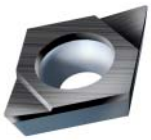
Right hand bar shown

Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
E04H-SEUPR-15	E04H-SEUPL-15	.290	.250	6.35	.142	4	5°	EPH.. 1.51..
E05K-SEUPR-15	E05K-SEUPL-15	.350	.312	7.94	.173	5	5°	EPH.. 1.51..
E06M-SEUPR-2	E06M-SEUPL-2	.400	.375	9.53	.205	6	5°	EPH.. 21.2..

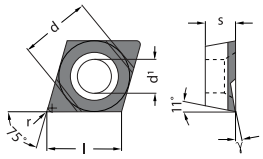
Metric

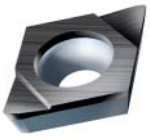
Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
E06F-SEUPR-04	E06F-SEUPL-04	.268	.236	6	.134	3.15	9°	EPH.. 1.51..
E07H-SEUPR-04	E07H-SEUPL-04	.331	.276	7	.173	3.94	5°	EPH.. 1.51..
E08H-SEUPR-04	E08H-SEUPL-04	.374	.315	8	.193	3.94	5°	EPH.. 1.51..
E10K-SEUPR-06	E10K-SEUPL-06	.453	.394	10	.228	4.92	5°	EPH.. 21.2..
E12M-SEUPR-06	E12M-SEUPL-06	.531	.472	12	.272	5.91	3°	EPH.. 21.2..
E16R-SEUPR-06	E16R-SEUPL-06	.728	.630	16	.386	7.87	0°	EPH.. 21.2..

Note: for right hand boring bars use left hand wiper inserts, for left hand boring bars use right hand wiper inserts

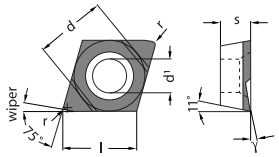


EPHT Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHT-1.510-VM	.187	.087	.062	.193	--	.004		■	■	
	EPHT-1.510.5-VM					--	.008		■	■	
	EPHT-1.511-VM					--	.016		■	■	

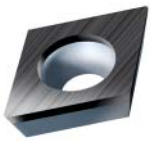


EPHT Fullface right or left hand wiper edge

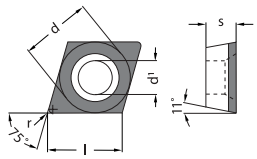
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHT-1.510R/LW-VM	.187	.087	.062	.193	--	.004		■	■	
	EPHT-1.510.5R/LW-VM					--	.008		■	■	
	EPHT-1.511R/LW-VM					--	.016		■	■	

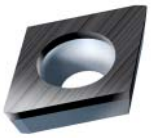
Left hand shown

Ordering Example: 10 pcs. EPHT-1.510RW-VM PDC (Right Hand)

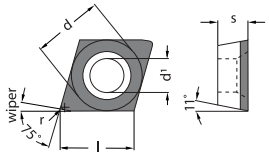


EPHW Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHW-1.510-VM	.187	.087	.062	.193	--	.004		■	■	
	EPHW-1.510.5-VM					--	.008		■	■	
	EPHW-1.511-VM					--	.016		■	■	



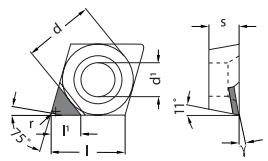
EPHW Fullface right or left hand wiper edge

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHW-1.510R/LW-VM	.187	.087	.062	.193	--	.004		■	■	
	EPHW-1.510.5R/LW-VM					--	.008		■	■	
	EPHW-1.511R/LW-VM					--	.016		■	■	

Left hand shown

Ordering Example: 10 pcs. EPHW-1.510RW-VM PDC (Right Hand)

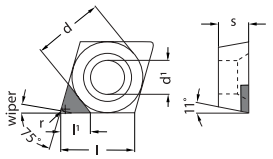
EPHT Right or left hand wiper edge

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHT-1.510R/LW	.187	.087	.062	.193	.063	.004				■
	EPHT-1.510.5R/LW					.059	.008				■
	EPHT-1.511R/LW					.051	.016				■
	EPHT-21.20R/LW	.250	.110	.078	.260	.102	.004				■
	EPHT-21.20.5R/LW					.094	.008				■
	EPHT-21.21R/LW					.086	.016				■

Left hand shown

Ordering Example: 10 pcs. EPHT-1.510RW MDC (Right Hand)

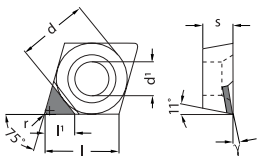
EPHW Right or left hand wiper edge

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHW-1.510R/LW	.187	.087	.062	.193	.063	.004				■
	EPHW-1.510.5R/LW					.059	.008				■
	EPHW-1.511R/LW					.051	.016				■
	EPHW-21.20R/LW	.250	.110	.078	.260	.102	.004				■
	EPHW-21.20.5R/LW					.094	.008				■
	EPHW-21.21R/LW					.086	.016				■

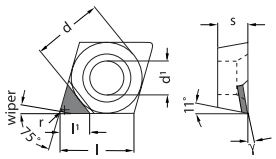
Left hand shown

Ordering Example: 10 pcs. EPHT-1.510RW MDC (Right Hand)

EPHT

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHT-21.20	.250	.110	.078	.260	.122	.004		■	■	
	EPHT-21.20.5					.118	.008		■	■	
	EPHT-21.21					.110	.016		■	■	

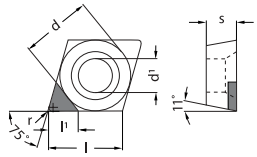
EPHT Right or left hand wiper edge

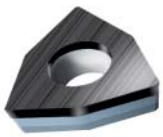
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHT-21.20R/LW	.250	.110	.078	.260	.122	.004		■	■	
	EPHT-21.20.5R/LW					.118	.008		■	■	
	EPHT-21.21R/LW					.110	.016		■	■	

Left hand shown

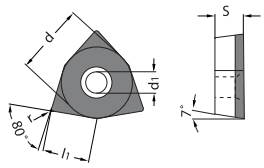
Ordering Example: 10 pcs. EPHT-21.20RW PDC (Right Hand)

EPHW

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPHW-21.20	.250	.110	.078	.260	.122	.004		■	■	
	EPHW-21.20.5					.118	.008		■	■	
	EPHW-21.21					.110	.016		■	■	

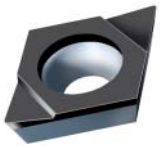


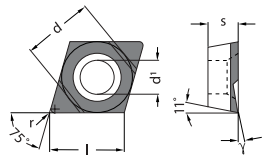
WCGW Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	WCGW-1.210.5-VM	.156	.091	.062	--	.106	.008		■		
	WCGW-1.211-VM					.106	.016		■		

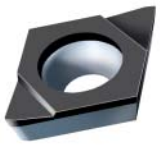
Inserts - CBN

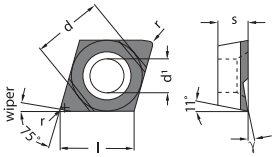
EPHT Fullface



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHT-1.510.5F-VM	.187	.087	.062	.193	--	.008	■	■	■		■		■
	EPHT-1.510.7F-VM					--	.012	■				■		■
	EPHT-1.511F-VM					--	.016	■				■		■

EPHT Fullface right or left hand wiper edge

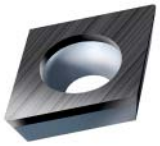


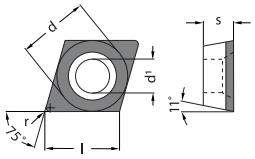
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHT-1.510.5FR/LW-VM	.187	.087	.062	.193	--	.008	■	■	■		■		■
	EPHT-1.510.7FR/LW-VM					--	.012	■	■			■		■

Left hand shown

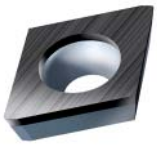
Ordering Example: 10 pcs. EPHT-1.510.5FRW-VM PBC-10 (Right Hand)

EPHW Fullface

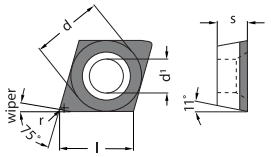


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BH			
	EPHW-1.510F-VM	.187	.087	.062	.193	--	.004	■				■		■
	EPHW-1.510T-VM					--	.004	■			■	■	■	■
	EPHW-1.510.5F-VM					--	.008	■	■	■		■		■
	EPHW-1.510.5T-VM					--	.008	■	■	■	■	■	■	■
	EPHW-1.510.7F-VM					--	.012	■	■	■		■		■
	EPHW-1.510.7T-VM					--	.012	■		■	■	■	■	■
	EPHW-1.511F-VM					--	.016	■	■			■		■
	EPHW-1.511T-VM					--	.016	■		■	■	■	■	■

Note: EPHT-1.510.5F-VM: F= sharp cutting edge, T= T-Land

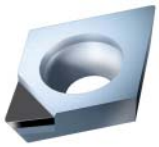


EPHW Fullface right or left hand wiper edge

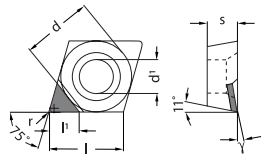
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHW-1.510TR/LW-VM	.187	.087	.062	.193	--	.004	■			■	■	■	■
	EPHW-1.510.5FR/LW-VM					--	.008	■	■	■		■		■
	EPHW-1.510.5TR/LW-VM					--	.008	■	■	■	■	■	■	■
	EPHW-1.511TR/LW-VM					--	.016	■			■	■	■	■

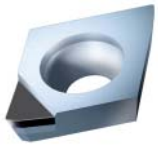
Left hand shown

Ordering Example: 10 pcs. EPHW-1.510TRW-VM PBC-10 (Right Hand)

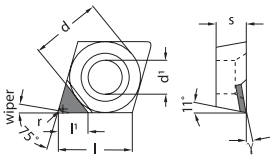


EPHT EW

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHT-21.20.5F-EW	.250	.110	.078	.260	.118	.008	■	■	■		■		■
	EPHT-21.21F-EW					.110	.016	■	■	■		■		■



EPHT EW right or left hand wiper edge

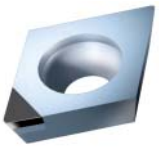
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHT-21.20.5FR/LW-EW	.250	.110	.078	.260	.118	.008	■	■	■		■		■
	EPHT-21.21FR/LW-EW					.110	.016	■				■		■

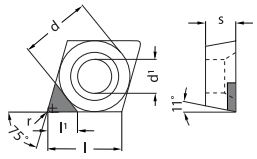
Left hand shown

Ordering Example: 10 pcs. EPHT-21.20.5FRW-EW PBC-10 (Right Hand)

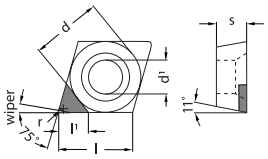
Note: EPHT-1.510.5F-VM: F= sharp cutting edge, T= T-Land

EPHW EW



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHW-21.20F-EW	.250	.110	.078	.260	.122	.004	■				■		■
	EPHW-21.20T-EW					.122	.004	■			■	■	■	■
	EPHW-21.20.5F-EW					.118	.008	■	■	■		■		■
	EPHW-21.20.5T-EW					.118	.008	■	■	■	■	■	■	■
	EPHW-21.21F-EW					.110	.016	■	■	■		■		■
	EPHW-21.22T-EW					.094	.031	■	■	■	■	■	■	■
	EPHW-21.22F-EW					.094	.031	■	■	■		■		■
	EPHW-21.22T-EW					.094	.031	■	■	■	■	■	■	■

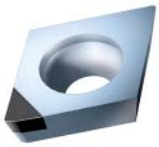
EPHW EW right or left hand wiper edge

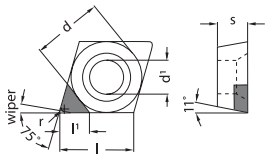
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPHW-21.20.5FR/LW-EW	.250	.110	.078	.260	.118	.008	■	■	■		■		■
	EPHW-21.20.5TR/LW-EW					.118	.008	■	■	■	■	■	■	■
	EPHW-21.21FR/LW-EW					.110	.016	■	■	■		■		■
	EPHW-21.21TR/LW-EW					.110	.016	■	■	■	■	■	■	■

Left hand shown

Ordering Example: 10 pcs. EPHW-21.20.5FRW-EW PBC-10 (Right Hand)

EPHW EWS right or left hand wiper edge

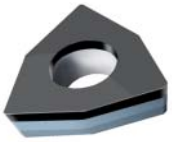


Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	EPHW-21.20TR/LW-EWS	.250	.110	.078	.260	.122	.004		■			■	■	
	EPHW-21.20.5FR/LW-EWS					.118	.008		■			■	■	
	EPHW-21.20.5TR/LW-EWS					.118	.008		■			■	■	
	EPHW-21.21FR/LW-EWS					.110	.016		■			■	■	
	EPHW-21.21TR/LW-EWS					.110	.016		■			■	■	

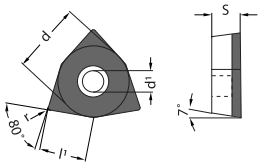
Left hand shown

Ordering Example: 10 pcs. EPHW-21.20.5FRW-EWS SB10 (Right Hand)

Note: EPHT-1.510.5F-VM: F= sharp cutting edge, T= T-Land



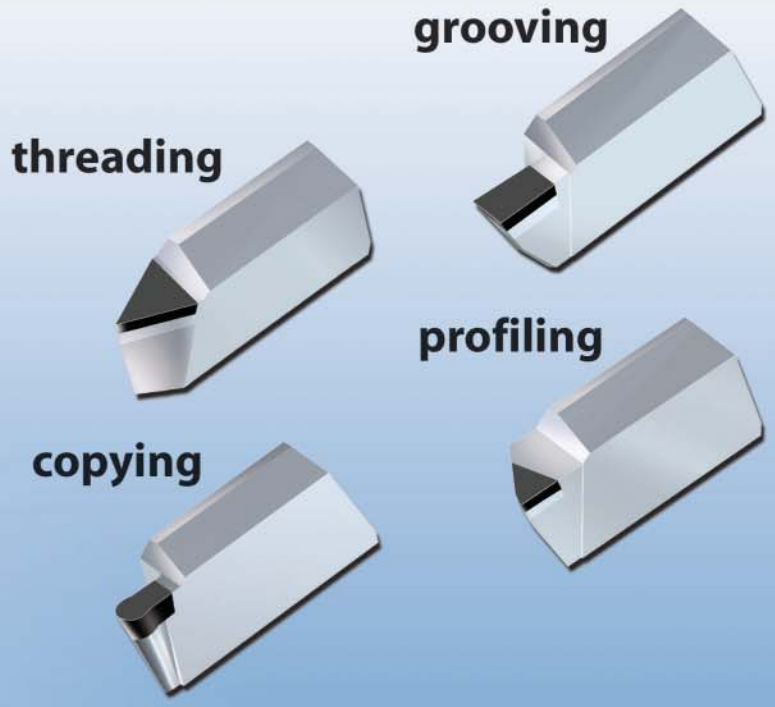
WCGW Fullface

Insert	Designation	Dimensions						PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
		d	d¹	s	l	l¹	r	BH			BL			
	WCGW-1.210.5F-VM	.156	.091	.062	--	.106	.008	■	■	■	■	■	■	■
	WCGW-1.210.5T-VM					.106	.008	■			■	■	■	■
	WCGW-1.211F-VM					.106	.016	■			■	■	■	■
	WCGW-1.211T-VM					.106	.016	■	■	■	■	■	■	■

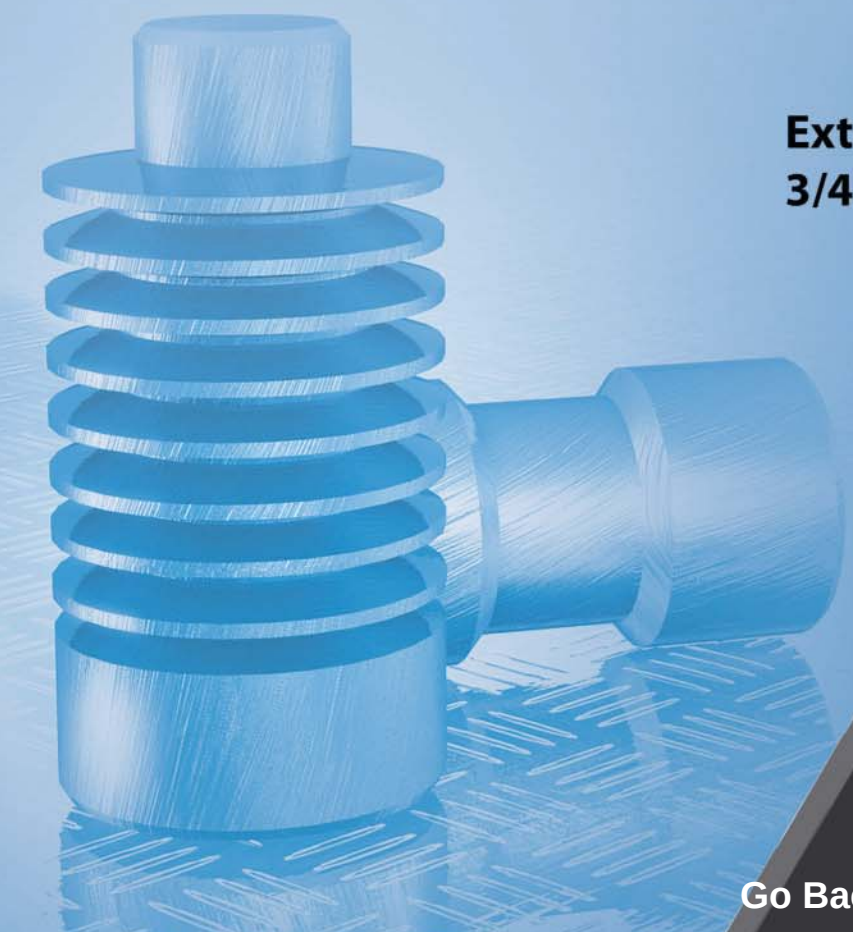
Note: EPHT-1.510.5E-VM: E= sharp cutting edge, T= T-Land

Notes

FormCut



Available in PCD & CBN!



External holders available in 3/4", 1", & 1.25" sizes!

Go Back

FormCut - Index

Toolholder, Inch, Metric ..... page 47
Using our FormCut Geometries ..... page 48
BFSP external, high precision grooving, PCD ..... page 49
BFSN external, grooving, PCD ..... page 49
BFSV external, grooving & turning, PCD ..... page 50
BFIN internal, grooving, PCD ..... page 50
BFIV internal, grooving & turning, PCD ..... page 51
BFRV external, copying, PCD ..... page 51
BFDV external, profiling, PCD ..... page 52
BFDV external, side & face turning, wiper edge, PCD ..... page 52
BFTV external, threading, partial profile, PCD ..... page 52
BFSN external, grooving, CBN ..... page 53
BFSV external, grooving & turning, CBN ..... page 54
BFIN internal, grooving, CBN ..... page 55
BFIV internal, grooving & turning, CBN ..... page 56
BFRV external, copying, CBN ..... page 57
BFDV external, profiling, CBN ..... page 58
BFDV external, side & face turning wiper edge, CBN ..... page 58
BFDV external, profiling, CBN ..... page 58
BFTV external, threading, partial profile, CBN ..... page 59
Size of radius for American UN & metric ISO-threads .... page 60

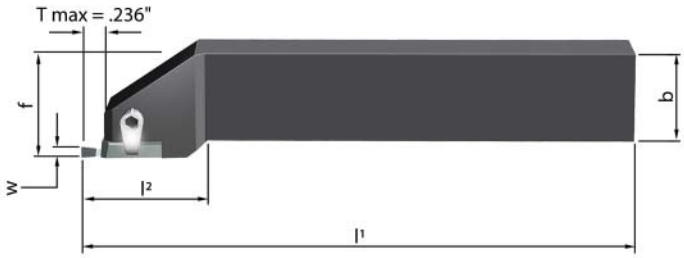
BECKER has developed the FormCut Grooving and Turning Tool System in PCD, CBN & MDC for High Precision Grooving, Groove and Turning, Profiling and Threading. The extremely rigid and precision machined insert pocket eliminates any micro-displacement and the tightest part tolerances can be achieved by using the full range precision ground FormCut- Indexable Inserts.

Using a special 6-axis CNC-grinding technique we achieve perfect reproducible macro and micro cutting edge geometries on all CBN FormCut Indexable Inserts.

Our absolutely rigid FormCut Tool System in conjunction with all ultrahard cutting materials is ideally suited for the highest precision in profiling, grooving, thread cutting. The cutting materials, MDC, PCD and CBN significantly extend the application possibilities for high tech machining in the HSC- and HPC- area.

Positive edges are offered in PCD and CBN. Only flat profiles are possible in MDC due to the highly complex and unusual polishing technology required.

Toolholder, external radial grooving



Inch

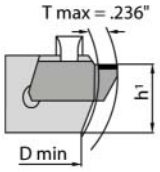
Designation Right hand	Designation Left hand	h^1	h^2	b	f	l^1	l^2
BSAFR-12-FC12	BSAFL-12-FC12	.750	.750	.750	1.000	5.00	1.250
BSAFR-16-FC12	BSAFL-16-FC12	1.000	1.000	1.000	1.250	6.00	1.250
BSAFR-20-FC12	BSAFL-20-FC12	1.250	1.250	1.250	1.500	6.00	1.250

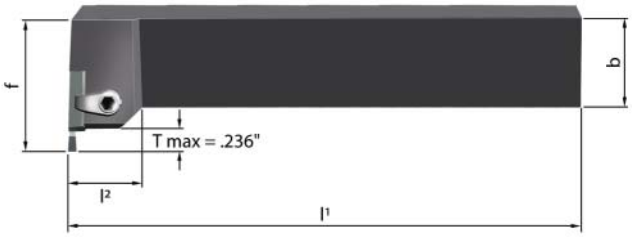
Note: for "w" dimension, please refer to insert section

Metric

Designation Right hand	Designation Left hand	h^1	h^2	b	f	l^1	l^2
BSAFR-1616-12	BSAFL-1616-12	16	16	16	20	106	31
BSAFR-2020-12	BSAFL-2020-12	20	20	20	24	131	31
BSAFR-2525-12	BSAFL-2525-12	25	25	25	30	156	31
BSAFR-3225-12	BSAFL-3225-12	32	32	25	30	176	31

Toolholder, internal radial grooving

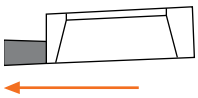
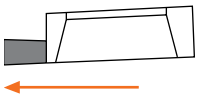
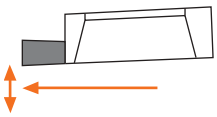
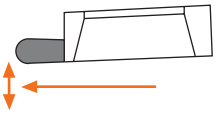
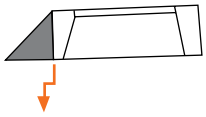
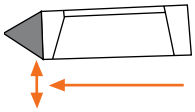


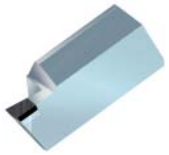


Metric

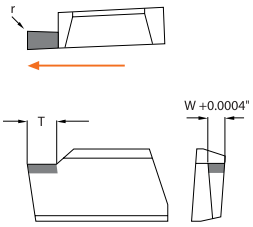
Designation Right hand	Designation Left hand	h^1	h^2	b	f	l^1	l^2	D min.
BSIFR-1616-12	BSIFL-1616-12	16	16	16	28	100	18	50
BSIFR-2020-12	BSIFL-2020-12	20	20	20	32	125	18	72
BSIFR-2525-12	BSIFL-2525-12	25	25	25	37	150	18	110
BSIFR-3225-12	BSIFL-3225-12	32	32	25	37	170	18	110

Note: for right hand toolholders use right hand inserts, for left hand toolholders use left hand inserts only

Using our FormCut Geometries		
Type	**Insert Outline**	**Application**
BFSP R/L		High precision grooving, developed to hold the tightest tolerances and produce superior finish surfaces on the groove flanks. An axial feed cannot be used. HSC and HPC.
BFSN R/L **BFIN R/L**		Normal grooving at the usual tolerances and with a good surface quality. Axial feed is possible in the HSC-range using MDC and PDC cutting materials
BFSV R/L **BFIV R/L**		Grooving and turning. Axial feeds with the usual feed rates.
BFRV R/L		Copying and profiling with an extraordinary surface quality and narrowest of tolerances.
BFDV R/L **BFDV R/L-wiper**		Profiling as well as side and face turning with the best surface quality.
BFTV R/L		Partial profile for American UN and ISO metric threads. MDC, PDC and CBN cutting materials are most suitable for high-tech threads.



BFSP Right or left hand, external, high precision grooving



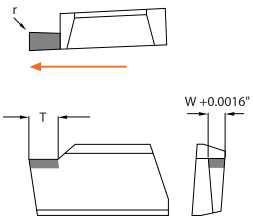
Right hand external shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
	BFSP2.5-02R/L	.098	.157	.008		■		
	BFSP3.0-02R/L	.118	.197	.008		■		
	BFSP3.0-04R/L	.118	.197	.016		■		
	BFSP3.5-02R/L	.138	.197	.008		■		
	BFSP3.5-04R/L	.138	.197	.016		■		
	BFSP4.0-03R/L	.157	.236	.012		■		
	BFSP4.0-05R/L	.157	.236	.020		■		
	BFSP4.5-03R/L	.177	.236	.012		■		
	BFSP4.5-05R/L	.177	.236	.020		■		
	BFSP5.0-03R/L	.197	.236	.012		■		
	BFSP5.0-05R/L	.197	.236	.020		■		

Tolerance on "W" = +.0004"

Ordering Example: 10 pcs. BFSP2.5-02R PDC (Right Hand)

BFSN Right or left hand, external, grooving



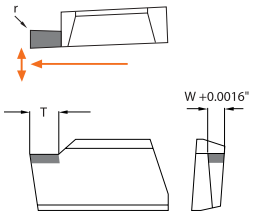
Right hand external shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
	BFSN2.5-02R/L	.098	.157	.008		■		
	BFSN3.0-02R/L	.118	.236	.008		■		
	BFSN3.0-04R/L	.118	.236	.016		■		
	BFSN3.5-02R/L	.138	.236	.008		■		
	BFSN4.0-02R/L	.157	.236	.008		■		
	BFSN4.0-04R/L	.157	.236	.016		■		
	BFSN4.5-02R/L	.177	.236	.008		■		
	BFSN5.0-02R/L	.197	.236	.008		■		
	BFSN5.0-04R/L	.197	.236	.016		■		

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSN2.5-02R PDC (Right Hand)

BFSV Right or left hand, external, grooving & turning



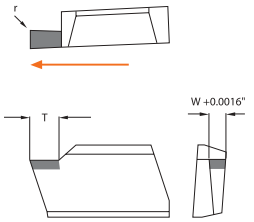
Right hand external shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
	BFSV3.0-02R/L	.118	.236	.008		■		
	BFSV3.0-04R/L	.118	.236	.016		■		
	BFSV3.5-02R/L	.138	.236	.008		■		
	BFSV3.5-04R/L	.138	.236	.016		■		
	BFSV4.0-02R/L	.157	.236	.008		■		
	BFSV4.0-05R/L	.157	.236	.020		■		
	BFSV4.5-02R/L	.177	.236	.008		■		
	BFSV4.5-05R/L	.177	.236	.020		■		
	BFSV5.0-02R/L	.197	.236	.008		■		
	BFSV5.0-06R/L	.197	.236	.024		■		

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSV3.0-02R PDC (Right Hand)

BFIN Right or left hand, internal, grooving



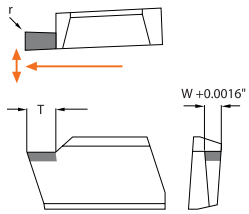
Left hand internal shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
	BFIN2.5-02R/L	.098	.157	.008		■		
	BFIN3.0-02R/L	.118	.236	.008		■		
	BFIN3.0-04R/L	.118	.236	.016		■		
	BFIN3.5-02R/L	.138	.236	.008		■		
	BFIN4.0-02R/L	.157	.236	.008		■		
	BFIN4.0-04R/L	.157	.236	.016		■		
	BFIN4.5-02R/L	.177	.236	.008		■		
	BFIN5.0-02R/L	.197	.236	.008		■		
	BFIN5.0-04R/L	.197	.236	.016		■		

Tolerance on "W" = +.0016"

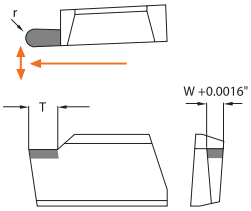
Ordering Example: 10 pcs. BFIN2.5-02R PDC (Right Hand)

BFIV Right or left hand, internal, grooving & turning

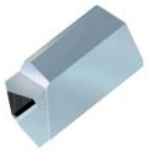
Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
 Left hand internal shown	BFIV3.0-02R/L	.118	.236	.008		■		
	BFIV3.0-04R/L	.118	.236	.016		■		
	BFIV3.5-02R/L	.138	.236	.008		■		
	BFIV3.5-04R/L	.138	.236	.016		■		
	BFIV4.0-02R/L	.157	.236	.008		■		
	BFIV4.0-05R/L	.157	.236	.020		■		
	BFIV4.5-02R/L	.177	.236	.008		■		
	BFIV4.5-05R/L	.177	.236	.020		■		
	BFIV5.0-02R/L	.197	.236	.008		■		
	BFIV5.0-06R/L	.197	.236	.024		■		

Tolerance on "W" = +.0016" Ordering Example: 10 pcs. BFIV3.0-02R PDC (Right Hand)

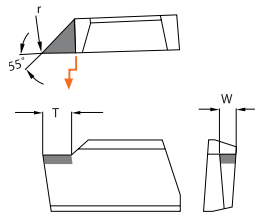
BFRV Right or left hand, external, copying

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
 Right hand external shown	BFRV 3.0- /L	.118	.236	.059		■		
	BFRV3.5R/L	.138	.236	.069		■		
	BFRV4.0R/L	.157	.236	.079		■		
	BFRV4.5R/L	.177	.236	.089		■		
	BFRV5.0R/L	.197	.236	.098		■		

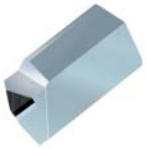
Tolerance on "W" = +.0016" Ordering Example: 10 pcs. BFIV3.0-02R PDC (Right Hand)



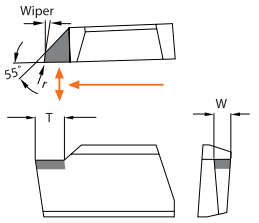
BFDV Right or left hand, external, profiling

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
 Right hand external shown	BFDV0.2R/L	.197	.197	.008		■		
	BFDV0.4R/L	.197	.197	.016		■		
	BFDV0.8R/L	.197	.197	.031		■		
	BFDV1.2R/L	.197	.197	.047		■		

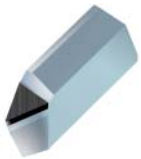
Ordering Example: 10 pcs. BFDV0.2R PDC (Right Hand)



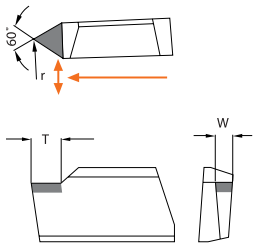
BFDV Right or left hand, external, side & face turning, wiper edge

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
 Right hand external shown	BFDV0.2R/LW	.197	.197	.008		■		
	BFDV0.4R/LW	.197	.197	.016		■		
	BFDV0.8R/LW	.197	.197	.031		■		

Ordering Example: 10 pcs. BFDV0.2RW PDC (Right Hand)

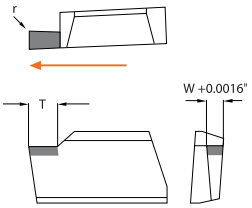


BFTV Right or left hand, external, threading, partial profile

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PDC-S	PDC	PDC-L	MDC
					DP			DM
 Right hand external shown	BFTV0.10R/L	.197	.197	.0040		■		
	BFTV0.14R/L	.197	.197	.0055		■		
	BFTV0.18R/L	.197	.197	.0071		■		
	BFTV0.21R/L	.197	.197	.0083		■		
	BFTV0.25R/L	.197	.197	.0098		■		
	BFTV0.28R/L	.197	.197	.0110		■		
	BFTV0.36R/L	.197	.197	.0142		■		
	BFTV0.43R/L	.197	.197	.0169		■		

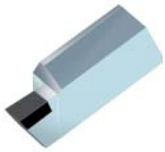
Ordering Example: 10 pcs. BFTV0.10R PDC (Right Hand)

BFSN Right or left hand, external, grooving

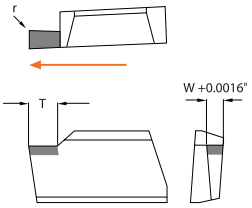
Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFSN2.5-02R/LF	.098	.118	.008	■				■		■
	BFSN2.5-02R/LT	.098	.118	.008	■				■		■
	BFSN3.0-02R/LF	.118	.236	.008	■				■		■
	BFSN3.0-02R/LT	.118	.236	.008	■	■	■	■	■	■	■
	BFSN3.5-02R/LF	.138	.236	.008	■				■		■
	BFSN3.5-02R/LT	.138	.236	.008	■				■		■
	BFSN4.0-02R/LF	.157	.236	.008	■				■		■
	BFSN4.0-04R/LF	.157	.236	.016	■				■		■
	BFSN4.0-02R/LT	.157	.236	.008	■	■	■	■	■	■	■
	BFSN4.0-04R/LT	.157	.236	.016	■	■	■	■	■	■	■
	BFSN4.5-02R/LT	.177	.236	.008	■				■		■
	BFSN5.0-02R/LT	.197	.236	.008	■		■	■	■	■	■
Right hand external shown	BFSN5.0-04R/LT	.197	.236	.016	■		■	■	■	■	■

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSN2.5-02RF PBC-10 (Right Hand)



BFSN Right or left hand, external, grooving

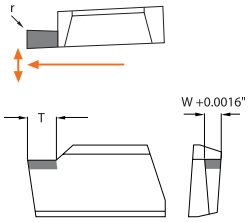
Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFSN2.5-02R/LF	.098	.157	.008					■		
	BFSN2.5-04R/LF	.098	.157	.016					■		
	BFSN3.0-02R/LF	.118	.236	.008					■		
	BFSN3.0-04R/LF	.118	.236	.016					■		
	BFSN3.0-02R/LT	.118	.236	.008		■	■		■	■	
	BFSN3.0-04R/LT	.118	.236	.016		■	■		■	■	
	BFSN3.5-02R/LF	.138	.236	.008					■		
	BFSN3.5-04R/LF	.138	.236	.016					■		
	BFSN3.5-02R/LT	.138	.236	.008					■		
	BFSN3.5-04R/LT	.138	.236	.016					■		
	BFSN4.0-04R/LT	.157	.236	.016		■	■		■	■	
	BFSN4.5-04R/LT	.177	.236	.016					■		
Right hand external shown	BFSN5.0-04R/LT	.197	.236	.016		■	■		■	■	

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSN2.5-02RF SBC1 (Right Hand)

Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land

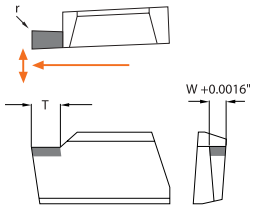
BFSV Right or left hand, external, grooving & turning

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFSV3.0-02R/LF	.118	.236	.008	■				■		■
	BFSV3.0-04R/LF	.118	.236	.016	■				■		■
	BFSV3.0-02R/LT	.118	.236	.008	■	■	■	■	■	■	■
	BFSV3.0-04R/LT	.118	.236	.016	■	■	■	■	■	■	■
	BFSV3.5-02R/LF	.138	.236	.008					■		■
	BFSV3.5-04R/LF	.138	.236	.016					■		■
	BFSV3.5-02R/LT	.138	.236	.008	■				■		■
	BFSV3.5-04R/LT	.138	.236	.016	■				■		■
	BFSV4.0-02R/LF	.157	.236	.008	■				■		■
	BFSV4.0-05R/LF	.157	.236	.020	■				■		■
	BFSV4.0-02R/LT	.157	.236	.008	■	■	■	■	■	■	■
	BFSV4.0-05R/LT	.157	.236	.020	■	■	■	■	■	■	■
	BFSV4.5-02R/LT	.177	.236	.008	■				■		■
	BFSV4.5-05R/LT	.177	.236	.020	■				■		■
	BFSV5.0-02R/LF	.197	.236	.008	■						
	BFSV5.0-06R/LF	.197	.236	.024	■						
	BFSV5.0-02R/LT	.197	.236	.008	■	■	■	■	■	■	■
Right hand external shown	BFSV5.0-06R/LT	.197	.236	.024	■	■	■	■	■	■	■

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSV3.0-02RF PBC-10 (Right Hand)

BFSV Right or left hand, external, grooving & turning

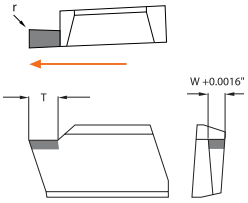
Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFSV3.0-04R/LF	.118	.236	.016					■		
	BFSV3.0-06R/LF	.118	.236	.024					■		
	BFSV3.0-04R/LT	.118	.236	.016		■	■		■	■	
	BFSV3.0-06R/LT	.118	.236	.024		■	■		■	■	
	BFSV3.5-04R/LF	.138	.236	.016					■		
	BFSV3.5-06R/LF	.138	.236	.024					■		
	BFSV3.5-04R/LT	.138	.236	.016					■	■	
	BFSV3.5-06R/LT	.138	.236	.024					■	■	
	BFSV4.0-04R/LT	.157	.236	.016		■	■		■	■	
	BFSV4.0-08R/LT	.157	.236	.031		■	■		■	■	
	BFSV4.5-04R/LT	.177	.236	.016					■	■	
	BFSV4.5-08R/LT	.177	.236	.031					■	■	
	BFSV5.0-04R/LT	.197	.236	.016		■	■		■	■	
Right hand external shown	BFSV5.0-08R/LT	.197	.236	.031		■	■		■	■	

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFSV3.0-04RF SBC1 (Right Hand)

Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land

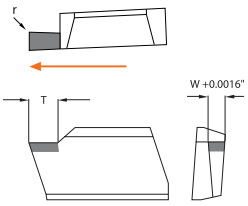
BFIN Right or left hand, internal, grooving

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFIN2.5-02R/LF	.098	.118	.008	■				■		■
	BFIN2.5-02R/LT	.098	.118	.008	■				■		■
	BFIN3.0-02R/LF	.118	.236	.008	■				■		■
	BFIN3.0-02R/LT	.118	.236	.008	■	■	■	■	■	■	■
	BFIN3.5-02R/LF	.138	.236	.008	■				■		■
	BFIN3.5-02R/LT	.138	.236	.008	■				■		■
	BFIN4.0-02R/LF	.157	.236	.008	■	■			■		■
	BFIN4.0-04R/LF	.157	.236	.016	■	■			■		■
	BFIN4.0-02R/LT	.157	.236	.008	■		■	■	■	■	■
	BFIN4.0-04R/LT	.157	.236	.016	■		■	■	■	■	■
	BFIN4.5-02R/LT	.177	.236	.008	■				■		■
	BFIN5.0-02R/LF	.197	.236	.008	■		■	■	■	■	■
Left hand internal shown	BFIN5.0-04R/LT	.197	.236	.016	■		■	■	■	■	■

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFIN2.5-02RF PBC-10 (Right Hand)

BFIN Right or left hand, internal, grooving

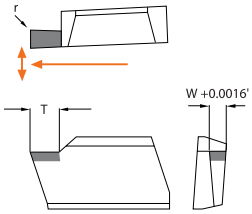
Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFIN2.5-02R/LF	.098	.157	.008					■		
	BFIN2.5-04R/LF	.098	.157	.016					■		
	BFIN3.0-02R/LF	.118	.236	.008					■		
	BFIN3.0-04R/LF	.118	.236	.016					■		
	BFIN3.0-02R/LT	.118	.236	.008		■	■		■	■	
	BFIN3.0-04R/LT	.118	.236	.016		■	■		■	■	
	BFIN3.5-02R/LF	.138	.236	.008					■		
	BFIN3.5-04R/LF	.138	.236	.016					■		
	BFIN3.5-02R/LT	.138	.236	.008					■		
	BFIN3.5-04R/LT	.138	.236	.016					■		
	BFIN4.0-04R/LT	.157	.236	.016		■	■		■	■	
	BFIN4.5-04R/LT	.177	.236	.016					■		
Left hand internal shown	BFIN5.0-04R/LT	.197	.236	.016		■	■		■	■	

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFIN2.5-02RF SBC1 (Right Hand)

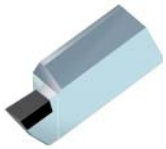
Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land

BFIV Right or left hand, internal, grooving & turning

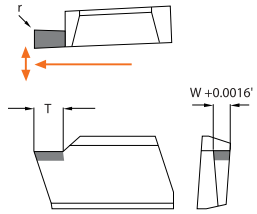
Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFIV3.0-02R/LF	.118	.236	.008	■				■		■
	BFIV3.0-04R/LF	.118	.236	.016	■				■		■
	BFIV3.0-02R/LT	.118	.236	.008	■	■	■	■	■	■	■
	BFIV3.0-04R/LT	.118	.236	.016	■	■	■	■	■	■	■
	BFIV3.5-02R/LF	.138	.236	.008					■		■
	BFIV3.5-04R/LF	.138	.236	.016					■		■
	BFIV3.5-02R/LT	.138	.236	.008	■				■		■
	BFIV3.5-04R/LT	.138	.236	.016	■				■		■
	BFIV4.0-02R/LF	.157	.236	.008	■	■			■		■
	BFIV4.0-05R/LF	.157	.236	.020	■	■			■		■
	BFIV4.0-02R/LT	.157	.236	.008	■		■	■	■	■	■
	BFIV4.0-05R/LT	.157	.236	.020	■		■	■	■	■	■
	BFIV4.5-02R/LT	.177	.236	.008	■				■		■
	BFIV4.5-05R/LT	.177	.236	.020	■				■		■
	BFIV5.0-02R/LF	.197	.236	.008	■						
	BFIV5.0-06R/LF	.197	.236	.024	■						
	BFIV5.0-02R/LT	.197	.236	.008	■	■	■	■	■	■	■
Left hand internal shown	BFIV5.0-06R/LT	.197	.236	.024	■	■	■	■	■	■	■

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFIV3.0-02RF PBC-10 (Right Hand)



BFIV Right or left hand, internal, grooving & turning

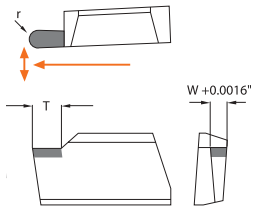
Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFIV3.0-04R/LF	.118	.236	.016					■		
	BFIV3.0-06R/LF	.118	.236	.024							
	BFIV3.0-04R/LT	.118	.236	.016		■	■		■	■	
	BFIV3.0-06R/LT	.118	.236	.024							
	BFIV3.5-04R/LF	.138	.236	.016					■		
	BFIV3.5-06R/LF	.138	.236	.024							
	BFIV3.5-04R/LT	.138	.236	.016					■	■	
	BFIV3.5-06R/LT	.138	.236	.024							
	BFIV4.0-04R/LT	.157	.236	.016		■	■		■	■	
	BFIV4.0-08R/LT	.157	.236	.031							
	BFIV4.5-04R/LT	.177	.236	.016					■	■	
	BFIV4.5-08R/LT	.177	.236	.031							
	BFIV5.0-04R/LT	.197	.236	.016		■	■		■	■	
Left hand internal shown	BFIV5.0-08R/LT	.197	.236	.031							

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFIV3.0-04RF SBC1 (Right Hand)

Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land

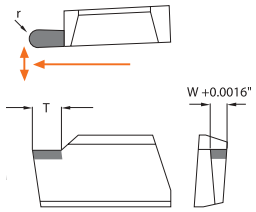
BFRV Right or left hand, external, copying

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
 Right hand external shown	BFRV3.0R/LF	.118	.236	.059	■				■		■
	BFRV3.0R/LT	.118	.236	.059	■	■	■	■	■	■	■
	BFRV3.5R/LF	.138	.236	.069					■		■
	BFRV3.5R/LT	.138	.236	.069	■				■		■
	BFRV4.0R/LF	.157	.236	.079	■				■		■
	BFRV4.0R/LT	.157	.236	.079	■	■	■	■	■	■	■
	BFRV4.5R/LF	.177	.236	.089							■
	BFRV4.5R/LT	.177	.236	.089	■				■		■
	BFRV5.0R/LF	.197	.236	.098	■						■
	BFRV5.0R/LT	.197	.236	.098	■	■	■	■	■	■	■

Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFRV3.0RF PBC-10 (Right Hand)

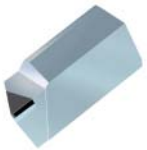
BFRV Right or left hand, external, copying

Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
 Right hand external shown	BFRV3.0R/LF	.118	.236	.059					■		
	BFRV3.0R/LT	.118	.236	.059		■	■			■	
	BFRV3.5R/LT	.138	.236	.069		■	■		■	■	
	BFRV4.0R/LF	.157	.236	.079					■		
	BFRV4.0R/LT	.157	.236	.079		■	■		■	■	
	BFRV4.5R/LT	.177	.236	.089		■	■		■	■	
	BFRV5.0R/LF	.197	.236	.098					■		
	BFRV5.0R/LT	.197	.236	.098		■	■		■	■	

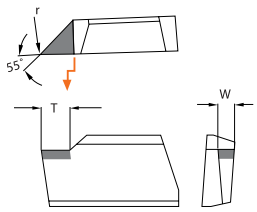
Tolerance on "W" = +.0016"

Ordering Example: 10 pcs. BFRV3.0RF SBC1 (Right Hand)

Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land



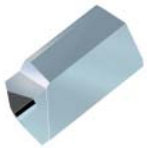
BFDV Right or left hand, external, profiling



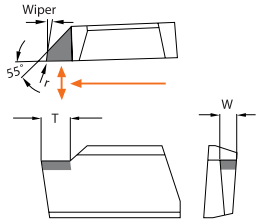
Right hand external shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFDV0.2R/LF	.197	.197	.008	■				■		■
	BFDV0.2R/LT	.197	.197	.008	■	■	■	■	■	■	■
	BFDV0.4R/LF	.197	.197	.016	■				■		■
	BFDV0.4R/LT	.197	.197	.016	■	■	■	■	■	■	■
	BFDV0.8R/LF	.197	.197	.031	■				■		■
	BFDV0.8R/LT	.197	.197	.031	■	■	■	■	■	■	■
	BFDV1.2R/LF	.197	.197	.047	■				■		■
	BFDV1.2R/LT	.197	.197	.047	■	■	■	■	■	■	■

Ordering Example: 10 pcs. BFDV0.2RF PBC-10 (Right Hand)



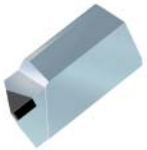
BFDV Right or left hand, external, side & face turning wiper edge



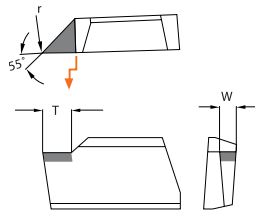
Right hand external shown

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFDV0.2R/LWF	.197	.197	.008	■				■		■
	BFDV0.2R/LWT	.197	.197	.008	■	■	■	■	■	■	■
	BFDV0.4R/LWF	.197	.197	.016	■				■		■
	BFDV0.4R/LWT	.197	.197	.016	■	■	■	■	■	■	■
	BFDV0.8R/LWF	.197	.197	.031	■				■		■
	BFDV0.8R/LWT	.197	.197	.031	■	■	■	■	■	■	■

Ordering Example: 10 pcs. BFDV0.2RWF PBC-10 (Right Hand)



BFDV Right or left hand, external, profiling

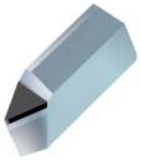


Right hand external shown

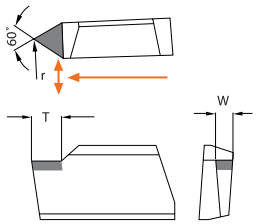
Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFDV0.2R/LF	.197	.197	.008					■		
	BFDV0.2R/LT	.197	.197	.008		■	■			■	
	BFDV0.4R/LF	.197	.197	.016					■		
	BFDV0.4R/LT	.197	.197	.016		■	■			■	
	BFDV0.8R/LF	.197	.197	.031					■		
	BFDV0.8R/LT	.197	.197	.031		■	■			■	
	BFDV1.2R/LF	.197	.197	.047					■		
	BFDV1.2R/LT	.197	.197	.047		■	■			■	

Ordering Example: 10 pcs. BFDV0.2RF SBC1 (Right Hand)

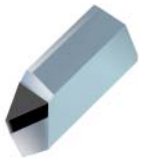
Note: BFSN-2.5-02RF: F= sharp cutting edge, T= T-Land



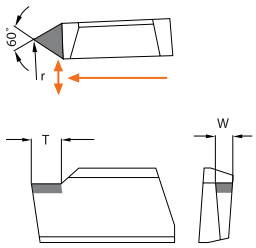
BFTV Right or left hand, external, threading, partial profile

Insert	Designation	Dimensions W	Dimensions T	Dimensions r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
					BH			BL			
	BFTV0.10R/LT	.197	.197	.0040	■	■	■	■	■	■	■
	BFTV0.14R/LT	.197	.197	.0055	■	■	■	■	■	■	■
	BFTV0.18R/LF	.197	.197	.0071	■				■	■	■
	BFTV0.18R/LT	.197	.197	.0071	■	■	■	■	■	■	■
	BFTV0.21R/LF	.197	.197	.0083	■				■	■	■
	BFTV0.21R/LT	.197	.197	.0083	■	■	■	■	■	■	■
	BFTV0.25R/LF	.197	.197	.0098	■				■	■	■
	BFTV0.25R/LT	.197	.197	.0098	■	■	■	■	■	■	■
	BFTV0.28R/LF	.197	.197	.0110	■				■	■	■
	BFTV0.28R/LT	.197	.197	.0110	■	■	■	■	■	■	■
	BFTV0.36R/LT	.197	.197	.0142	■	■	■	■	■	■	■
Right hand external shown	BFTV0.43R/LT	.197	.197	.0169	■		■	■	■	■	■

Ordering Example: 10 pcs. BFTV0.10RT PBC-10 (Right Hand)



BFTV Right or left hand, external, threading, partial profile

Insert	Designation	Dimensions W	Dimensions T	Dimensions r		SBC1	SB10		SB25	SB40	
					BH			BL			
	BFTV0.10R/LT	.197	.197	.0040			■		■	■	
	BFTV0.14R/LT	.197	.197	.0055			■		■	■	
	BFTV0.18R/LF	.197	.197	.0071					■		
	BFTV0.18R/LT	.197	.197	.0071		■	■		■	■	
	BFTV0.21R/LF	.197	.197	.0083					■		
	BFTV0.21R/LT	.197	.197	.0083		■	■		■	■	
	BFTV0.25R/LF	.197	.197	.0098					■		
	BFTV0.25R/LT	.197	.197	.0098		■	■		■	■	
	BFTV0.28R/LF	.197	.197	.0110					■		
	BFTV0.28R/LT	.197	.197	.0110		■	■		■	■	
	BFTV0.36R/LT	.197	.197	.0142		■	■		■	■	
Right hand external shown	BFTV0.43R/LT	.197	.197	.0169		■	■		■	■	

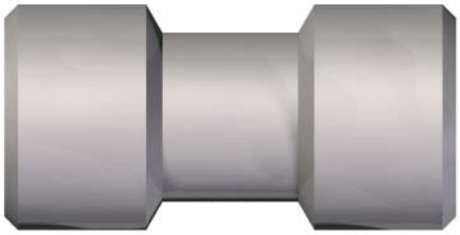
Ordering Example: 10 pcs. BFTV0.10RT SBC1 (Right Hand)

Note: BFSN-2.5-02RE: E= sharp cutting edge, T= T-Land

Threading Profile Ranges

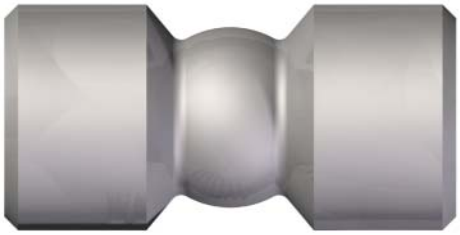
Size of radius for American UN & metric ISO-threads			
size of radius	**UN TPI Metric Pitch (max.)**	**UN TPI Metric Pitch (min.)**	**UN TPI Metric Pitch (average.)**
r = .0040	32 TPI P = .80	36 TPI P = .69	34 TPI P = .75
r = .0055	22 TPI P = 1.12	27 TPI P = .97	24 TPI P = 1.00
r = .0071	18 TPI P = 1.44	20 TPI P = 1.25	19 TPI P = 1.35
r = .0083	15 TPI P = 1.68	17 TPI P = 1.46	16 TPI P = 1.55
r = .0098	12.7 TPI P = 2.00	14.6 TPI P = 1.74	13 TPI P = 1.87
r = .0110	11.33 TPI P = 2.24	13 TPI P = 1.95	12 TPI P = 2.10
r = .0142	8.5 TPI P = 2.99	10.16 TPI P = 2.50	9.5 TPI P = 2.70
r = .0169	7.4 TPI P = 3.44	8.5 TPI P = 2.99	8 TPI P = 3.20

Profiling



Threading

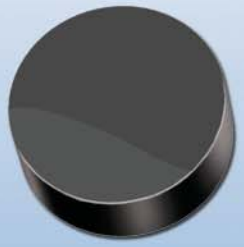
Copying



Grooving

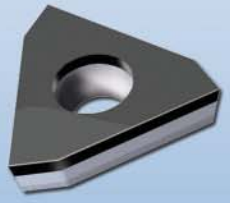
ISO-HardCut

MultiCut
(2 corners)

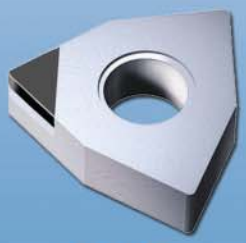


Solid

Whole Edge
Positive Neutral

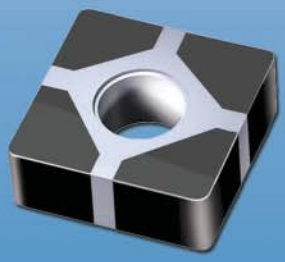


Full Face
(PCD & CBN)

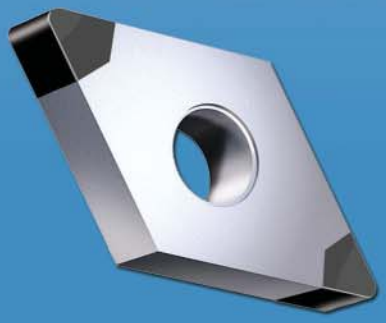


MW
(1 corner)

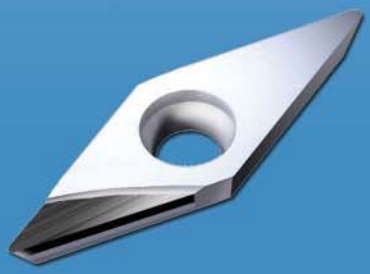
Some of the many insert configurations!



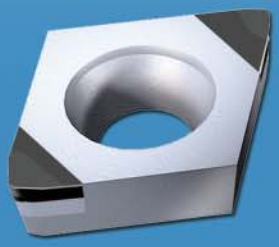
PolyCut
(8 corners)



PolyCut-M
(4 corners)



Positive PCD
(right & left hand)



Positive Neutral
(with Wiper Edge)

Go Back

Inserts - PCD & MDC

Turning Inserts - PDC & MDC grades

CCMT Positive neutral, PDC, MDC ..... page 65
CCMT Positive neutral wiper edge, PDC, MDC ..... page 65
CCMT Whole edge positive, PDC, MDC ..... page 65
CCMW Neutral, PDC, MDC ..... page 66
CCMW Neutral wiper edge, PDC, MDC ..... page 66
CCMW Whole edge, PDC, MDC ..... page 66
CNMN MW, PDC, MDC ..... page 67
CNMA MW, PDC, MDC page67
CNMN MW, PDC, MDC ..... page 67
CPMT Positive neutral, PDC, MDC ..... page 68
CPMT Positive neutral wiper edge, PDC, MDC ..... page 68
CPMT Whole edge positive, PDC, MDC ..... page 68
CPMW Neutral, PDC, MDC ..... page 69
CPMW Neutral wiper edge, PDC, MDC ..... page 69
CPMW Whole edge, PDC, MDC ..... page 70
DCMT Positive neutral, PDC, MDC ..... page 70
DCMT Wiper edge, 93° positive, PDC, MDC ..... page 70
DCMT Positive, PDC, MDC ..... page 71
DCMW Neutral, PDC, MDC ..... page 71
DCMW wiper edge 93°, PDC, MDC ..... page 71
DNMA MW, PDC, MDC ..... page 72
DNMM MW, PDC, MDC ..... page 72
DPMW Neutral, PDC, MDC ..... page 72
EPMT Positive neutral, PDC, MDC ..... page 73
EPMW Neutral, PDC, MDC ..... page 73
RCMW Fullface, PDC, MDC ..... page 73
RPMW Fullface, PDC, MDC ..... page 74
SCMT Positive Neutral, PDC, MDC ..... page 74
SCMT Whole edge positive neutral, PDC, MDC ..... page 74
SCMW Neutral, PDC, MDC ..... page 75
SCMW Whole edge neutral, PDC, MDC ..... page 75
SNMN MW, PDC, MDC ..... page 75
SNMR Whole edge tipped, positive , PDC, MDC ..... page 76
SNMA MW, PDC, MDC ..... page 76
SNMN Whole edge tipped, positive, PDC, MDC ..... page 76
SPGN Neutral, PDC, MDC ..... page 77
SPGN Whole edge neutral, PDC, MDC ..... page 77
SPMT Positive neutral, PDC, MDC ..... page 77
SPMT Whole edge positive neutral, PDC, MDC ..... page 78
SPMW Neutral, PDC, MDC ..... page 78
SPMW Whole edge neutral, PDC, MDC ..... page 78
TCMT Positive neutral, PDC, MDC ..... page 79
TCMT Whole edge positive neutral, PDC, MDC ..... page 79
TCMW Neutral, PDC, MDC ..... page 80
TCMW Whole edge neutral, PDC, MDC ..... page 80
TCMW Fullface, PDC, MDC ..... page 80
TPGA Neutral, PDC, MDC ..... page 81
TNMA MW, PDC, MDC ..... page 81
TNMM MW, PDC, MDC ..... page 81
TNMM Whole edge tipped, PDC, MDC ..... page 82
TNMR Whole edge tipped, PDC, MDC ..... page 82
TPGN Neutral, PDC, MDC ..... page 82
TPGN Whole edge neutral, PDC, MDC ..... page 83
TPMR Whole edge positive neutral, PDC, MDC ..... page 83
TPMT Whole edge positive neutral, PDC, MDC ..... page 83
TPMW Neutral, PDC, MDC ..... page 84
TPMW Whole edge neutral, PDC, MDC ..... page 84
VBMT Positive neutral, PDC, MDC ..... page 84
VBMT Positive neutral, PDC, MDC ..... page 85
VBMW Neutral, PDC, MDC ..... page 85
VCMT Positive neutral, PDC, MDC ..... page 86
VCMT Positive, PDC, MDC ..... page 86
VCMW Neutral, PDC, MDC ..... page 87
WBGW Fullface left hand, PDC, MDC ..... page 87
WCGW Fullface, PDC, MDC ..... page 87
WNMA MW, PDC, MDC ..... page 88
WNMM MW, PDC, MDC ..... page 88

Milling Inserts - PDC & MDC grades

CPGT..PD R Milling inserts positive, PDC, MDC ..... page 134
CPGW..PD R Milling insert neutral, PDC, MDC ..... page 134
RDHX Milling insert fullface, PDC, MDC ..... page 134
SDHW..AE N Milling insert neutral, PDC, MDC ..... page 135
SEHW..AF N Milling insert neutral, PDC, MDC ..... page 135
SEKN..AF N Milling inserts neutral, PDC, MDC ..... page 135
SPKN..ED R Milling inserts, PDC, MDC ..... page 136
SPGW..ED R Milling insert, PDC, MDC ..... page 136
SPGT..ED R Milling insert positive, PDC, MDC ..... page 136
SPGW..PD R Milling insert, PDC, MDC ..... page 137
SPGT..PD R Milling insert positive, PDC, MDC ..... page 137
TPKN..PD R Milling insert, PDC, MDC ..... page 137

Turning Inserts - CBN grades

CCMW EWS ..... page 90
CCMW EWS wiper edge neutral ..... page 90
CCMW MultiCut ..... page 91
CCMW MultiCut wiper edge neutral ..... page 91
CCMW MW ..... page 91
CCMW Whole edge tipped ..... page 92
CNMA EW ..... page 92
CNMA MultiCut ..... page 93
CNMA MultiCut wiper edge neutral ..... page 93
CNMA PolyCut-S ..... page 93
CNMA PolyCut-S wiper edge neutral ..... page 94
CNMA PolyCut-M ..... page 94
CNMA PolyCut-M/4 ..... page 94
CNMA MW ..... page 95
CNMF PolyCut-S ..... page 95
CNMG PolyCut-S ..... page 95
CNMN PolyCut-M ..... page 96
CNMN PolyCut-M wiper edge neutral ..... page 96
CNMN PolyCut-M/4 ..... page 97
CNMN PolyCut-S/4 ..... page 97
CPMT EW ..... page 97
CPMW EW ..... page 98
CPMW EWS wiper edge neutral ..... page 99
CPMW whole edge tipped ..... page 99
DCMT EW ..... page 100
DCMW EW ..... page 100
DCMW EWS ..... page 101
DCMW EWS wiper edge 93° ..... page 101
DCMW MultiCut ..... page 102
DCMW MW ..... page 102
DNMA EW ..... page 103
DNMA PolyCut-S ..... page 103
DNMA PolyCut-S/4 ..... page 104
DNMA PolyCut-M ..... page 104
DNMA MW ..... page 105
DNMG PolyCut-S ..... page 105
DPMW EW ..... page 106
EPMT EW ..... page 106
EPMW EW ..... page 107
RCMW Fullface ..... page 107
RCGX Fullface ..... page 108
RNGN Solid ..... page 108
RNGN Fullface ..... page 108
RNMA Fullface ..... page 109
RPMW Fullface ..... page 109
SCMW EW ..... page 109
SCMW Whole edge tipped ..... page 110
SNGN PolyCut-M ..... page 110
SNGN PolyCut-M/4 ..... page 110
SNGN PolyCut-M Whole edge tipped ..... page 111
SNGN PolyCut-S/4 ..... page 111
SNGN PolyCut Solid ..... page 111
SNMA EW ..... page 112
SNMA PolyCut-M ..... page 112
SNMA PolyCut-M/4 ..... page 112
SNMA PolyCut-M Whole edge ..... page 113
SNMA PolyCut-S ..... page 113
SNMG PolyCut-S ..... page 113
SPGN EW ..... page 114
SPGN Whole edge tipped ..... page 114
SPMW EW ..... page 115
SPMW Whole edge tipped ..... page 115
TBGN Fullface ..... page 115
TBGW Fullface ..... page 116
TCMT EW ..... page 116
TCMW EW ..... page 117
TCMW MW ..... page 117
TCMW Whole edge tipped ..... page 118
TNMA EW ..... page 118
TNMA PolyCut-S ..... page 119
TNMAPolyCut-M ..... page 119
TNMA PolyCut-M/4 ..... page 119
TNMA MW ..... page 120
TNMA Whole edge ..... page 120
TNMG PolyCut-S ..... page 120
TPGA EW ..... page 121
TPGN EW ..... page 121
TPGN Whole edge tipped ..... page 122
TPGN Fullface ..... page 122
TPMW EW ..... page 123
TPMW Whole edge tipped ..... page 123

Inserts - CBN / Tools

VBMW EWS ..... page 124
VBMW MultiCut-S ..... page 124
VBMW MultiCut-S/4 ..... page 124
VBMW MW ..... page 125
VCMT EWS ..... page 125
VCMW EWS ..... page 126
VCMW MultiCut-S ..... page 126
VCMW MultiCut-S/4 ..... page 127
VCMW MW ..... page 127
VNMA PolyCut-M ..... page 128
VNMA PolyCut-M/4 ..... page 128
VNMA MW ..... page 128
VNMA PolyCut-S ..... page 129
VNMG PolyCut-S ..... page 129
WBGW/L Fullface ..... page 129
WCGW Fullface ..... page 130
WNMA EW ..... page 130
WNMA PolyCut-M ..... page 130
WNMA PolyCut-M/4 ..... page 131
WNMA MW ..... page 131
WNMA PolyCut-S ..... page 131
WNMG PolyCut-S ..... page 132

Milling Inserts - CBN grades

RDHX Fullface milling insert ..... page 138
SDHW..AE N MW milling insert ..... page 138
SPKN..ED R MW milling insert ..... page 138
TPKN ..PD R MW Milling Insert ..... page 138

Tools - External Pinlock

MCLNR/L ..... page 140
MCMNN ..... page 140
MDJNR/L ..... page 141
MDPNN ..... page 141
MRGNR/L ..... page 142
MSDNN ..... page 142
MTENN ..... page 142
MTFNR/L ..... page 143
MTGNR/L ..... page 143
MTJNR/L ..... page 144
MVJNR/L ..... page 144
MWLNR/L ..... page 144

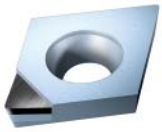
Tools - External Screwlock

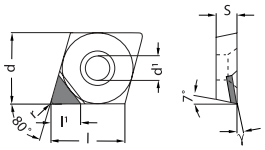
SCLCR/L ..... page 145
SCLPR/L ..... page 145
SDJCR/L ..... page 146
SDJPR/L ..... page 146
SDNCN ..... page 147
SRDCN ..... page 147
SRGCR/L ..... page 148
SRSCR/L ..... page 148
STGCR/L ..... page 149
STGPR/L ..... page 149
SVHBR/L ..... page 150
SVHCR/L ..... page 150
SVJBR/L ..... page 150
SVJCR/L ..... page 151
SVVBN ..... page 151
SVVCN ..... page 151

Tools - Internal Screwlock (Carbide Shank)

C_-SWUC, Inch ..... page 152
E_-SWUC, Inch ..... page 152
E_-SEUP, Inch & Metric ..... page 152
C_-SCLCR/L ..... page 153
C_-SCLPR/L ..... page 153
C_-SDUCR/L ..... page 154
C_-SDUPR/L ..... page 154
C_-STFCR/L ..... page 155
C_-STFPR/L ..... page 155
C_-SVQCR/L ..... page 156
C_-SVUCR/L ..... page 156

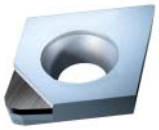
CCMT Positive neutral

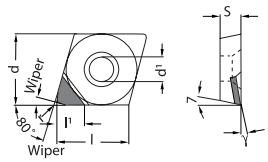




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMT-21.50	.250	.110	.094	.254	.138	.102	.004	■	■		■
	CCMT-21.50.5					.134	.094	.008	■	■		■
	CCMT-21.51					.126	.087	.016		■		■
	CCMT-21.52					.118	.079	.031	■	■		■
	CCMT-32.50.5	.375	.173	.156	.382	.177	--	.008	■	■		
	CCMT-32.51					.169	--	.016		■		
	CCMT-32.52					.161	--	.031		■		
	CCMT-431	.500	.217	.187	.508	.169	--	.016	■	■		
	CCMT-432					.161	--	.031		■		

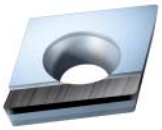
CCMT Positive neutral wiper edge

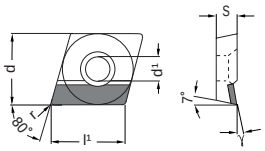




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMT-21.50W	.250	.110	.094	.254	.134	.102	.004	■	■		■
	CCMT-21.50.5W					.130	.094	.008	■	■		■
	CCMT-21.51W					.122	.083	.016		■		■
	CCMT-32.50W	.375	.173	.156	.382	.177	.102	.004	■	■		■
	CCMT-32.50.5W					.173	.094	.008	■	■		■
	CCMT-32.51W					.165	.087	.016		■		■
	CCMT-430.5W	.500	.217	.187	.508	.173	--	.008	■	■		
	CCMT-431W					.165	--	.016	■	■		

CCMT Right or left hand, whole edge positive





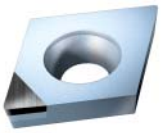
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMT-21.51R/L-GS	.250	.110	.094	--	.254	.016	■			
	CCMT-21.52R/L-GS					.254	.031	■			
	CCMT-32.52R/L-GS	.375	.173	.156	--	.382	.031	■			
	CCMT-32.53R/L-GS					.382	.047	■			
	CCMT-433R/L-GS	.500	.217	.187	--	.508	.047	■			

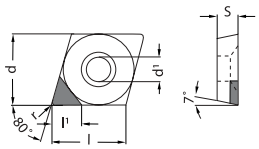
Right hand shown

Ordering Example: 10 pcs. CCMT-21.51R-GS PDC-S (Right Hand)

Inserts - PCD & MDC

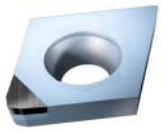
CCMW Neutral

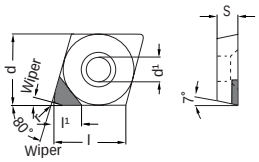




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMW-21.50.5	.250	.110	.094	.254	.134	.094	.008	■	■		■
	CCMW-21.51					.126	.087	.016	■	■		■
	CCMW-21.52					.118	.079	.031		■		■
	CCMW-32.50.5	.375	.173	.156	.382	.177	.000	.008	■	■		
	CCMW-32.51					.169	.087	.016	■	■		■
	CCMW-32.52					.161	.079	.031		■		■
	CCMW-431	.500	.217	.187	.508	.169	.087	.016	■	■		■
	CCMW-432					.161	.000	.031		■		

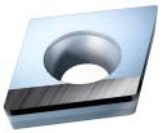
CCMW Neutral wiper edge

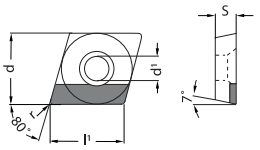




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMW-21.50W	.250	.110	.094	.254	.134	.098	.004	■	■		■
	CCMW-21.50.5W					.130	.091	.008	■	■		■
	CCMW-21.51W					.122	.083	.016		■		■
	CCMW-32.50W	.375	.173	.156	.382	.177	.098	.004	■	■		■
	CCMW-32.50.5W					.173	.091	.008	■	■		■
	CCMW-32.51W					.165	.083	.016		■		■
	CCMW-430.5W	.500	.217	.187	.508	.173	.091	.008	■	■		■
	CCMW-431W					.165	.083	.016	■	■		■

CCMW Right or left hand, whole edge



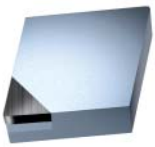


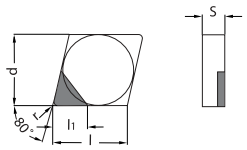
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CCMW-21.51R/L-GS	.250	.110	.094	--	.254	.016		■		
	CCMW-21.52R/L-GS					.254	.031		■		
	CCMW-32.52R/L-GS	.375	.173	.156	--	.382	.031		■		
	CCMW-32.53R/L-GS					.382	.047		■		
	CCMW-432R/L-GS	.500	.217	.187	--	.508	.031		■		

Right hand shown

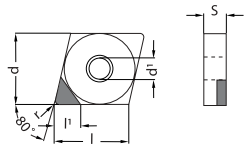
Ordering Example: 10 pcs. CCMW-21.51R-GS PDC (Right Hand)

CNMN MW

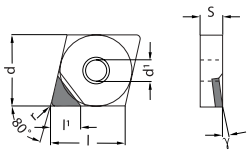


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CNMN-431-MW	.500	--	.187	.508	.248	.016	■			
	CNMN-432-MW					.236	.031	■			
	CNMN-433-MW					.224	.047	■			

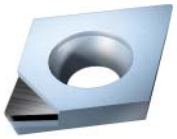
CNMA MW

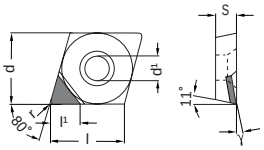
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CNMA-431-MW	.500	.202	.187	.508	.248	.016	■	■		
	CNMA-432-MW					.236	.031	■	■		
	CNMA-433-MW					.224	.047	■	■		

CNMM MW

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CNMM-431-MW	.500	.202	.187	.508	.248	.016	■			
	CNMM-432-MW					.236	.031	■			
	CNMM-433-MW					.224	.047	■			

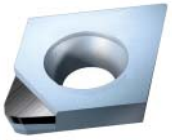
CPMT Positive neutral

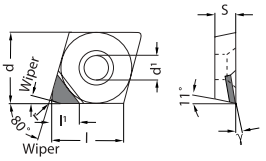




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CPMT-1.51.20.5	.187	.083	.078	.189	.087	.008	■	■		
	CPMT-1.51.21					.079	.016		■	■	
	CPMT-1.81.20.5	.219	.098	.078	.220	.094	.008	■	■		
	CPMT-1.81.21					.087	.016		■	■	
	CPMT-1.81.50.5	.219	.098	.094	.220	.094	.008	■	■		
	CPMT-1.81.51					.087	.016		■	■	
	CPMT-21.50.5	.250	.110	.094	.254	.134	.008	■	■		
	CPMT-21.51					.126	.016		■	■	
	CPMT-21.52					.118	.031		■	■	

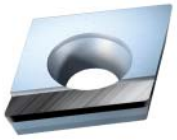
CPMT Positive neutral wiper edge

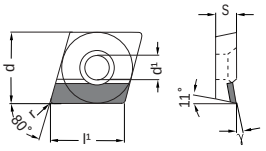




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CPMT-1.51.20.5W	.187	.083	.078	.189	.079	.008	■	■		
	CPMT-1.51.21W					.075	.016		■	■	
	CPMT-1.81.20.5W	.219	.098	.078	.220	.091	.008	■	■		
	CPMT-1.81.21W					.083	.016		■	■	
	CPMT-1.81.50.5W	.219	.098	.094	.220	.091	.008	■	■		
	CPMT-1.81.51W					.083	.016		■	■	
	CPMT-21.50.5W	.250	.110	.094	.254	.130	.008	■	■		
	CPMT-21.51W					.122	.016		■	■	

CPMT Right or left hand, whole edge positive

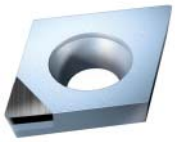




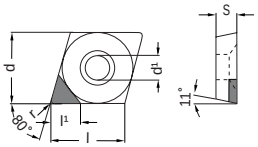
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CPMT-1.81.21R/L-GS	.219	.098	.078	--	.220	.016	■			
	CPMT-1.81.22R/L-GS					.220	.031	■			
	CPMT-1.81.51R/L-GS	.219	.098	.094	--	.220	.016	■			
	CPMT-1.81.52R/L-GS					.220	.031	■			
	CPMT-21.52R/L-GS	.250	.110	.094	--	.254	.031	■			
	CPMT-32.53R/L-GS	.375	.173	.156	--	.382	.047	■			
	CPMT-433R/L-GS	.500	.217	.187	--	.508	.047	■			

Right hand shown

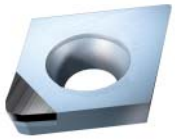
Ordering Example: 10 pcs. CPMT-1.81.21R-GS PDC-S (Right Hand)



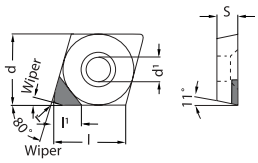
CPMW Neutral



Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CPMW-1.51.20.5	.187	.083	.078	.189	.087	--	.008	■	■		
	CPMW-1.51.21					.079	--	.016		■	■	
	CPMW-1.81.20.5	.219	.085	.078	.220	.094	--	.008	■	■		
	CPMW-1.81.21					.087	.087	.016		■	■	■
	CPMW-1.81.50.5	.219	.085	.094	.220	.094	--	.008	■	■		
	CPMW-1.81.51					.087	.087	.016		■	■	■
	CPMW-21.50.5	.250	.110	.094	.254	.134	--	.008	■	■		
	CPMW-21.51					.126	--	.016		■	■	
	CPMW-21.52					.118	.079	.031		■	■	■
	CPMW-32.51	.375	.173	.156	.382	.169	--	.016		■	■	
	CPMW-32.52					.161	--	.031		■	■	
	CPMW-431	.500	.217	.187	.508	.169	--	.016		■	■	
	CPMW-432					.161	--	.031		■	■	



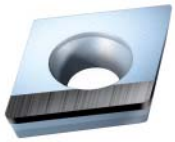
CPMW Neutral wiper edge

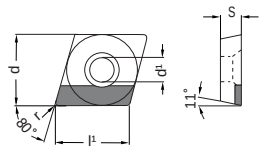


Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	CPMW-1.51.20.5W	.187	.083	.078	.191	.087	--	.008	■	■		
	CPMW-1.51.21W					.079	--	.016		■	■	
	CPMW-1.81.20.5W	.219	.085	.078	.217	.094	.087	.008	■	■		■
	CPMW-1.81.21W					.083	--	.016		■	■	
	CPMW-1.81.50.5W	.219	.085	.094	.217	.094	.087	.008	■	■		■
	CPMW-1.81.51W					.083	--	.016		■	■	
	CPMW-21.50.5W	.250	.110	.094	.254	.130	.091	.008	■	■		■
	CPMW-21.51W					.122	--	.016		■	■	
	CPMW-32.50.5W	.375	.173	.156	.382	.173	--	.008	■	■		
	CPMW-32.51W					.165	--	.016		■	■	
	CPMW-430.5W	.500	.217	.187	.508	.173	--	.008	■	■		
	CPMW-431W					.165	--	.016		■	■	

Inserts - PCD & MDC

CPMW Right or left hand, whole edge



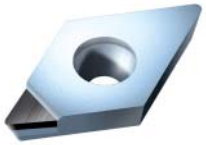


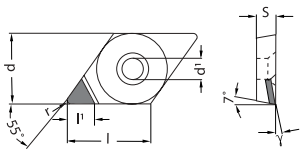
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DM			DP
	CPMW-1.81.21R/L-GS	.219	.098	.078	--	.220	.016		■		
	CPMW-1.81.51R/L-GS	.219	.098	.094	--	.220	.016		■		
	CPMW-21.51R/L-GS	.250	.110	.094	--	.254	.016		■		
	CPMW-21.52R/L-GS					.254	.031			■	
	CPMW-32.52R/L-GS	.375	.173	.156	--	.382	.031			■	
	CPMW-432R/L-GS	.500	.217	.187	--	.508	.031			■	

Right hand shown

Ordering Example: 10 pcs. CPMW-1.81.21R-GS PDC (Right Hand)

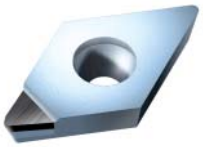
DCMT Positive neutral

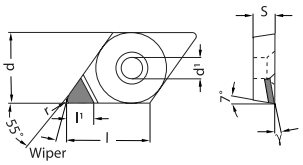




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	DCMT-21.50	.250	.110	.094	.305	.150	--	.004	■			
	DCMT-21.50.5					.146	.102	.008	■	■		■
	DCMT-21.51					.134	.091	.016		■		■
	DCMT-21.52					.118	.079	.031		■		■
	DCMT-32.50	.375	.173	.156	.457	.189	--	.004	■			
	DCMT-32.50.5					.185	.102	.008	■	■		■
	DCMT-32.51					.169	.091	.016		■		■
	DCMT-32.52					.157	.079	.031		■		■
	DCMT-32.53					.142	--	.047		■		

DCMT Right or left hand wiper edge 93° positive

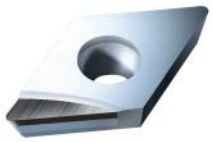


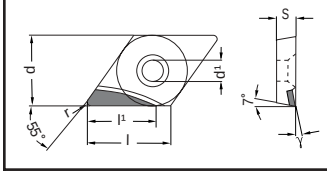


Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	DCMT-21.50R/LW	.250	.110	.094	.305	.118	.079	.004	■			■
	DCMT-21.50.5R/LW					.118	.079	.008	■			■
	DCMT-21.51R/LW					.118	.079	.016		■		■
	DCMT-32.50R/LW	.375	.173	.156	.457	.157	.079	.004	■			■
	DCMT-32.50.5R/LW					.157	.079	.008	■			■
	DCMT-32.51R/LW					.157	.079	.016		■		■

Ordering Example: 10 pcs. CPMT-1.81.21R-GS PDC-S (Right Hand)

DCMT Right or left hand positive

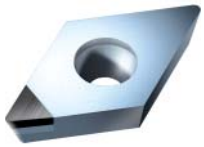


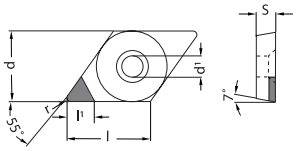
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	DCMT-21.51R/L	.250	.110	.094	.305	.217	.016	■	■		
	DCMT-21.52R/L					.197	.031	■	■		
	DCMT-32.51R/L	.375	.173	.156	.457	.295	.016	■	■		
	DCMT-32.52R/L					.276	.031	■	■		
	DCMT-32.53R/L					.256	.047	■	■		

Right hand shown

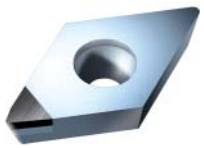
Ordering Example: 10 pcs. DCMT-21.51R PDC-S (Right Hand)

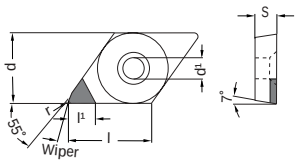
DCMW Neutral



Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	DCMW-21.50	.250	.110	.094	.305	.150	.106	.004	■			■
	DCMW-21.50.5					.146	.102	.008	■	■		■
	DCMW-21.51					.134	.091	.016	■	■		■
	DCMW-21.52					.118	.079	.031	■	■		■
	DCMW-320.5	.375	.173	.125	.457	.185	--	.008		■		
	DCMW-321					.169	--	.016		■		
	DCMW-322					.157	--	.031		■		
	DCMW-32.50	.375	.173	.156	.457	.189	.106	.004	■			■
	DCMW-32.50.5					.185	.102	.008	■	■		■
	DCMW-32.51					.169	.091	.016	■	■		■
	DCMW-32.52					.157	.079	.031	■	■		■
	DCMW-32.53					.142	.071	.047	■	■		■
	DCMW-431	.500	.217	.187	.610	.169	--	.016		■		
	DCMW-432					.157	--	.031		■		

DCMW Right or left hand wiper edge 93°

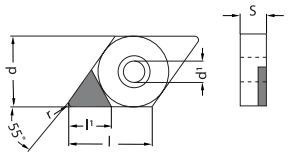


Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	DCMW-21.50R/LW	.250	.110	.094	.305	.118	.079	.004	■			■
	DCMW-21.50.5R/LW					.118	.079	.008	■			■
	DCMW-21.51R/LW					.118	.079	.016	■			■
	DCMW-32.50R/LW	.375	.173	.156	.457	.157	.079	.004	■			■
	DCMW-32.50.5R/LW					.157	.079	.008	■			■
	DCMW-32.51R/LW					.157	.079	.016	■			■

Right hand shown

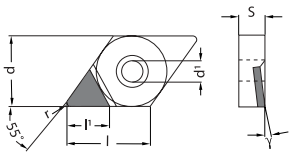
Ordering Example: 10 pcs. DCMW-21.50R PDC-S (Right Hand)

DNMA MW



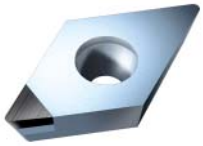
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	DNMA-431-MW	.500	.202	.187	.610	.252	.016	■	■		
	DNMA-432-MW					.236	.031	■	■		
	DNMA-433-MW					.220	.047	■	■		
	DNMA-441-MW	.500	.202	.250	.610	.252	.016	■	■		
	DNMA-442-MW					.236	.031	■	■		
	DNMA-443-MW					.220	.047	■	■		

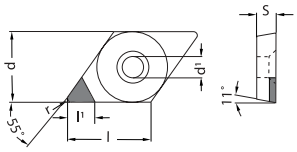
DNMM MW



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	DNMM-431-MW	.500	.202	.187	.610	.252	.016	■			
	DNMM-432-MW					.236	.031	■			
	DNMM-433-MW					.220	.047	■			
	DNMM-441-MW	.500	.202	.250	.610	.252	.016	■			
	DNMM-442-MW					.236	.031	■			
	DNMM-443-MW					.220	.047	■			

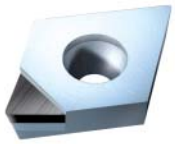
DPMW Neutral

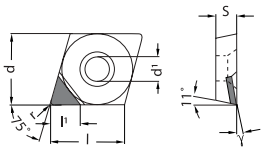




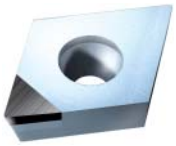
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
	DPMW-21.50.5	.250	.110	.094	.305	.146	.008		■		
	DPMW-21.51					.134	.016		■		
	DPMW-21.52					.118	.031		■		
	DPMW-32.50.5	.375	.173	.156	.457	.185	.008		■		
	DPMW-32.51					.169	.016		■		
	DPMW-32.52					.157	.031		■		

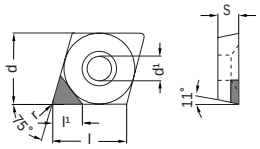
EPMT Positive neutral



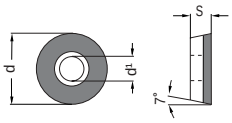
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	EPMT-1.51.50.5	.187	.085	.094	.189	.094	.008		■		
	EPMT-1.51.51					.087	.016		■		
	EPMT-1.81.50.5	.219	.094	.094	.224	.118	.008		■		
	EPMT-1.81.51					.102	.016		■		
	EPMT-21.50.5	.250	.110	.094	.256	.134	.008		■		
	EPMT-21.51					.126	.016		■		
	EPMT-2.520.5	.313	.134	.125	.327	.134	.008		■		
	EPMT-2.521					.126	.016		■		
	EPMT-2.522					.118	.031		■		

EPMW Neutral

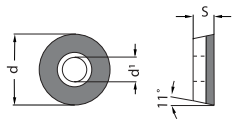


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
	EPMW-1.51.50.5	.187	.085	.094	.189	.094	.008		■		
	EPMW-1.51.51					.087	.016		■		
	EPMW-1.81.50.5	.219	.094	.094	.224	.118	.008		■		
	EPMW-1.81.51					.102	.016		■		
	EPMW-21.50.5	.250	.110	.094	.256	.134	.008		■		
	EPMW-21.51					.126	.016		■		
	EPMW-2.520.5	.313	.134	.125	.327	.134	.008		■		
	EPMW-2.521					.126	.016		■		
	EPMW-2.522					.118	.031		■		

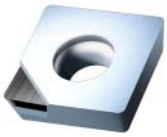
RCMW Fullface

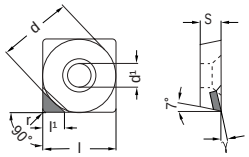
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DM			DP
	RCMW-0602M0-VM	.236	.110	.094	--	--	--	■	■		
	RCMW-0803M0-VM	.315	.134	.125	--	--	--	■	■		
	RCMW-1003M0-VM	.394	.173	.125	--	--	--		■		
	RCMW-10T3M0-VM	.394	.173	.156	--	--	--		■		
	RCMW-1204M0-VM	.472	.173	.187	--	--	--		■		

RPMW Fullface

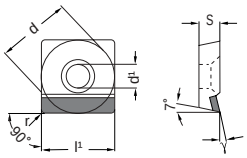
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	RPMW-0802M0-VM	.315	.134	.094	--	--	--		■		
	RPMW-1003M0-VM	.394	.173	.125	--	--	--		■		
	RPMW-1204M0-VM	.472	.173	.187	--	--	--		■		
	RPMW-43-VM	.500	.217	.187	--	--	--		■		

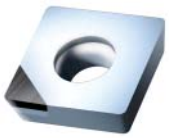
SCMT Positive neutral



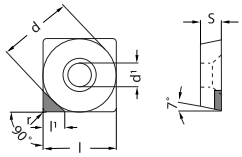
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SCMT-32.51	.375	.173	.156	.375	.173	.016	■			
	SCMT-32.52					.169	.031	■			
	SCMT-32.53					.165	.047	■			
	SCMT-432	.500	.217	.187	.500	.169	.031	■			
	SCMT-433					.165	.047	■			

SCMT Whole edge positive neutral

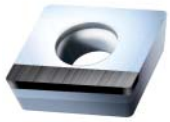
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SCMT-32.52-GS	.375	.173	.156	--	.375	.031	■			
	SCMT-32.53-GS					.375	.047	■			
	SCMT-432-GS	.500	.217	.187	--	.500	.031	■			
	SCMT-433-GS					.500	.047	■			



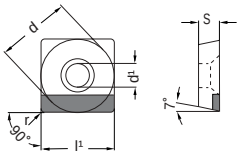
SCMW Neutral



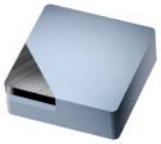
Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	SCMW-32.51	.375	.173	.156	.375	.173	--	.016	■	■		
	SCMW-32.52					.169	.102	.031		■		■
	SCMW-32.53					.165	.098	.047		■		■
	SCMW-431	.500	.217	.187	.500	.173	--	.016	■	■		
	SCMW-432					.169	.102	.031		■		■
	SCMW-433					.165	.098	.047		■		■



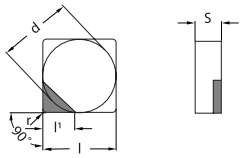
SCMW Whole edge neutral



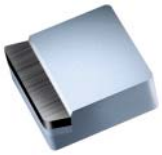
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
	SCMW-32.51-GS	.375	.173	.156	--	.375	.016			■	
	SCMW-32.52-GS					.375	.031			■	
	SCMW-32.53-GS					.375	.047			■	
	SCMW-431-GS	.500	.217	.187	--	.500	.016			■	
	SCMW-432-GS					.500	.031			■	
	SCMW-433-GS					.500	.047			■	



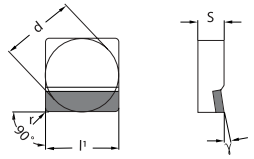
SNMN MW

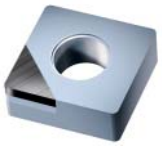


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SNMN-431-MW	.500	--	.187	.500	.248	.016	■	■		
	SNMN-432-MW					.244	.031	■	■		
	SNMN-433-MW					.236	.047	■	■		

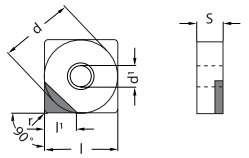


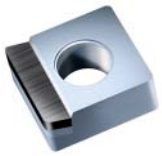
SNMR Whole edge tipped, positive

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SNMR-432-GS	.500	--	.187	--	.500	.031	■			
	SNMR-433-GS					.500	.047	■			
	SNMR-434-GS					.500	.063	■			

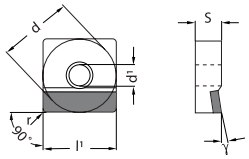


SNMA MW

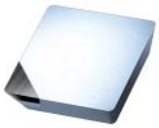
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SNMA-431-MW	.500	.202	.187	.500	.248	.016	■	■		
	SNMA-432-MW					.244	.031	■	■		
	SNMA-433-MW					.236	.047	■	■		

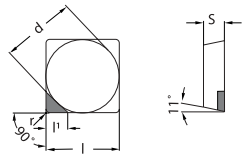


SNMM Whole edge tipped, positive

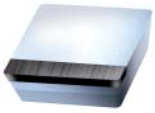
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SNMM-432-GS	.500	.202	.187	--	.500	.031	■			
	SNMM-433-GS					.500	.047	■			
	SNMM-434-GS					.500	.063	■			

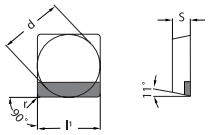
SPGN Neutral



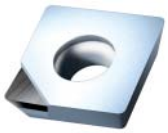
Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	SPGN-321	.375	--	.125	.375	.173	--	.016		■	■	
	SPGN-322					.169	.102	.031			■	■
	SPGN-421	.500	--	.125	.500	.173	--	.016		■	■	
	SPGN-422					.169	.102	.031			■	■
	SPGN-423					.165	--	.047			■	

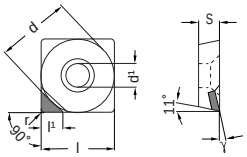
SPGN Whole edge neutral



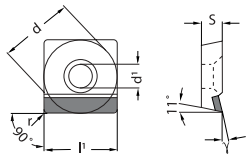
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	SPGN-321-GS	.375	--	.125	--	.375	.016		■	■	
	SPGN-322-GS					.375	.031		■	■	
	SPGN-422-GS	.500	--	.125	--	.500	.031		■	■	
	SPGN-423-GS					.500	.047		■	■	

SPMT Positive neutral



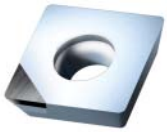
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	SPMT-32.51	.375	.173	.156	.375	.173	.016		■		
	SPMT-32.52					.169	.031		■		
	SPMT-32.53					.165	.047		■		
	SPMT-432	.500	.217	.187	.500	.169	.031		■		
	SPMT-433					.165	.047		■		

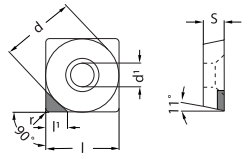
SPMT Whole edge positive neutral



Insert	Designation	Dimensions d	d1	s	l	l1	r	PDC-S	PDC	PDC-L	MDC
								DM			DP
	SPMT-32.52-GS	.375	.173	.156	--	.375	.031	■			
	SPMT-32.53-GS					.375	.047	■			
	SPMT-432-GS	.500	.217	.187	--	.500	.031	■			
	SPMT-433-GS					.500	.047	■			

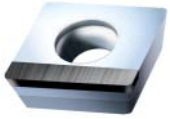
SPMW Neutral

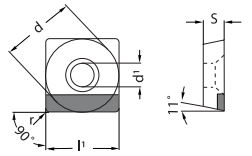




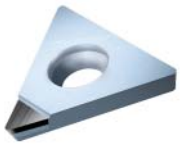
Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	SPMW-32.51					.173	--	.016	■	■		
	SPMW-32.52	.375	.173	.156	.375	.169	.102	.031		■		■
	SPMW-32.53					.165	--	.047		■		
	SPMW-431					.173	--	.016	■	■		
	SPMW-432	.500	.217	.187	.500	.169	.102	.031		■		■
	SPMW-433					.165	--	.047		■		

SPMW Whole edge neutral

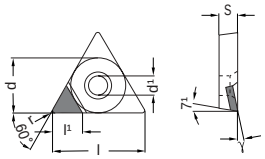




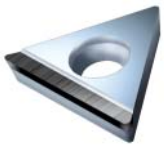
Insert	Designation	Dimensions d	d1	s	l	l1	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPMW-32.51-GS					.375	.016			■	
	SPMW-32.52-GS	.375	.173	.156	--	.375	.031			■	
	SPMW-32.53-GS					.375	.047			■	
	SPMW-431-GS					.500	.016			■	
	SPMW-432-GS	.500	.217	.187	--	.500	.031			■	
	SPMW-433-GS					.500	.047			■	



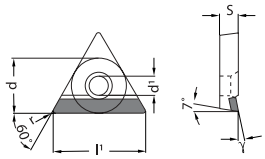
TCMT Positive neutral



Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	TCMT-1.81.50.5	.219	.098	.094	.378	.146	.102	.008		■	■		■
	TCMT-1.81.51					.134	.091	.016		■	■		■
	TCMT-1.81.52					.118	.079	.031			■		■
	TCMT-21.50.5	.250	.110	.094	.433	.146	.102	.008		■	■		■
	TCMT-21.51					.134	.091	.016		■	■		■
	TCMT-21.52					.118	.079	.031			■		■
	TCMT-32.51	.375	.173	.156	.650	.181	--	.016		■	■		
	TCMT-32.52					.165	--	.031			■		

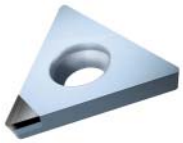


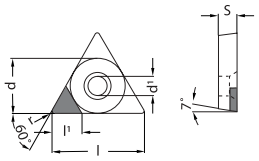
TCMT Whole edge positive neutral



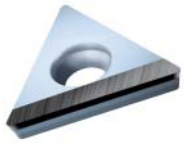
Insert	Designation	Dimensions d	d1	s	l	l1	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	TCMT-1.81.51-GS	.219	.098	.094	--	.378	.016		■			
	TCMT-1.81.52-GS					.378	.031		■			
	TCMT-21.51-GS	.250	.110	.094	--	.433	.016		■			
	TCMT-21.52-GS					.433	.031		■			
	TCMT-21.53-GS					.433	.047		■			
	TCMT-32.51-GS	.375	.173	.156	--	.650	.016		■			
	TCMT-32.52-GS					.650	.031		■			
	TCMT-32.53-GS					.650	.047		■			

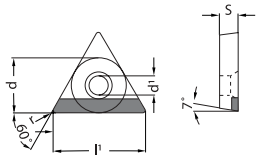
TCMW Neutral



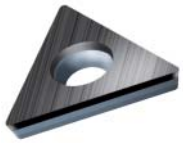
Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	TCMW-1.81.50.5	.219	.098	.094	.378	.146	.102	.008	■	■		■
	TCMW-1.81.51					.134	.091	.016	■	■		■
	TCMW-1.81.52					.118	.079	.031		■		■
	TCMW-21.50.5	.250	.110	.094	.433	.146	.102	.008	■	■		■
	TCMW-21.51					.134	.091	.016	■	■		■
	TCMW-21.52					.118	.079	.031		■		■
	TCMW-32.51	.375	.173	.156	.650	.181	.091	.016		■		■
	TCMW-32.52					.165	.079	.031		■		■
	TCMW-32.53					.150	.071	.047		■		■

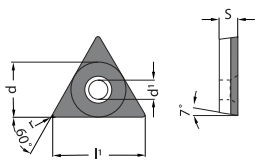
TCMW Whole edge neutral



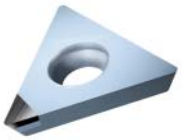
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	TCMW-1.81.51-GS	.219	.098	.094	--	.378	.016			■	
	TCMW-1.81.52-GS					.378	.031			■	
	TCMW-21.51-GS	.250	.110	.094	--	.433	.016			■	
	TCMW-21.52-GS					.433	.031			■	
	TCMW-21.53-GS					.433	.047			■	
	TCMW-32.51-GS	.375	.173	.156	--	.650	.016			■	
	TCMW-32.52-GS					.650	.031			■	
	TCMW-32.53-GS					.650	.047			■	

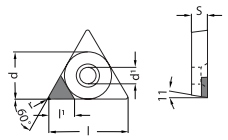
TCMW Fullface



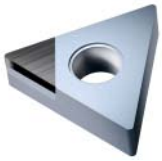
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	TCMW-21.50.5-VM	.250	.110	.094	--	.433	.008	■	■		
	TCMW-21.51-VM					.433	.016	■	■		
	TCMW-21.52-VM					.433	.031	■	■		

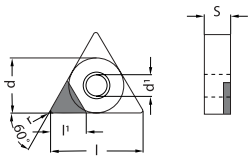
TPGA Neutral



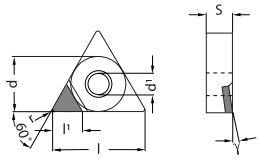
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPGA-220.5	.250	.134	.125	.433	.146	.008		■		
	TPGA-221					.134	.016		■		
	TPGA-222					.118	.031		■		

TNMA MW

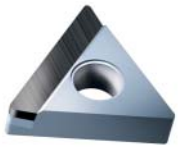


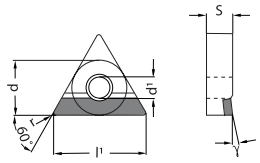
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TNMA-331-MW	.375	.150	.187	.650	.244	.016		■	■	
	TNMA-332-MW					.228	.031		■	■	
	TNMA-333-MW					.213	.047		■	■	
	TNMA-432-MW	.500	.202	.187	.866	.228	.031		■	■	
	TNMA-433-MW					.213	.047		■	■	

TNMM MW

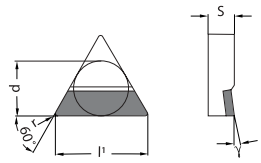
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TNMM-331-MW	.375	.150	.187	.650	.244	.016		■		
	TNMM-332-MW					.228	.031		■		
	TNMM-333-MW					.213	.047		■		
	TNMM-432-MW	.500	.202	.187	.866	.228	.031		■		
	TNMM-433-MW					.213	.047		■		

TNMM Whole edge tipped

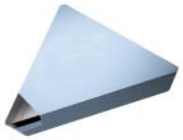


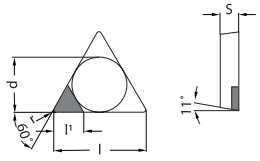
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TNMM-332-GS	.375	.150	.187	--	.650	.031	■			
	TNMM-333-GS					.650	.047	■			
	TNMM-334-GS					.650	.063	■			
	TNMM-432-GS	.500	.202	.187	--	.866	.031	■			
	TNMM-433-GS					.866	.047	■			

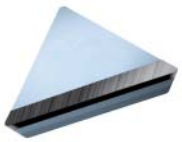
TNMR Whole edge tipped

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TNMR-332-GS	.375	--	.187	--	.650	.031	■			
	TNMR-333-GS					.650	.047	■			

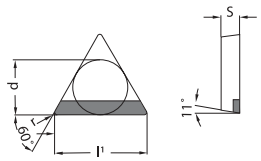
TPGN Neutral

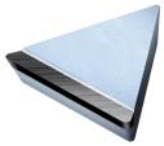


Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
	TPGN-1.81.51	.219	--	.094	.378	.134	--	.016		■		
	TPGN-1.81.52					.118	--	.031		■		
	TPGN-21.51	.250	--	.094	.433	.134	--	.016		■		
	TPGN-21.52					.118	--	.031		■		
	TPGN-220.5	.250	--	.125	.433	.146	.102	.008	■	■		■
	TPGN-221					.134	.091	.016	■	■		■
	TPGN-222					.118	.079	.031	■	■		■
	TPGN-321	.375	--	.125	.650	.181	.091	.016	■	■		■
	TPGN-322					.165	.079	.031	■	■		■
	TPGN-323					.150	.071	.047	■	■		■

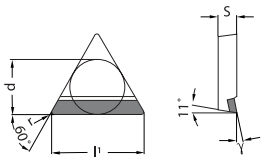


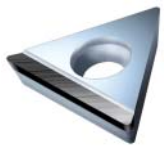
TPGN Whole edge neutral

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPGN-221-GS	.250	--	.125	--	.433	.016			■	
	TPGN-222-GS					.433	.031			■	
	TPGN-223-GS					.433	.047			■	
	TPGN-321-GS	.375	--	.125	--	.650	.016			■	
	TPGN-322-GS					.650	.031			■	
	TPGN-323-GS					.650	.047			■	

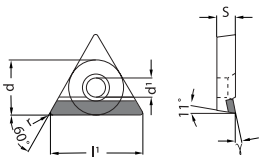


TPMR Whole edge positive neutral

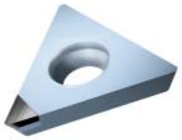
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPMR-221-GS	.250	--	.125	--	.433	.016		■		
	TPMR-222-GS					.433	.031		■		
	TPMR-223-GS					.433	.047		■		
	TPMR-321-GS	.375	--	.125	--	.650	.016		■		
	TPMR-322-GS					.650	.031		■		
	TPMR-323-GS					.650	.047		■		

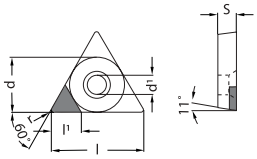


TPMT Whole edge positive neutral

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPMT-1.51.51-GS	.187	.087	.094	--	.323	.016		■		
	TPMT-1.51.52-GS				--	.323	.031		■		
	TPMT-1.81.51-GS	.219	.098	.094	--	.378	.016		■		
	TPMT-1.81.52-GS				--	.378	.031		■		
	TPMT-21.51-GS	.250	.110	.094	--	.433	.016		■		
	TPMT-21.52-GS				--	.433	.031		■		
	TPMT-221-GS	.250	.110	.125	--	.433	.016		■		
	TPMT-222-GS				--	.433	.031		■		
	TPMT-332-GS	.375	.173	.187	--	.650	.031		■		

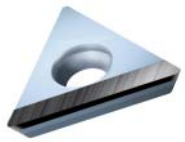
TPMW Neutral

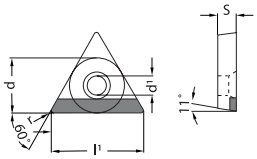




Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	TPMW-1.51.51	.187	.087	.094	.323	.106	--	.016		■		
	TPMW-1.81.51	.219	.098	.094	.378	.134	--	.016		■		
	TPMW-1.81.52					.118	--	.031		■		
	TPMW-21.50.5	.250	.110	.094	.433	146	.102	.008		■		■
	TPMW-21.51					.134	.091	.016		■		■
	TPMW-21.52					.118	.079	.031		■		■
	TPMW-220.5	.250	.110	.125	.433	.146	.102	.008		■		■
	TPMW-221					.134	.091	.016		■		■
	TPMW-222					.118	.079	.031		■		■

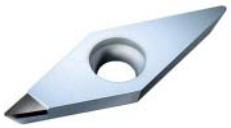
TPMW Whole edge neutral

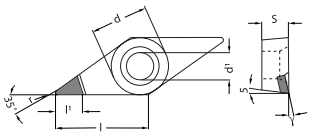




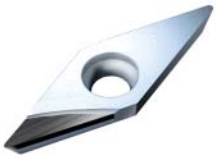
Insert	Designation	Dimensions d	d1	s	l	l1	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPMW-1.51.51	.187	.087	.094	--	.323	.016			■	
	TPMW-1.81.51	.219	.098	.094	--	.378	.016			■	
	TPMW-21.51	.250	.110	.094	--	.433	.016			■	
	TPMW-21.52					.433	.031			■	
	TPMW-221	.250	.110	.125	--	.433	.016			■	

VBMT Positive neutral

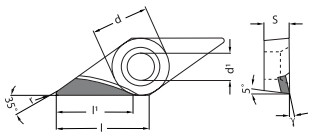




Insert	Designation	Dimensions d	d1	s	l	PDC l1	MDC l1	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	VBMT-21.50	.250	.114	.094	.437	.213	--	.004	■			
	VBMT-21.50.5					.181	.138	.008	■	■		■
	VBMT-21.51					.154	.118	.016	■	■		■
	VBMT-21.52					.130	--	.031		■		
	VBMT-330.5	.375	.173	.187	.654	.232	--	.008	■	■		
	VBMT-331					.217	.118	.016	■	■		■
	VBMT-332					.197	--	.031		■		

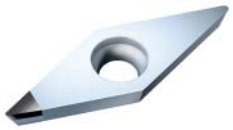


VBMT Right or left hand positive

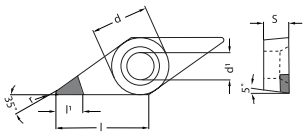
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	VBMT-21.51R/L	.250	.114	.094	.437	.256	.016		■	■	
	VBMT-21.52R/L					.236	.031		■	■	
	VBMT-331R/L	.375	.173	.187	.654	.295	.016		■	■	
	VBMT-332R/L					.276	.031		■	■	
	VBMT-333R/L					.276	.047		■	■	

Right hand shown

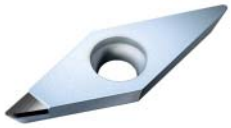
Ordering Example: 10 pcs. VBMT-21.51 R PDC-S (Right Hand)

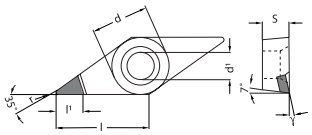


VBMW Neutral

Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	VBMW-21.50.5	.250	.114	.094	.437	.181	--	.008		■	■	
	VBMW-21.51					.154	.118	.016			■	■
	VBMW-21.52					.130	--	.031			■	
	VBMW-330.5	.375	.173	.187	.654	.232	--	.008		■	■	
	VBMW-331					.217	.118	.016			■	■
	VBMW-332					.197	--	.031			■	
	VBMW-333					.173	--	.047			■	

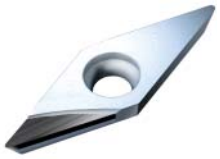
VCMT Positive neutral

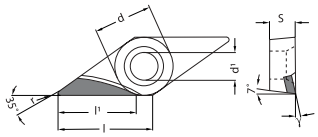




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S	PDC	PDC-L	MDC
									DP			DM
	VCMT-1.21.50	.156	.087	.094	.272	.150	--	.004	■			
	VCMT-1.21.50.5					.142	.118	.008	■	■		■
	VCMT-1.21.51					.126	.110	.016	■	■		■
	VCMT-220	.250	.114	.125	.437	.213	--	.004	■	■		
	VCMT-220.5					.181	.138	.008	■	■		■
	VCMT-221					.154	.118	.016	■	■		■
	VCMT-222					.130	.118	.031		■		■
	VCMT-2.520.5	.313	.134	.125	.524	.232	--	.008	■	■		
	VCMT-2.521					.217	--	.016		■		
	VCMT-330	.375	.173	.187	.654	.236	--	.004	■	■		
	VCMT-330.5					.232	.138	.008	■	■		■
	VCMT-331					.217	.118	.016	■	■		■
	VCMT-332					.197	.118	.031		■		■
	VCMT-333					.177	--	.047		■		

VCMT Right or left hand positive



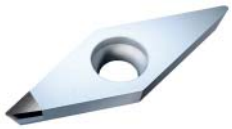


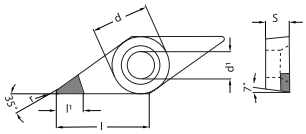
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	VCMT-221R/L	.250	.114	.125	.437	.256	.016	■	■		
	VCMT-222R/L					.236	.031	■	■		
	VCMT-331R/L	.375	.173	.187	.654	.295	.016	■	■		
	VCMT-332R/L					.276	.031	■	■		
	VCMT-333R/L					.276	.047	■	■		

Right hand shown

Ordering Example: 10 pcs. VCMT-221R PDC-S (Right Hand)

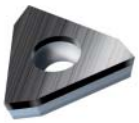
VCMW Neutral

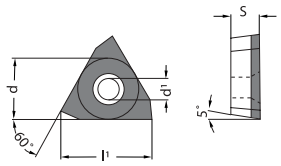




Insert	Designation	Dimensions d	d¹	s	l	PDC l¹	MDC l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	VCMW-1.21.50	.156	.087	.094	.272	.150	--	.004		■		
	VCMW-1.21.50.5					.142	.118	.008		■	■	■
	VCMW-1.21.51					.126	.110	.016		■	■	■
	VCMW-220	.250	.114	.125	.437	.213	--	.004		■		
	VCMW-220.5					.181	.138	.008		■	■	■
	VCMW-221					.154	.118	.016		■	■	■
	VCMW-222					.130	.118	.031			■	■
	VCMW-2.520.5	.313	.134	.125	.524	.232	--	.008		■	■	
	VCMW-2.521					.217	--	.016			■	
	VCMW-330	.375	.173	.187	.654	.236	--	.004		■		
	VCMW-330.5					.232	.138	.008		■	■	■
	VCMW-331					.217	.118	.016		■	■	■
	VCMW-332					.197	.118	.031		■	■	■
	VCMW-333					.177	.118	.047		■	■	■
	VCMW-334					.157	--	.063			■	

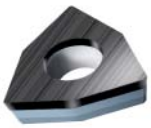
WBGW Fullface left hand

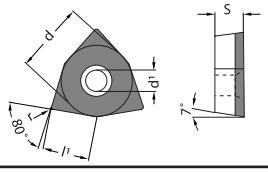




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	WBGW-1.210.5L-VM	.156	.091	.062	--	.189	.008		■		
	WBGW-1.211L-VM					.189	.016		■		

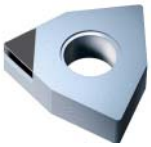
WCGW Fullface

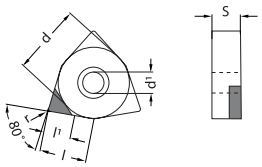




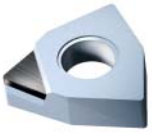
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S (DP)	PDC (DP)	PDC-L (DP)	MDC (DM)
	WCGW-1.210.5-VM	.156	.091	.062	--	.106	.008		■		
	WCGW-1.211-VM					.106	.016		■		

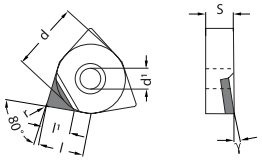
WNMA MW



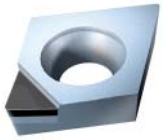
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	WNMA-431-MW	.500	.202	.187	.335	.248	.016	■	■		
	WNMA-432-MW					.236	.031	■	■		
	WNMA-433-MW					.224	.047	■	■		

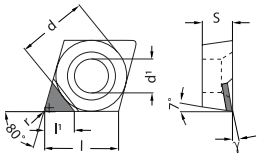
WNMM MW



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	WNMM-431-MW	.500	.202	.187	.335	.248	.016	■			
	WNMM-432-MW					.236	.031	■			
	WNMM-433-MW					.224	.047	■			

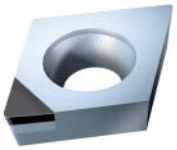
CCMT EW

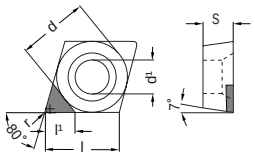




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMT-21.50.5F-EW	.250	.110	.094	.254	.134	.008	■	■	■		■		■
	CCMT-21.51F-EW					.122	.016	■	■	■		■		■
	CCMT-21.52F-EW					.110	.031	■	■	■		■		■
	CCMT-32.50.5F-EW	.375	.173	.156	.382	.134	.008	■	■	■		■		■
	CCMT-32.51F-EW					.122	.016	■	■	■		■		■
	CCMT-32.52F-EW					.110	.031	■	■	■		■		■

CCMW EW

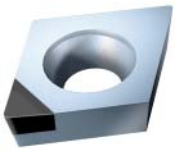


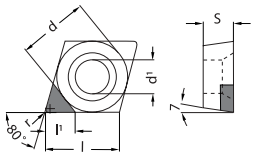


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMW-21.50.5F-EW	.250	.110	.094	.254	.134	.008	■	■	■		■		■
	CCMW-21.50.5T-EW					.134	.008	■	■	■	■	■	■	■
	CCMW-21.51F-EW					.122	.016	■	■	■		■		■
	CCMW-21.51T-EW					.122	.016	■	■	■	■	■	■	■
	CCMW-21.52F-EW					.110	.031	■	■	■		■		■
	CCMW-21.52T-EW					.110	.031	■	■	■	■	■	■	■
	CCMW-321F-EW	.375	.173	.125	.382	.122	.016	■				■		■
	CCMW-321T-EW					.122	.016	■			■	■	■	■
	CCMW-322F-EW					.110	.031	■				■		■
	CCMW-322T-EW					.110	.031	■			■	■	■	■
	CCMW-32.50.5F-EW	.375	.173	.156	.382	.134	.008	■	■	■		■		■
	CCMW-32.50.5T-EW					.134	.008	■	■	■	■	■	■	■
	CCMW-32.51F-EW					.122	.016	■	■	■		■		■
	CCMW-32.51T-EW					.122	.016	■	■	■	■	■	■	■
	CCMW-32.52F-EW					.110	.031	■	■	■		■		■
	CCMW-32.52T-EW					.110	.031	■	■	■	■	■	■	■
	CCMW-32.53F-EW					.098	.047	■				■		■
	CCMW-32.53T-EW					.098	.047	■	■	■	■	■	■	■
	CCMW-431F-EW	.500	.217	.187	.508	.122	.016	■				■		■
	CCMW-431T-EW					.122	.016	■	■	■	■	■	■	■
	CCMW-432F-EW					.110	.031	■	■	■		■		■
	CCMW-432T-EW					.110	.031	■	■		■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

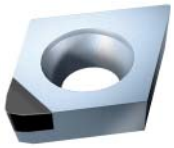
CCMW EWS

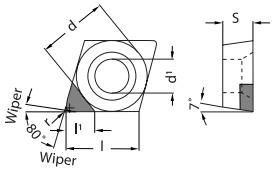




Insert	Designation	Dimensions d	d1	s	l	l1	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CCMW-21.50.5F-EWS	.250	.110	.094	.254	.134	.008		■	■	■
	CCMW-21.50.5T-EWS					.134	.008	■	■	■	■
	CCMW-21.51F-EWS					.122	.016		■	■	■
	CCMW-21.51T-EWS					.122	.016	■	■	■	■
	CCMW-21.52F-EWS					.110	.031		■	■	■
	CCMW-21.52T-EWS					.110	.031	■	■	■	■
	CCMW-32.50.5F-EWS	.375	.173	.156	.382	.134	.008		■	■	■
	CCMW-32.50.5T-EWS					.134	.008	■	■	■	■
	CCMW-32.51F-EWS					.122	.016		■	■	■
	CCMW-32.51T-EWS					.122	.016	■	■	■	■
	CCMW-32.52F-EWS					.110	.031		■	■	■
	CCMW-32.52T-EWS					.110	.031	■	■	■	■
	CCMW-32.53F-EWS					.098	.047		■	■	■
	CCMW-32.53T-EWS					.098	.047	■	■	■	■

CCMW EWS wiper edge neutral

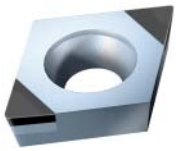


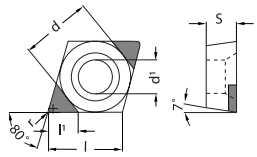


Insert	Designation	Dimensions d	d1	s	l	l1	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CCMW-21.50.5FW-EWS	.250	.110	.094	.254	.130	.008		■	■	■
	CCMW-21.50.5TW-EWS					.130	.008	■	■	■	■
	CCMW-21.51FW-EWS					.118	.016		■	■	■
	CCMW-21.51TW-EWS					.118	.016	■	■	■	■
	CCMW-32.50.5FW-EWS	.375	.173	.156	.382	.130	.008		■	■	■
	CCMW-32.50.5TW-EWS					.130	.008	■	■	■	■
	CCMW-32.51FW-EWS					.118	.016		■	■	■
	CCMW-32.51TW-EWS					.118	.016	■	■	■	■
	CCMW-32.52FW-EWS					.106	.031		■	■	■
	CCMW-32.52TW-EWS					.106	.031	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

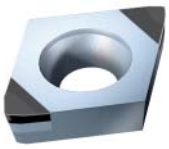
CCMW MultiCut

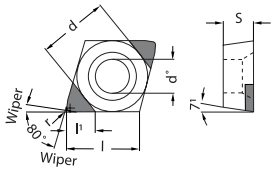




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMW-32.50.5F-MC	.375	.173	.156	.382	.134	.008	■				■		■
	CCMW-32.50.5T-MC					.134	.008	■	■	■	■	■	■	■
	CCMW-32.51F-MC					.122	.016	■				■		■
	CCMW-32.51T-MC					.122	.016	■	■	■	■	■	■	■
	CCMW-32.52F-MC					.110	.031	■				■		■
	CCMW-32.52T-MC					.110	.031	■	■	■	■	■	■	■

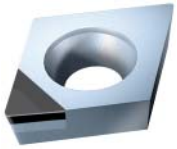
CCMW MultiCut wiper edge neutral

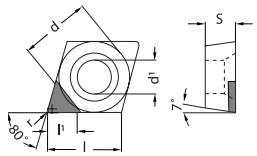




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMW-32.50.5FW-MC	.375	.173	.156	.382	.130	.008	■	■	■		■		■
	CCMW-32.50.5TW-MC					.130	.008	■	■	■	■	■	■	■
	CCMW-32.51FW-MC					.118	.016	■	■	■		■		■
	CCMW-32.51TW-MC					.118	.016	■	■	■	■	■	■	■
	CCMW-32.52FW-MC					.106	.031	■	■	■		■		■
	CCMW-32.52TW-MC					.106	.031	■	■	■	■	■	■	■

CCMW MW

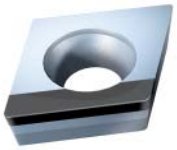


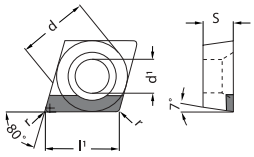


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMW-431F-MW	.500	.217	.187	.508	.209	.016	■				■		■
	CCMW-431T-MW					.209	.016	■		■	■	■	■	■
	CCMW-432F-MW					.197	.031	■				■		■
	CCMW-432T-MW					.197	.031	■		■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

CCMW Whole edge tipped



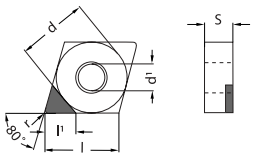


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CCMW-21.51FR/L-GS	.250	.110	.094	--	.254	.016	■				■		■
	CCMW-21.51TR/L-GS					.254	.016	■	■	■	■	■	■	■
	CCMW-21.52FR/L-GS					.254	.031	■				■		■
	CCMW-21.52TR/L-GS					.254	.031	■	■	■	■	■	■	■
	CCMW-32.51FR/L-GS	.375	.173	.156	--	.382	.016	■				■		■
	CCMW-32.51TR/L-GS					.382	.016	■	■	■	■	■	■	■
	CCMW-32.52FR/L-GS					.382	.031	■				■		■
	CCMW-32.52TR/L-GS					.382	.031	■	■	■	■	■	■	■

Right hand shown

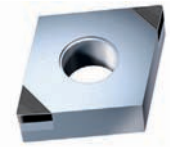
Ordering Example: 10 pcs. CCMW-21.51FR -GS PBC-10 (Right Hand)

CNMA EW

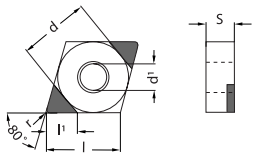


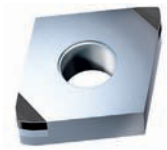
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CNMA-321F-EW	.375	.150	.125	.382	.122	.016	■				■		
	CNMA-321T-EW					.122	.016	■				■		
	CNMA-322F-EW					.110	.031	■				■		
	CNMA-322T-EW					.110	.031	■				■		
	CNMA-430.5F-EW	.500	.202	.187	.508	.134	.008	■	■	■		■		■
	CNMA-430.5T-EW					.134	.008	■	■	■	■	■	■	■
	CNMA-431F-EW					.122	.016	■	■	■		■		■
	CNMA-431T-EW					.122	.016	■	■	■	■	■	■	■
	CNMA-432F-EW					.110	.031	■	■	■		■		■
	CNMA-432T-EW					.110	.031	■	■	■	■	■	■	■
	CNMA-433F-EW					.098	.047	■	■	■		■		■
	CNMA-433T-EW					.098	.047	■	■	■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

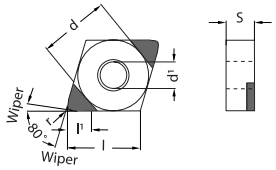


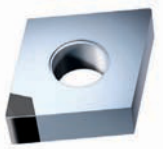
CNMA MultiCut

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CNMA-431F-MC	.500	.202	.187	.508	.118	.016	■	■	■		■		■
	CNMA-431T-MC					.118	.016	■	■	■	■	■	■	■
	CNMA-432F-MC					.106	.031	■	■	■		■		■
	CNMA-432T-MC					.106	.031	■	■	■	■	■	■	■
	CNMA-433T-MC					.094	.047	■	■	■	■	■		■

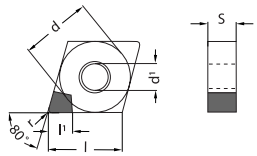


CNMA MultiCut wiper edge neutral

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CNMA-430.5FW-MC	.500	.202	.187	.508	.130	.008	■	■	■		■		■
	CNMA-430.5TW-MC					.130	.008	■	■	■	■	■	■	■
	CNMA-431FW-MC					.118	.016	■	■	■		■		■
	CNMA-431TW-MC					.118	.016	■	■	■	■	■	■	■
	CNMA-432FW-MC					.106	.031	■	■	■		■		■
	CNMA-432TW-MC					.106	.031	■	■	■	■	■	■	■

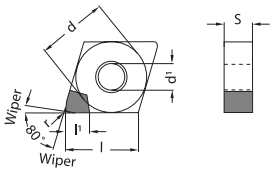


CNMA PolyCut-S

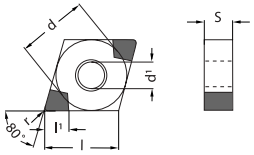
Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	CNMA-430.5F-PC-S	.500	.202	.187	.508	.114	.008			■		■	■	
	CNMA-430.5T-PC-S					.114	.008		■	■		■	■	
	CNMA-431F-PC-S					.110	.016			■		■	■	
	CNMA-431T-PC-S					.110	.016		■	■		■	■	
	CNMA-432F-PC-S					.098	.031			■		■	■	
	CNMA-432T-PC-S					.098	.031		■	■		■	■	
	CNMA-433F-PC-S					.087	.047			■		■	■	
	CNMA-433T-PC-S					.087	.047		■	■		■	■	

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

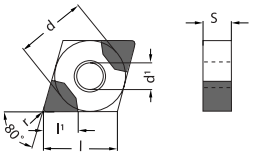
CNMA PolyCut-S wiper edge neutral

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMA-430.5FW-PC-S	.500	.202	.187	.508	.114	.008		■	■	■
	CNMA-430.5TW-PC-S					.114	.008	■	■	■	■
	CNMA-431FW-PC-S					.110	.016		■	■	■
	CNMA-431TW-PC-S					.110	.016	■	■	■	■
	CNMA-432FW-PC-S					.098	.031		■	■	■
	CNMA-432TW-PC-S					.098	.031	■	■	■	■

CNMA PolyCut-M

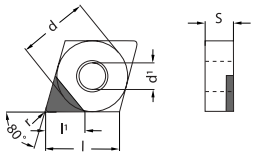
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMA-431T-PC-M	.500	.202	.187	.508	.110	.016	■	■	■	■
	CNMA-432T-PC-M					.102	.031	■	■	■	■
	CNMA-433T-PC-M					.094	.047	■	■	■	■

CNMA PolyCut-M/4

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMA-431T-PC-M4	.500	.202	.187	.508	.177	.016	■			
	CNMA-432T-PC-M4					.165	.031	■			
	CNMA-433T-PC-M4					.157	.047	■			
	CNMA-434T-PC-M4					.150	.063	■			

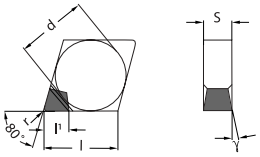
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

CNMA MW



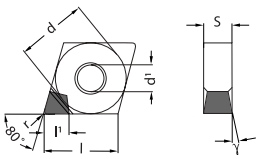
Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CNMA-431F-MW					.209	.016	■				■		■
	CNMA-431T-MW					.209	.016	■				■		■
	CNMA-432F-MW					.197	.031	■				■		■
	CNMA-432T-MW	.500	.202	.187	.508	.197	.031	■	■	■	■	■	■	■
	CNMA-433F-MW					.185	.047	■				■		■
	CNMA-433T-MW					.185	.047	■		■	■	■		■
	CNMA-434T-MW					.173	.063	■			■	■		■

CNMF PolyCut-S



Insert	Designation	Dimensions d	d1	s	l	l1	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	CNMF-321F-PC-S					.110	.016			■		■	■	
	CNMF-322F-PC-S	.375	--	.125	.382	.102	.031			■		■	■	
	CNMF-323F-PC-S					.094	.047			■		■	■	
	CNMF-431F-PC-S					.110	.016			■		■	■	
	CNMF-432F-PC-S	.500	--	.187	.508	.102	.031			■		■	■	
	CNMF-433F-PC-S					.094	.047			■		■	■	

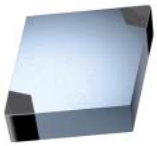
CNMG PolyCut-S

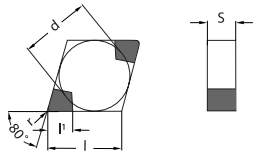


Insert	Designation	Dimensions d	d1	s	l	l1	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	CNMG-431F-PC-S					.110	.016			■		■	■	
	CNMG-432F-PC-S	.500	.202	.187	.508	.102	.031			■		■	■	
	CNMG-433F-PC-S					.094	.047			■		■	■	

Note: CCMT-21.50.5E-EW: E= sharp cutting edge, T= T-Land

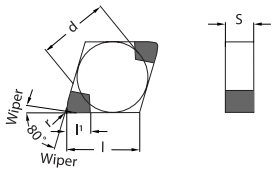
CNMN PolyCut-M





Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMN-321F-PC-M	.375	--	.125	.382	.110	.016		■		
	CNMN-321T-PC-M					.110	.016	■	■	■	■
	CNMN-322F-PC-M					.102	.031		■		
	CNMN-322T-PC-M					.102	.031	■	■	■	■
	CNMN-323F-PC-M					.094	.047		■		
	CNMN-323T-PC-M					.094	.047	■	■	■	■
	CNMN-431F-PC-M	.500	--	.187	.508	.110	.016		■		
	CNMN-431T-PC-M					.110	.016	■	■	■	■
	CNMN-432F-PC-M					.102	.031		■		
	CNMN-432T-PC-M					.102	.031	■	■	■	■
	CNMN-433F-PC-M					.094	.047		■		
	CNMN-433T-PC-M					.094	.047	■	■	■	■

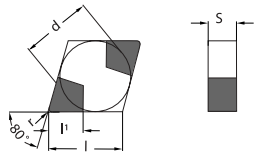
CNMN PolyCut-M wiper edge neutral



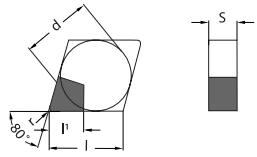
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMN-320.5FW-PC-M	.375	--	.125	.382	.114	.008		■		
	CNMN-320.5TW-PC-M					.114	.008	■	■	■	■
	CNMN-321FW-PC-M					.110	.016		■		
	CNMN-321TW-PC-M					.110	.016	■	■	■	■
	CNMN-322FW-PC-M					.102	.031		■		
	CNMN-322TW-PC-M					.102	.031	■	■	■	■
	CNMN-430.5FW-PC-M	.500	--	.187	.508	.114	.008		■		
	CNMN-430.5TW-PC-M					.114	.008	■	■	■	■
	CNMN-431FW-PC-M					.110	.016		■		
	CNMN-431TW-PC-M					.110	.016	■	■	■	■
	CNMN-432FW-PC-M					.102	.031		■		
	CNMN-432TW-PC-M					.102	.031	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

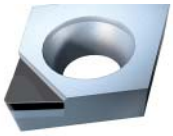
CNMN PolyCut-M/4

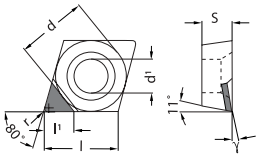
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMN-431T-PC-M4	.500	--	.187	.508	.177	.016	■			
	CNMN-432T-PC-M4					.165	.031	■			
	CNMN-433T-PC-M4					.157	.040	■			
	CNMN-434T-PC-M4					.150	.063	■			

CNMN PolyCut-S/4

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CNMN-321T-PC-S4	.375	--	.125	.382	.177	.016	■			
	CNMN-322T-PC-S4					.165	.031	■			
	CNMN-323T-PC-S4					.157	.047	■			
	CNMN-324T-PC-S4					.150	.063	■			

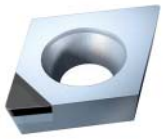
CPMT EW

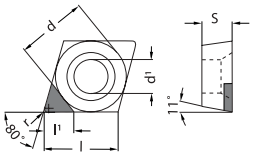


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	CPMT-1.51.20.5F-EW	.187	.083	.078	.189	.087	.008	■	■	■		■		■
	CPMT-1.51.21F-EW					.079	.016	■	■	■		■		■
	CPMT-1.81.20.5F-EW	.219	.098	.078	.220	.094	.008	■	■	■		■		■
	CPMT-1.81.21F-EW					.087	.016	■	■	■		■		■
	CPMT-1.81.50.5F-EW	.219	.098	.094	.220	.094	.008	■	■	■		■		■
	CPMT-1.81.51F-EW					.087	.016	■	■	■		■		■
	CPMT-21.50.5F-EW	.250	.110	.094	.254	.134	.008	■	■	■		■		■
	CPMT-21.51F-EW					.122	.016	■	■	■		■		■
	CPMT-21.52F-EW					.110	.031	■	■	■		■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

CPMW EW

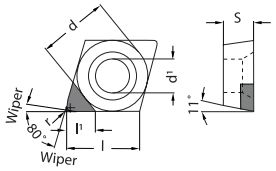


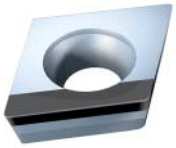


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	CPMW-1.51.20.5F-EW	.187	.083	.078	.189	.087	.008	■	■	■		■		■
	CPMW-1.51.20.5T-EW					.087	.008	■	■	■	■	■	■	■
	CPMW-1.51.21F-EW					.079	.016	■	■	■		■		■
	CPMW-1.51.21T-EW					.079	.016	■	■	■	■	■	■	■
	CPMW-1.81.20.5F-EW	.219	.098	.078	.220	.094	.008	■	■	■		■		■
	CPMW-1.81.20.5T-EW					.094	.008	■	■	■	■	■	■	■
	CPMW-1.81.21F-EW					.087	.016	■	■	■		■		■
	CPMW-1.81.21T-EW					.087	.016	■	■	■	■	■	■	■
	CPMW-1.81.50.5F-EW	.219	.098	.094	.220	.094	.008	■	■	■		■		■
	CPMW-1.81.50.5T-EW					.094	.008	■	■	■	■	■	■	■
	CPMW-1.81.51F-EW					.087	.016	■	■	■		■		■
	CPMW-1.81.51T-EW					.087	.016	■	■	■	■	■	■	■
	CPMW-21.50.5F-EW	.250	.110	.094	.254	.134	.008	■	■	■		■		■
	CPMW-21.50.5T-EW					.134	.008	■	■	■	■	■	■	■
	CPMW-21.51F-EW					.122	.016	■	■	■		■		■
	CPMW-21.51T-EW					.122	.016	■	■	■	■	■	■	■
	CPMW-21.52F-EW					.110	.031	■	■	■		■		■
	CPMW-21.52T-EW					.110	.031	■	■	■	■	■	■	■
	CPMW-32.50.5F-EW	.375	.173	.156	.382	.134	.008	■	■	■		■		■
	CPMW-32.50.5T-EW					.134	.008	■	■	■	■	■	■	■
	CPMW-32.51F-EW					.122	.016	■	■	■		■		■
	CPMW-32.51T-EW					.122	.016	■	■	■	■	■	■	■
	CPMW-32.52F-EW					.110	.031	■	■	■		■		■
	CPMW-32.52T-EW					.110	.031	■	■	■	■	■	■	■

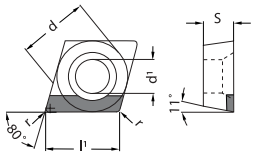
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

CPMW EWS wiper edge neutral

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	CPMW-1.81.20.5FW-EWS	.219	.098	.078	.220	.094	.008		■	■	■
	CPMW-1.81.20.5TW-EWS					.094	.008		■	■	■
	CPMW-1.81.21FW-EWS					.087	.016		■	■	■
	CPMW-1.81.21TW-EWS					.087	.016		■	■	■
	CPMW-1.81.50.5FW-EWS	.219	.098	.094	.220	.094	.008		■	■	■
	CPMW-1.81.50.5TW-EWS					.094	.008		■	■	■
	CPMW-1.81.51FW-EWS					.087	.016		■	■	■
	CPMW-1.81.51TW-EWS					.087	.016		■	■	■
	CPMW-21.50.5FW-EWS	.250	.110	.094	.254	.130	.008		■	■	■
	CPMW-21.50.5TW-EWS					.130	.008		■	■	■
	CPMW-21.51FW-EWS					.118	.016		■	■	■
	CPMW-21.51TW-EWS					.118	.016		■	■	■



CPMW Whole edge tipped

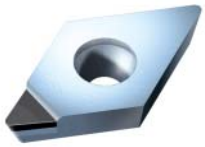
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	CPMW-1.81.51FR/L-GS	.219	.098	.094	--	.220	.016	■				■		■
	CPMW-1.81.51TR/L-GS					.220	.016	■	■	■	■	■	■	■
	CPMW-21.51FR/L-GS	.250	.110	.094	--	.254	.016	■				■		■
	CPMW-21.51TR/L-GS					.254	.016	■	■	■	■	■	■	■
	CPMW-21.52FR/L-GS					.254	.031	■				■		■
	CPMW-21.52TR/L-GS					.254	.031	■	■	■	■	■	■	■

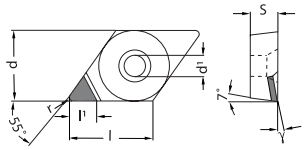
Right hand shown

Ordering Example: 10 pcs. CPMW-1.81.51FR -GS PBC-10 (Right Hand)

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

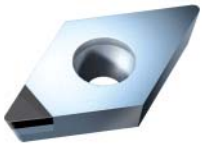
DCMT EW

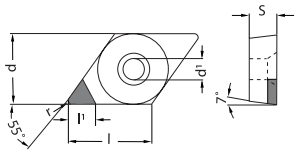




Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DCMT-21.50.5F-EW	.250	.110	.094	.305	.154	.008	■	■	■		■		■
	DCMT-21.51F-EW					.138	.016	■	■	■		■		■
	DCMT-21.52F-EW					.118	.031	■	■	■		■		■
	DCMT-32.50.5F-EW	.375	.173	.156	.457	.154	.008	■	■	■		■		■
	DCMT-31.51F-EW					.138	.016	■	■	■		■		■
	DCMT-32.52F-EW					.118	.031	■	■	■		■		■

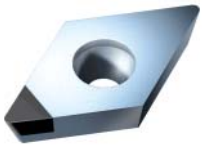
DCMW EW



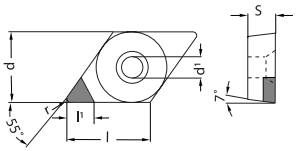


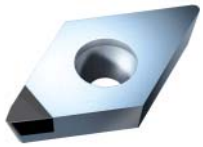
Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DCMW-21.50.5F-EW	.250	.110	.094	.305	.154	.008	■	■	■		■		■
	DCMW-21.50.5T-EW					.154	.008	■	■	■	■	■	■	■
	DCMW-21.51F-EW					.138	.016	■	■	■		■		■
	DCMW-21.51T-EW					.138	.016	■	■	■	■	■	■	■
	DCMW-21.52F-EW					.118	.031	■	■	■		■		■
	DCMW-21.52T-EW					.118	.031	■	■	■	■	■	■	■
	DCMW-320.5F-EW	.375	.173	.125	.457	.154	.008	■				■		
	DCMW-320.5T-EW					.154	.008	■				■		
	DCMW-321F-EW					.138	.016	■				■		■
	DCMW-321T-EW					.138	.016	■			■	■	■	■
	DCMW-322F-EW					.118	.031	■				■		
	DCMW-322T-EW					.118	.031	■			■	■	■	
	DCMW-32.50.5F-EW	.375	.173	.156	.457	.154	.008	■	■	■		■		■
	DCMW-32.50.5T-EW					.154	.008	■	■	■	■	■	■	■
	DCMW-32.51F-EW					.138	.016	■	■	■		■		■
	DCMW-32.51T-EW					.138	.016	■	■	■	■	■	■	■
	DCMW-32.52F-EW					.118	.031	■	■	■		■		■
	DCMW-32.52T-EW					.118	.031	■	■	■	■	■	■	■
	DCMW-431F-EW	.500	.217	.187	.610	.138	.016	■				■		■
	DCMW-431T-EW					.138	.016	■			■	■	■	■
	DCMW-432F-EW					.118	.031	■				■		■
	DCMW-432T-EW					.118	.031	■			■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

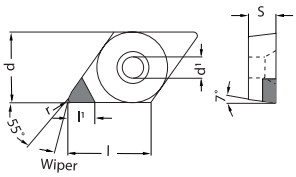


DCMW EWS

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	DCMW-21.50F-EWS	.250	.110	.094	.305	.154	.004		■	■	■
	DCMW-21.50T-EWS					.154	.004		■	■	■
	DCMW-21.50.5F-EWS					.154	.008		■	■	■
	DCMW-21.50.5T-EWS					.154	.008	■	■	■	■
	DCMW-21.51F-EWS					.138	.016		■	■	■
	DCMW-21.51T-EWS					.138	.016	■	■	■	■
	DCMW-21.52F-EWS					.118	.031		■	■	■
	DCMW-21.52T-EWS					.118	.031	■	■	■	■
	DCMW-32.50F-EWS	.375	.173	.156	.457	.154	.004		■	■	■
	DCMW-32.50T-EWS					.154	.004		■	■	■
	DCMW-32.50.5F-EWS					.154	.008		■	■	■
	DCMW-32.50.5T-EWS					.154	.008	■	■	■	■
	DCMW-32.51F-EWS					.138	.016		■	■	■
	DCMW-32.51T-EWS					.138	.016	■	■	■	■
	DCMW-32.52F-EWS					.118	.031		■	■	■
	DCMW-32.52T-EWS					.118	.031	■	■	■	■
	DCMW-32.53F-EWS					.102	.047		■	■	■
	DCMW-32.53T-EWS					.102	.047	■	■	■	■



DCMW EWS wiper edge 93° right or left hand

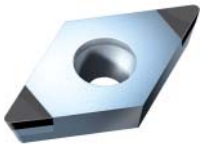
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	DCMW-21.50FR/LW-EWS	.250	.110	.094	.305	.118	.004		■	■	■
	DCMW-21.50TR/LW-EWS					.118	.004		■	■	■
	DCMW-21.50.5FR/LW-EWS					.118	.008		■	■	■
	DCMW-21.50.5TR/LW-EWS					.118	.008	■	■	■	■
	DCMW-21.51FR/LW-EWS					.118	.016		■	■	■
	DCMW-21.51TR/LW-EWS					.118	.016	■	■	■	■
	DCMW-32.50FR/LW-EWS	.375	.173	.156	.457	.118	.004		■	■	■
	DCMW-32.50TR/LW-EWS					.118	.004		■	■	■
	DCMW-32.50.5FR/LW-EWS					.118	.008		■	■	■
	DCMW-32.50.5TR/LW-EWS					.118	.008	■	■	■	■
	DCMW-32.51FR/LW-EWS					.118	.016		■	■	■
	DCMW-32.51TR/LW-EWS					.118	.016	■	■	■	■
	DCMW-32.52FR/LW-EWS					.118	.031		■	■	■
	DCMW-32.52TR/LW-EWS					.118	.031	■	■	■	■

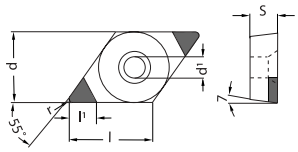
Right hand shown

Ordering Example: 10 pcs. DCMW-21.50FR SBC1 (Right Hand)

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

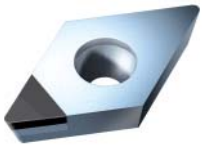
DCMW MultiCut

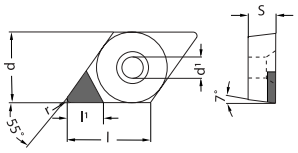




Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DCMW-21.50.5T-MC	.250	.110	.094	.305	.154	.008	■		■	■	■	■	■
	DCMW-21.51T-MC					.138	.016	■	■	■	■	■	■	■
	DCMW-21.52T-MC					.118	.031	■		■	■	■	■	■
	DCMW-32.50.5F-MC	.375	.173	.156	.457	.154	.008	■				■		■
	DCMW-32.50.5T-MC					.154	.008	■		■	■	■	■	■
	DCMW-32.51F-MC					.138	.016	■				■		■
	DCMW-32.51T-MC					.138	.016	■	■	■	■	■	■	■
	DCMW-32.52F-MC					.118	.031	■				■		■
	DCMW-32.52T-MC					.118	.031	■		■	■	■	■	■

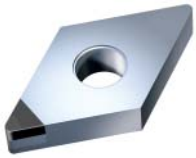
DCMW MW



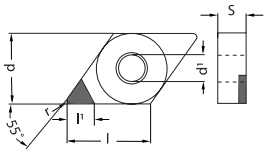


Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DCMW-32.50.5F-MW	.375	.173	.156	.457	.220	.008	■				■		■
	DCMW-32.50.5T-MW					.220	.008	■	■	■	■	■	■	■
	DCMW-32.51F-MW					.217	.016	■				■		■
	DCMW-32.51T-MW					.217	.016	■	■	■	■	■	■	■
	DCMW-32.52F-MW					.197	.031	■				■		■
	DCMW-32.52T-MW					.197	.031	■	■	■	■	■	■	■
	DCMW-431T-MW	.500	.217	.187	.610	.217	.016	■			■			■
	DCMW-432T-MW					.197	.031	■			■			■

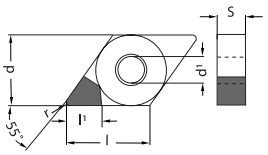
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land



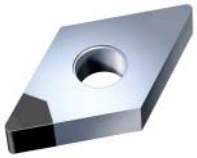
DNMA EW

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DNMA-330.5F-EW	.375	.150	.187	.457	.154	.008	■				■		■
	DNMA-330.5T-EW					.154	.008	■	■			■		■
	DNMA-331F-EW					.138	.016	■	■	■		■		■
	DNMA-331T-EW					.138	.016	■	■	■	■	■	■	■
	DNMA-332F-EW					.118	.031	■				■		■
	DNMA-332T-EW					.118	.031	■				■		■
	DNMA-430.5F-EW	.500	.202	.187	.610	.154	.008	■				■		■
	DNMA-430.5T-EW					.154	.008	■				■		■
	DNMA-431F-EW					.138	.016	■				■		■
	DNMA-431T-EW					.138	.016	■	■	■	■	■		■
	DNMA-432F-EW					.118	.031	■	■	■		■		■
	DNMA-432T-EW					.118	.031	■	■	■	■	■	■	■
	DNMA-441F-EW	.500	.202	.250	.610	.138	.016	■	■	■		■		■
	DNMA-441T-EW					.138	.016	■	■	■	■	■	■	■
	DNMA-442F-EW					.118	.031	■	■	■		■		■
	DNMA-442T-EW					.118	.031	■	■	■	■	■	■	■

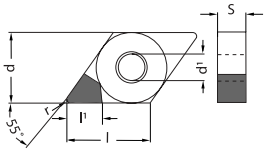
DNMA PolyCut-S

Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	DNMA-431F-PC-S	.500	.202	.187	.610	.110	.016			■		■	■	
	DNMA-431T-PC-S					.110	.016		■	■		■	■	
	DNMA-432F-PC-S					.102	.031			■		■	■	
	DNMA-432T-PC-S					.102	.031		■	■		■	■	
	DNMA-433F-PC-S					.094	.047			■		■	■	
	DNMA-433T-PC-S					.094	.047		■	■		■	■	
	DNMA-440.5F-PC-S	.500	.202	.250	.610	.118	.008			■		■	■	
	DNMA-440.5T-PC-S					.118	.008		■	■		■	■	
	DNMA-441F-PC-S					.110	.016			■		■	■	
	DNMA-441T-PC-S					.110	.016		■	■		■	■	
	DNMA-442F-PC-S					.102	.031			■		■	■	
	DNMA-442T-PC-S					.102	.031		■	■		■	■	
	DNMA-443F-PC-S					.094	.047			■		■	■	
	DNMA-443T-PC-S					.094	.047		■	■		■	■	

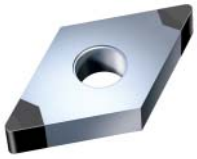
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land



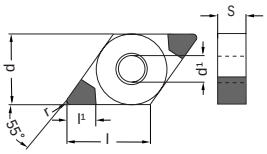
DNMA PolyCut-S/4



Insert	Designation	Dimensions d	d1	s	l	l1	r	SBC1	SB10	SB25	SB40
								BH		BL	
	DNMA-330.5T-PC-S4	.375	.150	.187	.457	.177	.008	■			
	DNMA-331T-PC-S4					.157	.016	■			
	DNMA-332T-PC-S4					.142	.031	■			
	DNMA-333T-PC-S4					.126	.047	■			
	DNMA-431T-PC-S4	.500	.202	.187	.610	.157	.016	■			
	DNMA-432T-PC-S4					.142	.031	■			
	DNMA-433T-PC-S4					.126	.047	■			
	DNMA-441T-PC-S4	.500	.202	.250	.610	.157	.016	■			
	DNMA-442T-PC-S4					.142	.031	■			
	DNMA-443T-PC-S4					.126	.047	■			
	DNMA-444T-PC-S4					.118	.063	■			

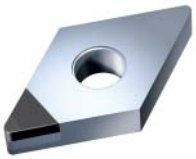


DNMA PolyCut-M

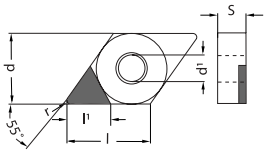


Insert	Designation	Dimensions d	d1	s	l	l1	r	SBC1	SB10	SB25	SB40
								BH		BL	
	DNMA-431T-PC-M	.500	.202	.187	.610	.110	.016	■	■	■	■
	DNMA-432T-PC-M					.102	.031	■	■	■	■
	DNMA-433T-PC-M					.094	.047	■	■	■	■
	DNMA-441T-PC-M	.500	.202	.250	.610	.110	.016	■	■	■	■
	DNMA-442T-PC-M					.102	.031	■	■	■	■
	DNMA-443T-PC-M					.094	.047	■	■	■	■

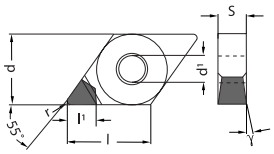
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land



DNMA MW

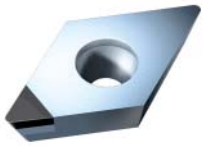
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DNMA-432T-MW	.500	.202	.187	.610	.197	.031	■	■	■	■	■	■	■
	DNMA-433T-MW					.177	.047	■	■	■	■	■	■	■
	DNMA-441F-MW	.500	.202	.250	.610	.217	.016	■				■		■
	DNMA-441T-MW					.217	.016	■				■		■
	DNMA-442F-MW					.197	.031	■				■		■
	DNMA-442T-MW					.197	.031	■	■	■	■	■	■	■
	DNMA-443F-MW					.177	.047	■				■		■
	DNMA-443T-MW					.177	.047	■	■	■	■	■	■	■
	DNMA-444F-MW					.157	.063	■						
	DNMA-444T-MW					.157	.063			■	■	■	■	■

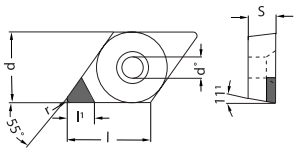
DNMG PolyCut-S

Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
									BH			BL		
	DNMG-431F-PC-S	.500	.202	.187	.610	.110	.016			■		■	■	
	DNMG-432F-PC-S					.102	.031			■		■	■	
	DNMG-433F-PC-S					.094	.047			■		■	■	
	DNMG-441F-PC-S	.500	.202	.250	.610	.110	.016			■		■	■	
	DNMG-442F-PC-S					.102	.031			■		■	■	
	DNMG-443F-PC-S					.094	.047			■		■	■	

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

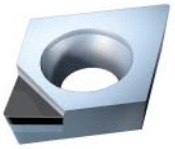
DPMW EW

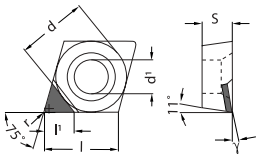




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	DPMW-21.50.5F-EW	.250	.110	.094	.305	.154	.008	■				■		
	DPMW-21.50.5T-EW					.154	.008	■			■	■	■	■
	DPMW-21.51F-EW					.138	.016	■				■		
	DPMW-21.51T-EW					.138	.016	■	■	■	■	■	■	■
	DPMW-21.52F-EW					.118	.031	■				■		
	DPMW-21.52T-EW					.118	.031	■				■		
	DPMW-32.50.5F-EW	.375	.173	.156	.457	.154	.008	■				■		
	DPMW-32.50.5T-EW					.154	.008	■				■	■	■
	DPMW-32.51F-EW					.138	.016	■				■		
	DPMW-32.51T-EW					.138	.016	■	■	■	■	■	■	■
	DPMW-32.52F-EW					.118	.031	■				■		
	DPMW-32.52T-EW					.118	.031	■				■		

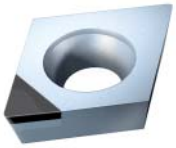
EPMT EW



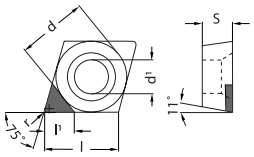


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPMT-1.51.50.5F-EW	.187	.085	.094	.189	.098	.008	■				■		■
	EPMT-1.51.51F-EW					.087	.016	■				■		■
	EPMT-1.81.50.5F-EW	.219	.094	.094	.224	.106	.008	■				■		■
	EPMT-1.81.51F-EW					.094	.016	■				■		■
	EPMT-21.50.5F-EW	.250	.110	.094	.256	.134	.008	■				■		■
	EPMT-21.51F-EW					.122	.016	■				■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

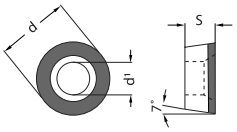


EPMW EW



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	EPMW-1.51.50.5F-EW	.187	.085	.094	.189	.098	.008	■				■		■
	EPMW-1.51.50.5T-EW					.098	.008	■				■	■	■
	EPMW-1.51.51F-EW					.087	.016	■				■		■
	EPMW-1.51.51T-EW					.087	.016	■	■	■	■	■		■
	EPMW-1.81.50.5F-EW	.219	.094	.094	.224	.106	.008	■				■		■
	EPMW-1.81.50.5T-EW					.106	.008	■				■	■	■
	EPMW-1.81.51F-EW					.094	.016	■				■		■
	EPMW-1.81.51T-EW					.094	.016	■	■	■	■	■		■
	EPMW-21.50.5F-EW	.250	.110	.094	.256	.134	.008	■				■		■
	EPMW-21.50.5T-EW					.134	.008	■				■	■	■
	EPMW-21.51F-EW					.122	.016	■				■		■
	EPMW-21.51T-EW					.122	.016	■	■	■	■	■		■
	EPMW-2.520.5F-EW	.313	.134	.125	.327	.134	.008	■				■		■
	EPMW-2.520.5T-EW					.134	.008	■				■	■	■
	EPMW-2.521F-EW					.122	.016	■				■		■
	EPMW-2.521T-EW					.122	.016	■	■	■	■	■		■
	EPMW-2.522F-EW					.110	.031	■				■		
	EPMW-2.522T-EW					.110	.031	■				■		

RCMW Fullface

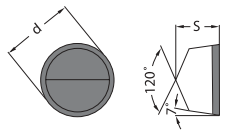


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	RCMW-0602M0F-VM	.236	.110	.094	--	--	--	■				■		
	RCMW-0602M0T-VM	.236	.110	.094	--	--	--	■	■	■	■	■	■	■
	RCMW-0803M0F-VM	.315	.134	.125	--	--	--	■				■		
	RCMW-0803M0T-VM	.315	.134	.125	--	--	--	■	■	■	■	■	■	■
	RCMW-1003M0T-VM	.394	.173	.125	--	--	--	■				■		■
	RCMW-10T3M0T-VM	.394	.173	.156	--	--	--	■				■		■
	RCMW-1204M0T-VM	.472	.173	.187	--	--	--	■				■		■

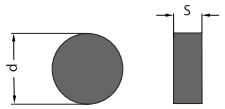
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

Inserts - CBN

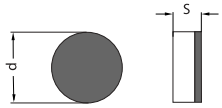
RCGX Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1	SB10	PBC-10	PBC-15	PBC-17	PBC-20	SB25	PBC-25	PBC-30	PBC-40
								BH					BL				
	RCGX-24F-VM	.250	--	.250	--	--	--			■					■		■
	RCGX-24T-VM	.250	--	.250	--	--	--	■	■	■	■	■	■	■	■	■	■
	RCGX-35T-VM	.375	--	.313	--	--	--	■		■		■	■		■	■	■
	RCGX-45T-VM	.500	--	.313	--	--	--	■		■		■	■		■		

RNGN Solid

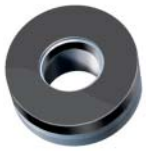
Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
									BH			BL		
	RNGN-32T	.375	--	.125	--	--	--		■	■		■	■	
	RNGN-42T	.500	--	.125	--	--	--		■	■		■	■	
	RNGN-43T	.500	--	.187	--	--	--		■					

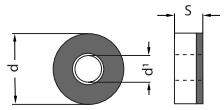
RNGN Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	RNGN-32F-VM	.375	--	.125	--	--	--	■						
	RNGN-32T-VM	.375	--	.125	--	--	--	■		■	■	■	■	■
	RNGN-43F-VM	.500	--	.187	--	--	--	■						
	RNGN-43T-VM	.500	--	.187	--	--	--	■		■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

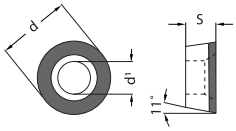
RNMA Fullface





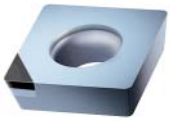
Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	RNMA-32F-VM	.375	.150	.125	--	--	--	■				■		
	RNMA-32T-VM	.375	.150	.125	--	--	--	■				■		
	RNMA-43F-VM	.500	.202	.187	--	--	--	■				■		
	RNMA-43T-VM	.500	.202	.187	--	--	--	■				■		

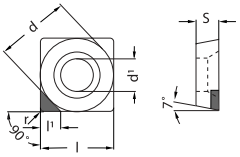
RPMW Fullface



Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	RPMW-1204M0T-VM	.472	.173	.187	--	--	--	■				■		
	RPMW-43T-VM	.500	.217	.187	--	--	--	■				■		

SCMW EW

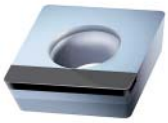


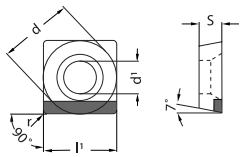


Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SCMW-32.51F-EW	.375	.173	.156	.375	.138	.016	■	■	■		■		■
	SCMW-32.51T-EW					.138	.016	■	■	■	■	■	■	■
	SCMW-32.52F-EW					.134	.031	■				■		
	SCMW-32.52T-EW					.134	.031	■	■	■	■	■	■	■
	SCMW-431F-EW	.500	.217	.187	.500	.138	.016	■				■		
	SCMW-431T-EW					.138	.016	■	■		■	■		■
	SCMW-432F-EW					.134	.031	■				■		
	SCMW-432T-EW					.134	.031	■		■		■	■	■
	SCMW-433F-EW					.126	.047	■						
	SCMW-433T-EW					.126	.047	■		■	■	■	■	■

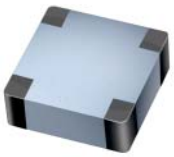
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

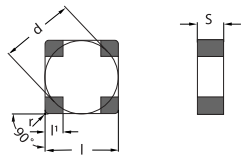
SCMW Whole edge tipped



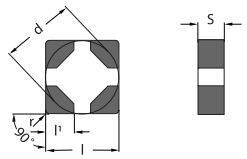
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SCMW-32.51F-GS	.375	.173	.156	--	.375	.016	■	■					
	SCMW-32.51T-GS					.375	.016	■	■	■	■	■	■	■
	SCMW-32.52F-GS					.375	.031	■	■					
	SCMW-32.52T-GS					.375	.031	■	■	■	■	■	■	■

SNGN PolyCut-M



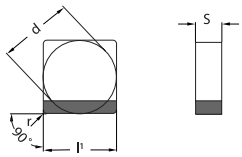
Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
									BH			BL		
	SNGN-321F-PC-M	.375	--	.125	.375	.118	.016			■				
	SNGN-321T-PC-M					.118	.016		■	■		■	■	
	SNGN-322F-PC-M					.110	.031			■		■	■	
	SNGN-322T-PC-M					.110	.031		■	■		■	■	
	SNGN-323F-PC-M					.102	.047			■				
	SNGN-323T-PC-M					.102	.047		■	■		■	■	
	SNGN-431F-PC-M	.500	--	.187	.500	.118	.016			■				
	SNGN-431T-PC-M					.118	.016		■	■		■	■	
	SNGN-432F-PC-M					.110	.031			■		■	■	
	SNGN-432T-PC-M					.110	.031		■	■		■	■	
	SNGN-433F-PC-M					.102	.047			■				
	SNGN-433T-PC-M					.102	.047		■	■		■	■	

SNGN PolyCut-M/4

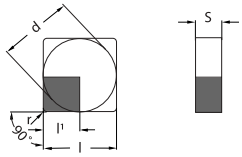
Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
									BH			BL		
	SNGN-431T-PC-M4	.500	--	.187	.500	.177	.016		■					
	SNGN-432T-PC-M4					.173	.031		■					
	SNGN-433T-PC-M4					.165	.047		■					
	SNGN-434T-PC-M4					.157	.063		■					

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

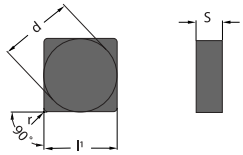
SNGN PolyCut-M whole edge

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 BH	SB10 BH	SB25 BL	SB40 BL
	SNGN-322T-MGS	.375	--	.125	--	.375	.031	■	■	■	■
	SNGN-323T-MGS					.375	.047	■	■	■	■
	SNGN-324T-MGS					.375	.063	■	■	■	■
	SNGN-432T-MGS	.500	--	.187	--	.500	.031	■	■		
	SNGN-433T-MGS					.500	.047	■	■		
	SNGN-434T-MGS					.500	.063	■	■		

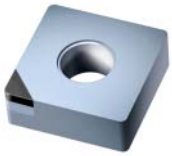
SNGN PolyCut-S/4

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 BH	SB10 BH	SB25 BL	SB40 BL
	SNGN-321T-PC-S4	.375	--	.125	.375	.177	.016	■			
	SNGN-322T-PC-S4					.173	.031	■			
	SNGN-323T-PC-S4					.165	.047	■			
	SNGN-324T-PC-S4					.157	.063	■			

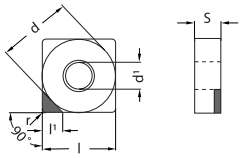
SNGN Solid

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 BH	SB10 BH	SB25 BL	SB40 BL
	SNGN-321F-SBC	.375	--	.125	--	.375	.016	■			
	SNGN-321T-SBC					.375	.016	■	■	■	■
	SNGN-322F-SBC					.375	.031	■			
	SNGN-322T-SBC					.375	.031	■	■	■	■
	SNGN-323F-SBC					.375	.047	■			
	SNGN-323T-SBC					.375	.047	■	■	■	■
	SNGN-324F-SBC					.375	.063	■			
	SNGN-324T-SBC					.375	.063	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

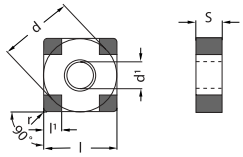


SNMA EW



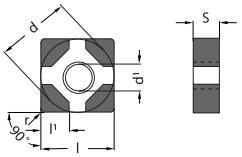
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SNMA-431F-EW	.500	.202	.187	.500	.138	.016	■				■		■
	SNMA-431T-EW					.138	.016	■	■	■	■	■	■	■
	SNMA-432F-EW					.134	.031	■	■	■		■		■
	SNMA-432T-EW					.134	.031	■	■	■	■	■	■	■
	SNMA-433F-EW					.126	.047	■				■		■
	SNMA-433T-EW					.126	.047	■	■	■	■	■	■	■

SNMA PolyCut-M



Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	SNMA-431T-PC-M	.500	.202	.187	.500	.118	.016		■	■		■	■	
	SNMA-432T-PC-M					.110	.031		■	■		■	■	
	SNMA-433T-PC-M					.102	.047		■	■		■	■	

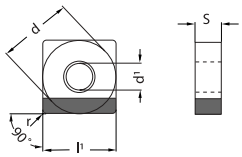
SNMA PolyCut-M/4



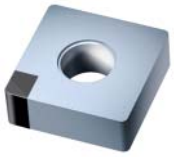
Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	SNMA-432T-PC-M4	.500	.202	.187	.500	.173	.031		■					
	SNMA-433T-PC-M4					.165	.047		■					
	SNMA-434T-PC-M4					.158	.063		■					

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

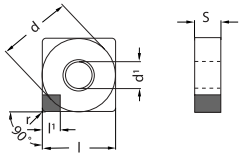
SNMA PolyCut-M whole edge



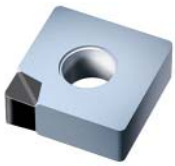
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	SNMA-432F-PC-MGS	.500	.202	.187	--	.500	.031		■		
	SNMA-432T-PC-MGS					.500	.031	■	■	■	■
	SNMA-433F-PC-MGS					.500	.047		■		
	SNMA-433T-PC-MGS					.500	.047	■	■	■	■



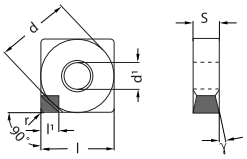
SNMA PolyCut-S



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	SNMA-431F-PC-S	.500	.202	.187	.500	.118	.016		■	■	■
	SNMA-431T-PC-S					.118	.016	■	■	■	■
	SNMA-432F-PC-S					.110	.031		■	■	■
	SNMA-432T-PC-S					.110	.031	■	■	■	■
	SNMA-433F-PC-S					.102	.047		■	■	■
	SNMA-433T-PC-S					.102	.047	■	■	■	■



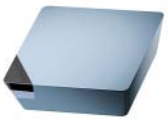
SNMG PolyCut-S

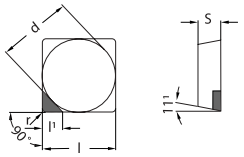


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	SNMG-431F-PC-S	.500	.202	.187	.500	.118	.016		■	■	■
	SNMG-432F-PC-S					.110	.031		■	■	■
	SNMG-433F-PC-S					.102	.047		■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

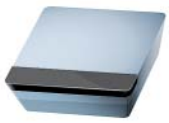
SPGN EW

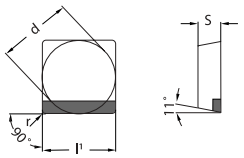




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SPGN-321F-EW	.375	--	.125	.375	.138	.016	■				■		
	SPGN-321T-EW					.138	.016	■	■	■	■	■	■	■
	SPGN-322F-EW					.134	.031	■	■	■		■		
	SPGN-322T-EW					.134	.031	■		■	■	■		■
	SPGN-421F-EW	.500	--	.125	.500	.138	.016	■				■		
	SPGN-421T-EW					.138	.016	■				■	■	
	SPGN-422F-EW					.134	.031	■		■		■		
	SPGN-422T-EW					.134	.031	■	■	■	■	■		■
	SPGN-423F-EW					.126	.047	■	■					
	SPGN-423T-EW					.126	.047	■		■	■	■	■	■

SPGN Whole edge tipped

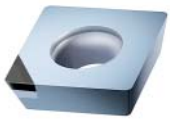


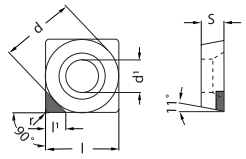


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SPGN-321F-GS	.375	--	.125	--	.375	.016	■				■		
	SPGN-321T-GS					.375	.016	■	■	■	■	■		■
	SPGN-322F-GS					.375	.031	■				■		
	SPGN-322T-GS					.375	.031	■	■	■	■	■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

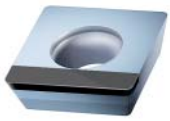
SPMW EW

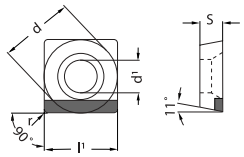




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SPMW-32.51F-EW	.375	.173	.156	.375	.138	.016	■	■			■		
	SPMW-32.51T-EW					.138	.016	■			■	■		■
	SPMW-32.52F-EW					.134	.031	■		■				
	SPMW-32.52T-EW					.134	.031	■	■	■	■	■	■	■
	SPMW-431F-EW	.500	.217	.187	.500	.138	.016	■				■		
	SPMW-431T-EW					.138	.016	■				■		■
	SPMW-432F-EW					.134	.031	■						
	SPMW-432T-EW					.134	.031	■		■	■	■		■
	SPMW-433F-EW					.126	.047	■						
	SPMW-433T-EW					.126	.047	■	■		■	■		■

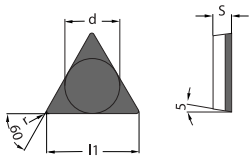
SPMW Whole edge tipped





Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SPMW-32.51F-GS	.375	.173	.156	--	.375	.016	■						
	SPMW-32.51T-GS					.375	.016	■	■	■	■	■		■
	SPMW-32.52F-GS					.375	.031	■						
	SPMW-32.52T-GS					.375	.031	■	■	■	■	■		■

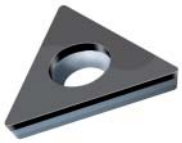
TBGN Fullface

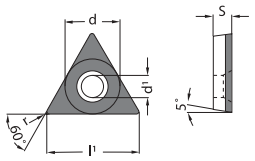


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TBGN-1.210.5F-VM	.156	--	.062	--	.256	.008	■				■		
	TBGN-1.210.5T-VM					.256	.008	■		■	■	■	■	■
	TBGN-1.211F-VM					.256	.016	■				■		
	TBGN-1.211T-VM					.256	.016	■		■	■	■	■	■
	TBGN-1.212F-VM					.256	.031	■				■		
	TBGN-1.212T-VM					.256	.031	■		■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

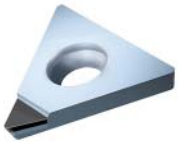
TBGW Fullface

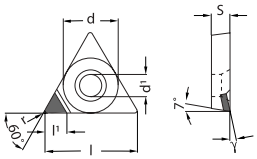




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TBGW-1.210.5F-VM	.156	.091	.062	--	.256	.008	■				■		
	TBGW-1.210.5T-VM					.256	.008	■		■	■	■	■	■
	TBGW-1.211F-VM					.256	.016	■				■		
	TBGW-1.211T-VM					.256	.016	■		■	■	■	■	■
	TBGW-1.212F-VM					.256	.031	■				■		
	TBGW-1.212T-VM					.256	.031	■		■	■	■	■	■

TCMT EW

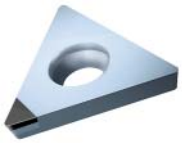


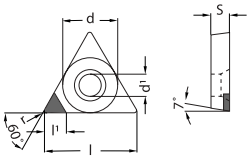


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TCMT-1.81.50.5F-EW	.219	.098	.094	.378	.150	.008	■	■			■		■
	TCMT-1.81.51F-EW					.138	.016	■	■	■		■		■
	TCMT-21.50.5F-EW	.250	.110	.094	.433	.150	.008	■	■			■		■
	TCMT-21.51F-EW					.138	.016	■	■	■		■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

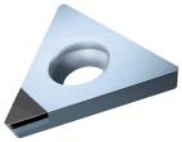
TCMW EW

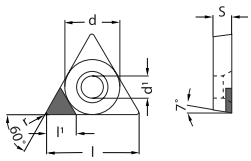




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TCMW-1.81.50.5F-EW	.219	.098	.094	.378	.150	.008	■				■		■
	TCMW-1.81.50.5T-EW					.150	.008	■		■	■	■	■	■
	TCMW-1.81.51F-EW					.138	.016	■	■	■		■		■
	TCMW-1.81.51T-EW					.138	.016	■	■	■	■	■	■	■
	TCMW-1.81.52F-EW					.118	.031	■				■		■
	TCMW-1.81.52T-EW					.118	.031	■				■		■
	TCMW-21.50.5F-EW	.250	.110	.094	.433	.150	.008	■				■		■
	TCMW-21.50.5T-EW					.150	.008	■		■	■	■	■	■
	TCMW-21.51F-EW					.138	.016	■	■	■		■		■
	TCMW-21.51T-EW					.138	.016	■	■	■	■	■	■	■
	TCMW-21.52F-EW					.118	.031	■				■		■
	TCMW-21.52T-EW					.118	.031	■		■	■	■		■
	TCMW-21.53F-EW					.102	.047	■				■		■
	TCMW-21.53T-EW					.102	.047	■		■	■	■	■	■
	TCMW-32.51F-EW	.375	.173	.156	.650	.138	.016	■	■	■		■		■
	TCMW-32.51T-EW					.138	.016	■	■	■	■	■	■	■
	TCMW-32.52F-EW					.118	.031	■				■		■
	TCMW-32.52T-EW					.118	.031	■		■	■	■		■

TCMW MW

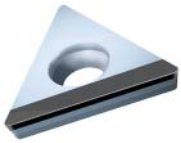


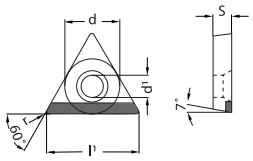


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TCMW-32.51F-MW	.375	.173	.156	.650	.217	.016	■				■		■
	TCMW-32.51T-MW					.217	.016	■				■		■
	TCMW-32.52F-MW					.197	.031	■	■	■		■		■
	TCMW-32.52T-MW					.197	.031	■	■	■	■	■	■	■
	TCMW-32.53F-MW					.177	.047	■				■		■
	TCMW-32.53T-MW					.177	.047	■		■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

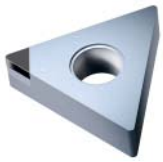
TCMW Whole edge tipped

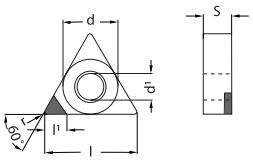




Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TCMW-1.81.51F-GS	.219	.098	.094	--	.378	.016	■	■			■		■
	TCMW-1.81.51T-GS					.378	.016	■	■	■	■	■	■	■
	TCMW-21.51F-GS	.256	.110	.094	--	.433	.016	■	■			■		■
	TCMW-21.51T-GS					.433	.016	■	■	■	■	■	■	■
	TCMW-21.52T-GS					.433	.031	■		■	■	■		■
	TCMW-32.51T-GS	.375	.173	.156	--	.650	.016	■		■	■	■		■
	TCMW-32.52T-GS					.650	.031	■		■	■	■		■

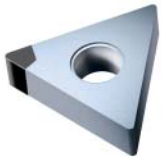
TNMA EW



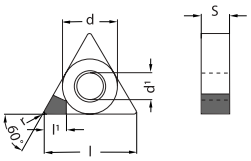


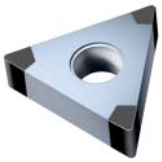
Insert	Designation	Dimensions d	d1	s	l	l1	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TNMA-221F-EW	.250	.089	.125	.433	.138	.016	■				■		■
	TNMA-221T-EW					.138	.016	■	■	■	■	■	■	■
	TNMA-222F-EW					.118	.031	■				■		■
	TNMA-222T-EW					.118	.031	■	■	■	■	■	■	■
	TNMA-331F-EW	.375	.150	.187	.650	.138	.016	■				■		■
	TNMA-331T-EW					.138	.016	■		■	■	■	■	■
	TNMA-332F-EW					.118	.031	■	■	■		■		■
	TNMA-332T-EW					.118	.031	■	■	■	■	■	■	■
	TNMA-333F-EW					.102	.047	■				■		■
	TNMA-333T-EW					.102	.047	■				■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

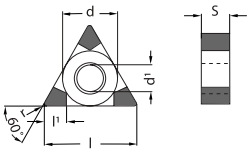


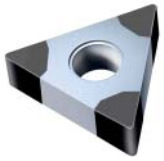
TNMA PolyCut-S

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1	SB10	SB25	SB40
										BL	
	TNMA-330.5F-PC-S	.375	.150	.187	.650	.118	.008		■	■	■
	TNMA-330.5T-PC-S					.118	.008	■	■	■	■
	TNMA-331F-PC-S					.118	.016		■	■	■
	TNMA-331T-PC-S					.118	.016	■	■	■	■
	TNMA-332F-PC-S					.102	.031		■	■	■
	TNMA-332T-PC-S					.102	.031	■	■	■	■
	TNMA-333F-PC-S					.094	.047		■	■	■
	TNMA-333T-PC-S					.094	.047	■	■	■	■
	TNMA-431F-PC-S	.500	.202	.187	.866	.118	.016		■	■	■
	TNMA-431T-PC-S					.118	.016	■	■	■	■
	TNMA-432F-PC-S					.102	.031		■	■	■
	TNMA-432T-PC-S					.102	.031	■	■	■	■

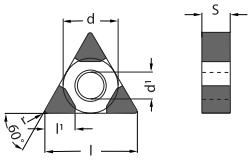


TNMA PolyCut-M

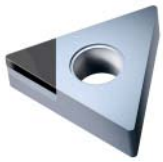
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1	SB10	SB25	SB40
								BH		BL	
	TNMA-331T-PC-M	.375	.150	.187	.650	.118	.016	■	■	■	■
	TNMA-332T-PC-M					.102	.031	■	■	■	■
	TNMA-333T-PC-M					.094	.047	■	■	■	■



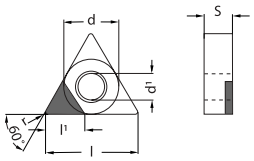
TNMA PolyCut-M/4

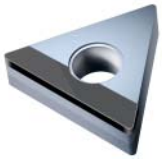
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1	SB10	SB25	SB40
								BH		BL	
	TNMA-331T-PC-M4	.375	.150	.187	.650	.177	.016	■			
	TNMA-332T-PC-M4					.165	.031	■			
	TNMA-333T-PC-M4					.157	.047	■			
	TNMA-432T-PC-M4	.500	.202	.187	.866	.165	.031	■			
	TNMA-433T-PC-M4					.157	.047	■			

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

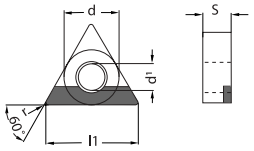


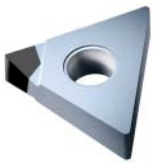
TNMA MW

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TNMA-331F-MW	.375	.150	.187	.650	.217	.016	■				■		■
	TNMA-331T-MW					.217	.016	■				■		■
	TNMA-332F-MW					.197	.031	■	■	■		■		■
	TNMA-332T-MW					.197	.031	■	■	■		■		■
	TNMA-333F-MW					.177	.047	■				■		■
	TNMA-333T-MW					.177	.047	■			■	■	■	■

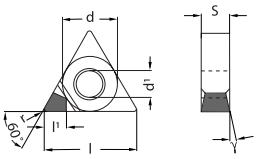


TNMA Whole edge

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
											BL			
	TNMA-332T-GS	.375	.150	.187	--	.650	.031	■		■	■	■		
	TNMA-333T-GS					.650	.047	■		■	■	■		

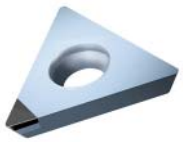


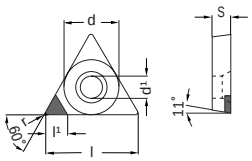
TNMG PolyCut-S

Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	TNMG-331F-PC-S	.375	.150	.187	.650	.118	.016			■		■	■	
	TNMG-332F-PC-S					.102	.031			■		■	■	
	TNMG-333F-PC-S					.094	.047			■		■	■	

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

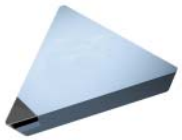
TPGA EW

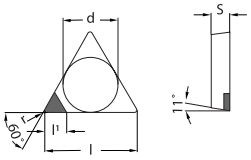




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TPGA-220.5F-EW	.250	.134	.125	.433	.150	.008					■		
	TPGA-220.5T-EW					.150	.008	■				■		■
	TPGA-221F-EW					.138	.016	■				■		
	TPGA-221T-EW					.138	.016	■	■	■	■	■	■	■
	TPGA-222F-EW					.118	.031					■		
	TPGA-222T-EW					.118	.031	■				■		■

TPGN EW

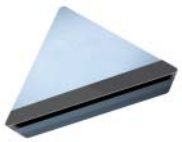


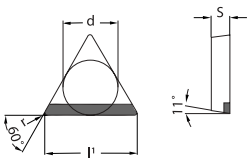


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TPGN-1.81.51F-EW	.219	--	.094	.378	.138	.016	■				■		■
	TPGN-1.81.51T-EW					.138	.016	■				■		■
	TPGN-21.51F-EW	.250	--	.094	.433	.138	.016	■				■		■
	TPGN-21.51T-EW					.138	.016	■				■		■
	TPGN-220.5F-EW	.250	--	.125	.433	.150	.008	■				■		■
	TPGN-220.5T-EW					.150	.008	■		■	■	■	■	■
	TPGN-221F-EW					.138	.016	■	■	■		■		■
	TPGN-221T-EW					.138	.016	■	■	■	■	■	■	■
	TPGN-222F-EW					.118	.031	■				■		■
	TPGN-222T-EW					.118	.031	■		■	■	■	■	■
	TPGN-321F-EW	.375	--	.125	.650	.138	.016	■	■	■		■		■
	TPGN-321T-EW					.138	.016	■	■	■	■	■	■	■
	TPGN-322F-EW					.118	.031	■				■		■
	TPGN-322T-EW					.118	.031	■		■	■	■	■	■

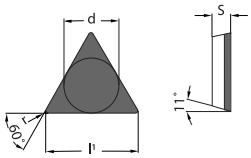
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

TPGN Whole edge tipped



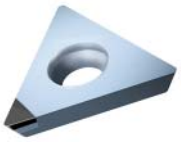
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BL						
	TPGN-1.81.51T-GS	.219	--	.094	--	.378	.016	■				■		■
	TPGN-21.51T-GS	.250	--	.094	--	.378	.016	■				■		■
	TPGN-221T-GS	.250	--	.125	--	.433	.016	■	■	■	■	■		■
	TPGN-222T-GS					.433	.031	■	■	■	■	■		■
	TPGN-321T-GS	.375	--	.125	--	.650	.016	■	■	■	■	■		■
	TPGN-322T-GS					.650	.031	■				■		■

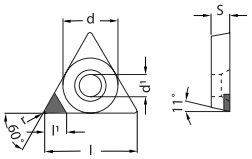
TPGN Fullface

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BL						
	TPGN-221T-VM	.250	--	.125	--	.433	.016	■	■	■	■	■	■	■
	TPGN-222T-VM					.433	.031	■				■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

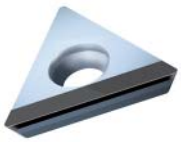
TPMW EW

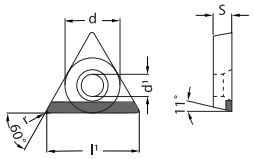




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TPMW-1.51.50.5F-EW	.187	.087	.094	.323	.150	.008					■		
	TPMW-1.51.50.5T-EW					.150	.008	■				■		■
	TPMW-1.51.51F-EW					.138	.016	■				■		■
	TPMW-1.51.51T-EW					.138	.016	■		■	■	■	■	■
	TPMW-1.81.50.5F-EW	.219	.098	.094	.378	.150	.008					■		
	TPMW-1.81.50.5T-EW					.150	.008	■				■		■
	TPMW-1.81.51F-EW					.138	.016	■				■		■
	TPMW-1.81.51T-EW					.138	.016	■	■	■	■	■	■	■
	TPMW-21.50.5F-EW	.250	.110	.094	.433	.150	.008					■		
	TPMW-21.50.5T-EW					.150	.008	■				■		■
	TPMW-21.51F-EW					.138	.016	■				■		■
	TPMW-21.51T-EW					.138	.016	■				■		■
	TPMW-220.5F-EW	.250	.110	.125	.433	.150	.008	■				■		■
	TPMW-220.5T-EW					.150	.008	■				■		■
	TPMW-221F-EW					.138	.016	■	■	■		■		■
	TPMW-221T-EW					.138	.016	■	■	■	■	■	■	■
	TPMW-222F-EW					.118	.031	■				■		■
	TPMW-222T-EW					.118	.031	■				■		■
	TPMW-331F-EW	.375	.173	.187	.650	.138	.016	■				■		■
	TPMW-331T-EW					.138	.016	■	■	■	■	■	■	■
	TPMW-332F-EW					.118	.031	■				■		■
	TPMW-332T-EW					.118	.031	■				■		■

TPMW Whole edge tipped

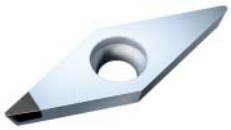


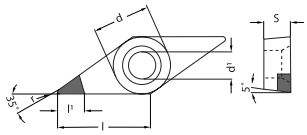


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	TPMW-1.51.51T-GS	.187	.087	.094	--	.323	.016	■		■	■	■	■	■
	TPMW-1.81.51T-GS	.219	.098	.094	--	.378	.016	■	■	■	■	■	■	■
	TPMW-21.52T-GS	.250	.110	.094	--	.433	.031	■				■		■
	TPMW-221F-GS	.250	.110	.125	--	.433	.016	■	■	■		■		■
	TPMW-221T-GS					.433	.016	■	■	■	■	■	■	■
	TPMW-222F-GS					.433	.031	■				■		■
	TPMW-222T-GS					.433	.031	■		■	■	■	■	■
	TPMW-332T-GS	.375	.173	.187	--	.650	.031	■		■	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

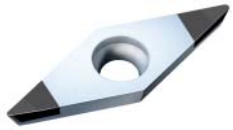
VBMW EWS

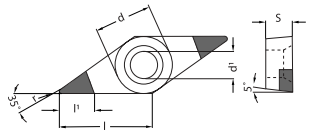




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VBMW-21.50.5F-EWS	.250	.114	.094	.437	.138	.008		■	■	■
	VBMW-21.50.5T-EWS					.138	.008		■	■	■
	VBMW-21.51F-EWS					.122	.016		■	■	■
	VBMW-21.51T-EWS					.122	.016		■	■	■
	VBMW-330.5F-EWS	.375	.173	.187	.654	.138	.008		■	■	■
	VBMW-330.5T-EWS					.138	.008		■	■	■
	VBMW-331F-EWS					.122	.016		■	■	■
	VBMW-331T-EWS					.122	.016		■	■	■
	VBMW-332F-EWS					.110	.031		■	■	■
	VBMW-332T-EWS					.110	.031		■	■	■

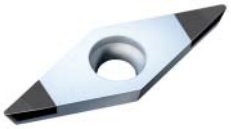
VBMW MultiCut-S

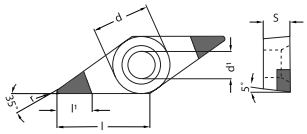




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VBMW-330.5F-MC-S	.375	.173	.187	.654	.138	.008		■	■	■
	VBMW-330.5T-MC-S					.138	.008		■	■	■
	VBMW-331F-MC-S					.122	.016		■	■	■
	VBMW-331T-MC-S					.122	.016		■	■	■
	VBMW-332F-MC-S					.110	.031		■	■	■
	VBMW-332T-MC-S					.110	.031		■	■	■

VBMW MultiCut-S/4

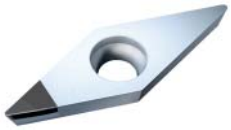


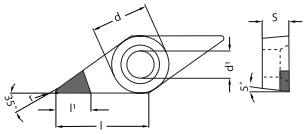


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VBMW-331T-MC-S4	.375	.173	.187	.654	.173	.016	■			
	VBMW-332T-MC-S4					.165	.031	■			
	VBMW-333T-MC-S4					.157	.047	■			
	VBMW-334T-MC-S4					.142	.063	■			

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

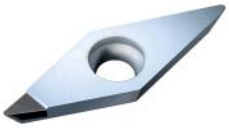
VBMW MW

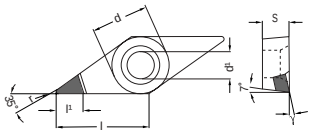




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	VBMW-21.50.5F-MW	.250	.114	.094	.437	.185	.008	■				■		
	VBMW-21.50.5T-MW					.185	.008	■	■	■	■	■	■	
	VBMW-21.51F-MW					.177	.016	■	■	■		■		■
	VBMW-21.51T-MW					.177	.016	■	■	■	■	■	■	■
	VBMW-21.52F-MW					.165	.031	■				■		■
	VBMW-21.52T-MW					.165	.031	■		■	■	■	■	■
	VBMW-330.5F-MW	.375	.173	.187	.654	.209	.008	■				■		
	VBMW-330.5T-MW					.209	.008	■		■	■	■	■	■
	VBMW-331F-MW					.197	.016	■	■	■		■		
	VBMW-331T-MW					.197	.016	■	■	■	■	■	■	■
	VBMW-332F-MW					.173	.031	■				■		
	VBMW-332T-MW					.173	.031	■	■	■	■	■	■	■
	VBMW-333T-MW					.154	.047	■	■	■	■	■	■	■
	VBMW-334T-MW					.138	.063			■	■	■	■	■

VCMT EWS

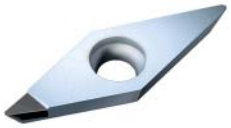


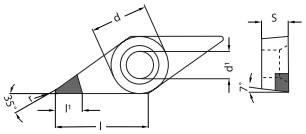


Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
								BH			BL			
	VCMT-1.21.50.5F-EWS	.156	.087	.094	.272	.138	.008			■		■	■	
	VCMT-1.21.51F-EWS					.126	.016			■		■	■	
	VCMT-220.5F-EWS	.250	.114	.125	.437	.138	.008			■		■	■	
	VCMT-221F-EWS					.122	.016			■		■	■	
	VCMT-2.520.5F-EWS	.313	.134	.125	.524	.138	.008			■		■	■	
	VCMT-2.521F-EWS					.122	.016			■		■	■	
	VCMT-330.5F-EWS	.375	.173	.187	.654	.138	.008			■		■	■	
	VCMT-331F-EWS					.122	.016			■		■	■	
	VCMT-332F-EWS					.110	.031			■		■	■	

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

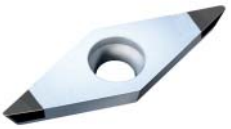
VCMW EWS

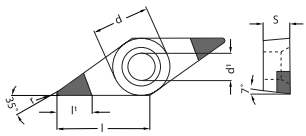




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VCMW-1.21.50.5F-EWS	.156	.087	.094	.272	.138	.008		■	■	■
	VCMW-1.21.50.5T-EWS					.138	.008		■	■	■
	VCMW-1.21.51F-EWS					.126	.016		■	■	■
	VCMW-1.21.51T-EWS					.126	.016		■	■	■
	VCMW-220.5F-EWS	.250	.114	.125	.437	.138	.008		■	■	■
	VCMW-220.5T-EWS					.138	.008		■	■	■
	VCMW-221F-EWS					.122	.016		■	■	■
	VCMW-221T-EWS					.122	.016		■	■	■
	VCMW-2.520.5F-EWS	.313	.134	.125	.524	.138	.008		■	■	■
	VCMW-2.520.5T-EWS					.138	.008		■	■	■
	VCMW-2.521F-EWS					.122	.016		■	■	■
	VCMW-2.521T-EWS					.122	.016		■	■	■
	VCMW-330.5F-EWS	.375	.173	.187	.654	.138	.008		■	■	■
	VCMW-330.5T-EWS					.138	.008		■	■	■
	VCMW-331F-EWS					.122	.016		■	■	■
	VCMW-331T-EWS					.122	.016		■	■	■
	VCMW-332F-EWS					.110	.031		■	■	■
	VCMW-332T-EWS					.110	.031		■	■	■

VCMW MultiCut-S

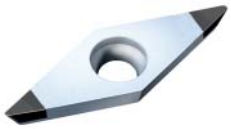


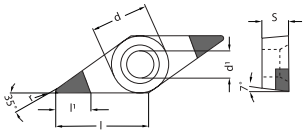


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VCMW-220.5F-MC-S	.250	.114	.125	.437	.138	.008		■	■	■
	VCMW-220.5T-MC-S					.138	.008		■	■	■
	VCMW-221F-MC-S					.122	.016		■	■	■
	VCMW-221T-MC-S					.122	.016		■	■	■
	VCMW-222T-MC-S					.110	.031				■
	VCMW-330.5F-MC-S	.375	.173	.187	.654	.138	.008		■	■	■
	VCMW-330.5T-MC-S					.138	.008		■	■	■
	VCMW-331F-MC-S					.122	.016		■	■	■
	VCMW-331T-MC-S					.122	.016		■	■	■
	VCMW-332F-MC-S					.110	.031		■	■	■
	VCMW-332T-MC-S					.110	.031		■	■	■

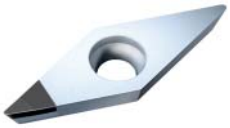
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

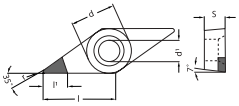
VCMW MultiCut-S/4



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VCMW-331T-MC-S4	.375	.173	.187	.654	.173	.016	■			
	VCMW-332T-MC-S4					.165	.031	■			
	VCMW-333T-MC-S4					.157	.047	■			
	VCMW-334T-MC-S4					.142	.063	■			

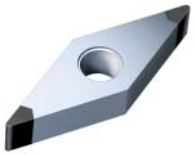
VCMW MW

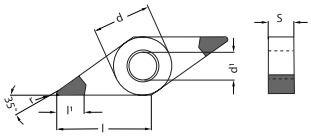


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	VCMW-1.21.50.5F-MW	.156	.087	.094	.272	.150	.008	■				■		■
	VCMW-1.21.50.5T-MW					.150	.008	■	■		■	■	■	■
	VCMW-1.21.51F-MW					.138	.016	■	■	■		■		■
	VCMW-1.21.51T-MW					.138	.016	■	■	■	■	■	■	■
	VCMW-220.5F-MW	.250	.114	.125	.437	.185	.008	■				■		■
	VCMW-220.5T-MW					.185	.008	■	■		■	■	■	■
	VCMW-221F-MW					.177	.016	■	■	■		■		■
	VCMW-221T-MW					.177	.016	■	■	■	■	■	■	■
	VCMW-222F-MW					.165	.031	■				■		■
	VCMW-222T-MW					.165	.031	■			■	■	■	■
	VCMW-2.520.5F-MW	.313	.134	.125	.524	.209	.008	■				■		■
	VCMW-2.520.5T-MW					.209	.008	■	■	■	■	■	■	■
	VCMW-2.521F-MW					.197	.016	■	■	■		■		■
	VCMW-2.521T-MW					.197	.016	■			■	■	■	■
	VCMW-330.5F-MW	.375	.173	.187	.654	.209	.008	■	■	■		■		■
	VCMW-330.5T-MW					.209	.008	■	■	■	■	■	■	■
	VCMW-331F-MW					.197	.016	■	■	■		■		■
	VCMW-331T-MW					.197	.016	■	■	■	■	■	■	■
	VCMW-332F-MW					.173	.031	■	■	■		■		■
	VCMW-332T-MW					.173	.031	■	■	■	■	■	■	■
	VCMW-333F-MW					.154	.047	■				■		■
	VCMW-333T-MW					.154	.047	■		■	■	■	■	■

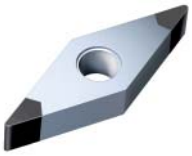
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

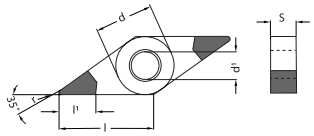
VNMA PolyCut-M



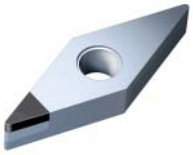
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VNMA-331T-PC-M	.375	.150	.187	.654	.110	.016	■	■	■	■
	VNMA-332T-PC-M					.094	.031	■	■	■	■
	VNMA-333T-PC-M					.087	.047	■	■	■	■

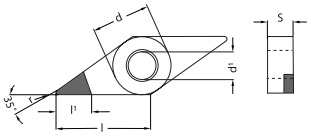
VNMA PolyCut-M/4



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VNMA-331T-PC-M4	.375	.150	.187	.654	.173	.016	■			
	VNMA-332T-PC-M4					.165	.031	■			
	VNMA-333T-PC-M4					.157	.047	■			
	VNMA-334T-PC-M4					.142	.063	■			

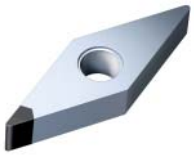
VNMA MW

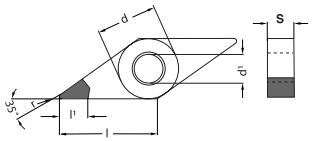


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	VNMA-331F-MW	.375	.150	.187	.654	.197	.016	■	■	■		■		■
	VNMA-331T-MW					.197	.016	■	■	■	■	■	■	■
	VNMA-332F-MW					.173	.031	■	■	■		■		■
	VNMA-332T-MW					.173	.031	■	■	■	■	■	■	■
	VNMA-333F-MW					.154	.047							
	VNMA-333T-MW					.154	.047	■			■	■		■
	VNMA-334F-MW					.138	.063							
	VNMA-334T-MW					.138	.063				■	■		■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

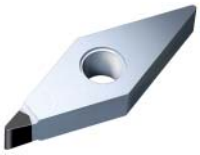
VNMA PolyCut-S

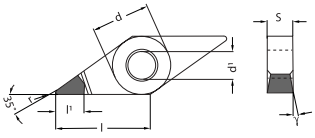




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VNMA-330.5F-PC-S	.375	.150	.187	.654	.118	.008	■	■	■	■
	VNMA-330.5T-PC-S					.118	.008	■	■	■	■
	VNMA-331F-PC-S					.110	.016	■	■	■	■
	VNMA-331T-PC-S					.110	.016	■	■	■	■
	VNMA-332F-PC-S					.094	.031	■	■	■	■
	VNMA-332T-PC-S					.094	.031	■	■	■	■
	VNMA-333F-PC-S					.087	.047	■	■	■	■
	VNMA-333T-PC-S					.087	.047	■	■	■	■

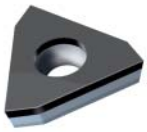
VNMG PolyCut-S

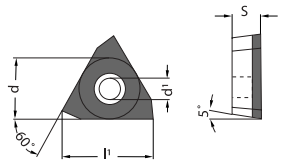




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	VNMG-331F-PC-S	.375	.150	.187	.654	.110	.016		■	■	■
	VNMG-332F-PC-S					.094	.031		■	■	■
	VNMG-333F-PC-S					.087	.047		■	■	■

WBGW/L Fullface



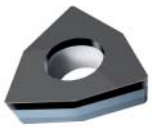


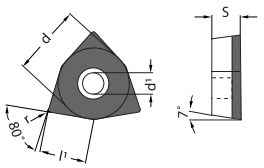
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	WBGW-1.210.5LF-VM	.156	.091	.062	--	.189	.008	■	■	■		■		■
	WBGW-1.210.5LT-VM					.189	.008	■			■	■	■	■
	WBGW-1.211LF-VM					.189	.016	■				■		■
	WBGW-1.211LT-VM					.189	.016	■	■	■	■	■	■	■

Note: CCMT-21.50.5E-EW: E= sharp cutting edge, T= T-Land

Inserts - CBN

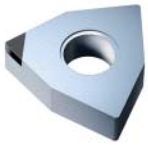
WCGW Fullface

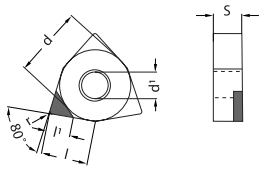




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	WCGW-1.210.5F-VM	.156	.091	.062	--	.106	.008	■	■	■		■		■
	WCGW-1.210.5T-VM					.106	.008	■			■	■	■	■
	WCGW-1.211F-VM					.106	.016	■				■		■
	WCGW-1.211T-VM					.106	.016	■	■	■	■	■	■	■

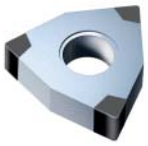
WNMA EW

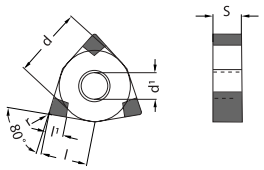




Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	WNMA-431F-EW	.500	.202	.187	.335	.122	.016	■				■		■
	WNMA-431T-EW					.122	.016	■	■	■	■	■	■	■
	WNMA-432F-EW					.110	.031	■	■	■		■		■
	WNMA-432T-EW					.110	.031	■	■	■	■	■	■	■
	WNMA-433F-EW					.098	.047	■				■		■
	WNMA-433T-EW					.098	.047	■				■		■

WNMA PolyCut-M

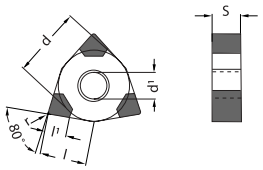


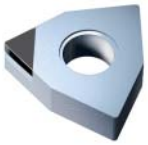


Insert	Designation	Dimensions d	d¹	s	l	l¹	r		SBC1	SB10		SB25	SB40	
									BH			BL		
	WNMA-431T-PC-M	.500	.202	.187	.335	.110	.016		■	■		■	■	
	WNMA-432T-PC-M					.102	.031		■	■		■	■	
	WNMA-433T-PC-M					.094	.047		■	■		■	■	

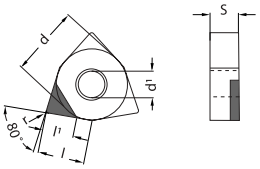
Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

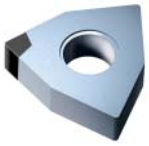
WNMA PolyCut-M/4

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	WNMA-431T-PC-M4	.500	.202	.187	.335	.177	.016	■			
	WNMA-432T-PC-M4					.165	.031	■			
	WNMA-433T-PC-M4					.157	.047	■			
	WNMA-434T-PC-M4					.150	.063	■			

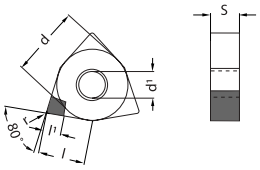


WNMA MW

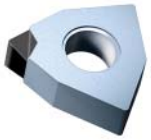
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10 (BH)	PBC-15 (BH)	PBC-17 (BH)	PBC-20 (BL)	PBC-25 (BL)	PBC-30 (BL)	PBC-40 (BL)
	WNMA-431F-MW	.500	.202	.187	.335	.209	.016	■				■		■
	WNMA-431T-MW					.209	.016	■				■		■
	WNMA-432F-MW					.197	.031	■				■		■
	WNMA-432T-MW					.197	.031	■	■	■	■	■	■	■
	WNMA-433F-MW					.185	.047	■				■		■
	WNMA-433T-MW					.185	.047	■				■		■



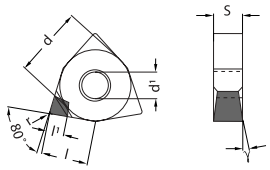
WNMA PolyCut-S

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	SBC1 (BH)	SB10 (BH)	SB25 (BL)	SB40 (BL)
	WNMA-431F-PC-S	.500	.202	.187	.335	.110	.016		■	■	■
	WNMA-431T-PC-S					.110	.016	■	■	■	■
	WNMA-432F-PC-S					.102	.031		■	■	■
	WNMA-432T-PC-S					.102	.031	■	■	■	■
	WNMA-433F-PC-S					.094	.047		■	■	■
	WNMA-433T-PC-S					.094	.047	■	■	■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

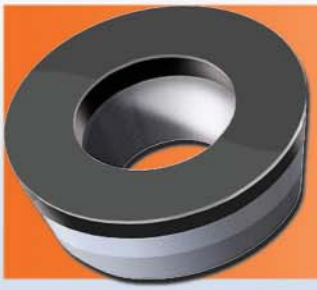


WNMG PolyCut-S

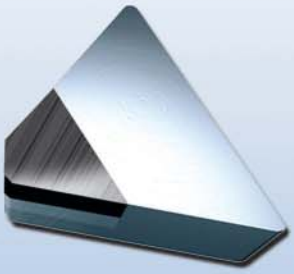
Insert	Designation	Dimensions						SBC1	SB10		SB25	SB40	
		d	d¹	s	l	l¹	r	BH			BL		
	WNMG-431F-PC-S	.500	.202	.187	.335	.110	.016			■		■	■
	WNMG-432F-PC-S					.102	.031			■		■	■
	WNMG-433F-PC-S					.094	.047			■		■	■

Note: CCMT-21.50.5F-EW: F= sharp cutting edge, T= T-Land

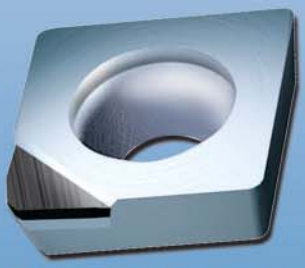
Milling



RDHX-0702MO
RDHX-1003MO
RDHX-12T3MO
(full face PCD & CBN)

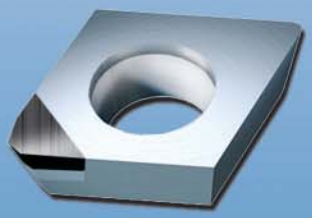


TPKN-32-PD
TPKN-43-PD
(PCD, CBN, MDC)

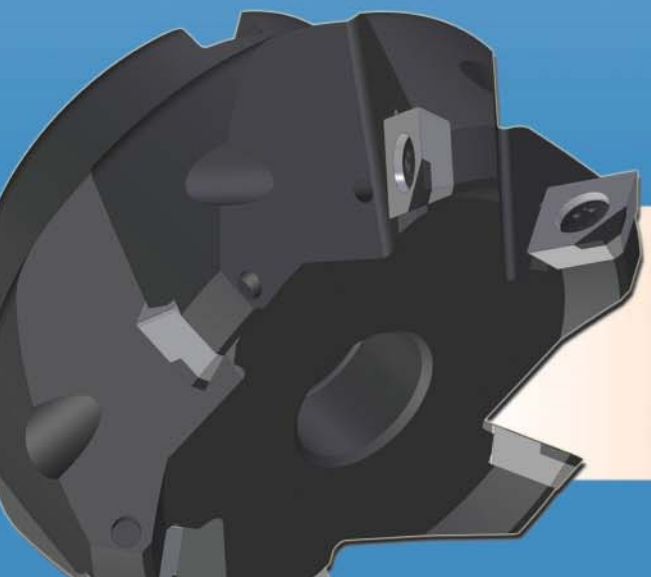


SPGT-43-ED
(positive right hand)

SPKN-42-ED
(PCD, CBN, MDC)



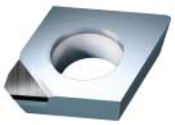
CPGW-43-PD
(PCD & MDC)

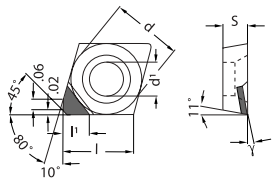


SEHW-43-AF
SDHW-43-AE
(neutral - PCD & CBN)

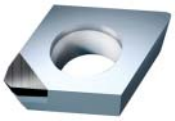
Go Back

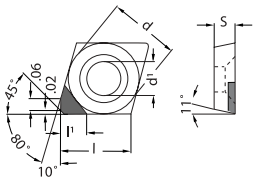
CPGT..PD R Milling insert positive right hand



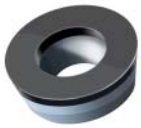
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CPGT-43PDR-4	.500	.217	.187	.500	.177	--	■			
	CPGT-43PDR-6					.295	--	■			
	CPGT-43PDR-8					.354	--	■			

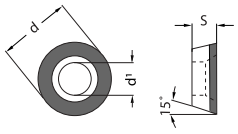
CPGW..PD R Milling insert neutral



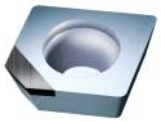
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	CPGW-43PDR-2	.500	.217	.187	.500	.079	--				■
	CPGW-43PDR-4					.177	--	■			
	CPGW-43PDR-6					.295	--	■			

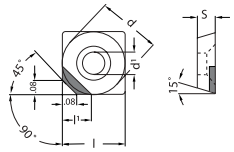
RDHX Milling insert fullface



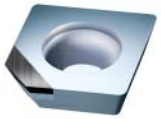
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	RDHX-0501M0	.197	.079	.059	--	--	--	■			
	RDHX-0702M0	.276	.106	.094	--	--	--	■			
	RDHX-1003M0	.394	.150	.125	--	--	--	■			
	RDHX-12T3M0	.472	.150	.156	--	--	--	■			

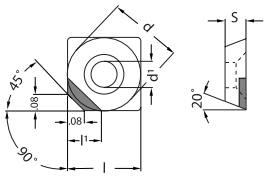
SDHW..AE N Milling insert neutral



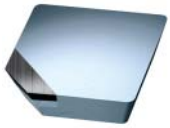
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SDHW-43AEN-4	.500	.217	.187	.500	.157	--	■			
	SDHW-43AEN-6					.236	--	■			

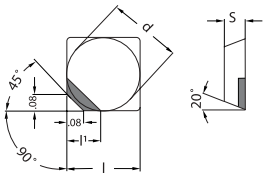
SEHW..AF N Milling insert neutral



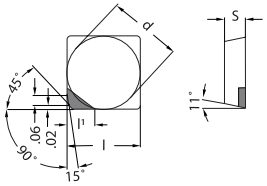
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SEHW-43AFN-4	.500	.217	.187	.500	.157	--	■			
	SEHW-43AFN-6					.236	--	■			

SEKN..AF N Milling insert neutral

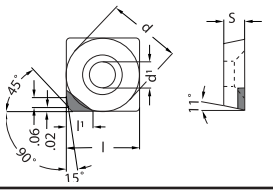


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SEKN-42AFN-4	.500	--	.125	.500	.157	--	■			
	SEKN-42AFN-6					.236	--	■			

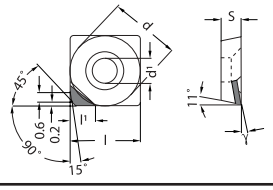
SPKN..ED R Milling insert right hand

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPKN-42EDR-2	.500	--	.125	.500	.079	--				■
	SPKN-42EDR-4					.177	--	■			
	SPKN-42EDR-6					.295	--	■			

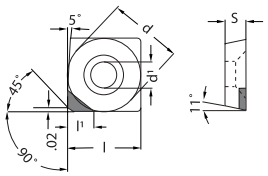
SPGW..ED R Milling insert right hand

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPGW-43EDR-2	.500	.217	.187	.500	.079	--				■
	SPGW-43EDR-4					.177	--	■			
	SPGW-43EDR-6					.295	--	■			

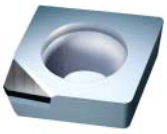
SPGT..ED R Milling insert positive, right hand

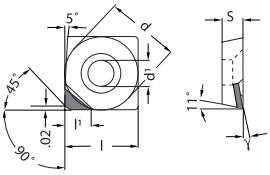
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPGT-43EDR-8	.500	.217	.187	.500	.335	--	■			

SPGW..PD R Milling insert right hand

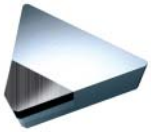
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPGW-43PDR-2	.500	.217	.187	.500	.079	--				■
	SPGW-43PDR-4					.177	--	■			
	SPGW-43PDR-6					.295	--	■			

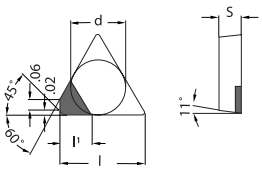
SPGT..PD R Milling insert positive, right hand



Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	SPGT-43PDR-8	.500	.217	.187	.500	.335	--	■			

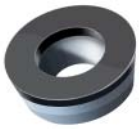
TPKN..PD R Milling insert right hand

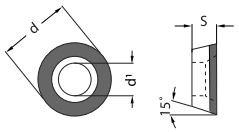


Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PDC-S	PDC	PDC-L	MDC
								DP			DM
	TPKN-32PDR-2	.375	--	.125	.650	.079	--				■
	TPKN-32PDR-4					.157	--	■			

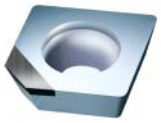
Inserts - CBN

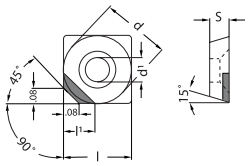
RDHX Fullface milling insert



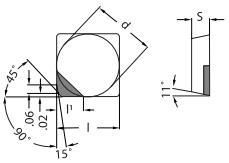
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	RDHX-0702MOT-VM	.276	.106	.094	--	--	--	■	■	■	■	■	■	■
	RDHX-1003MOT-VM	.394	.150	.125	--	--	--	■	■	■	■	■	■	■
	RDHX-12T3MOT-VM	.472	.150	.156	--	--	--	■	■	■	■	■	■	■

SDHW..AE N MW milling insert

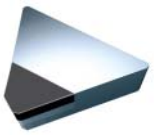


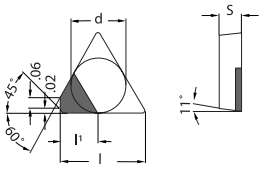
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SDHW-43AENT-MW	.500	.217	.187	.500	.157	--	■	■	■	■	■	■	■

SPKN..ED R MW milling insert

Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
								BH			BL			
	SPKN-42EDRT-MW	.500	--	.125	.500	.157	--	■	■	■	■	■	■	■

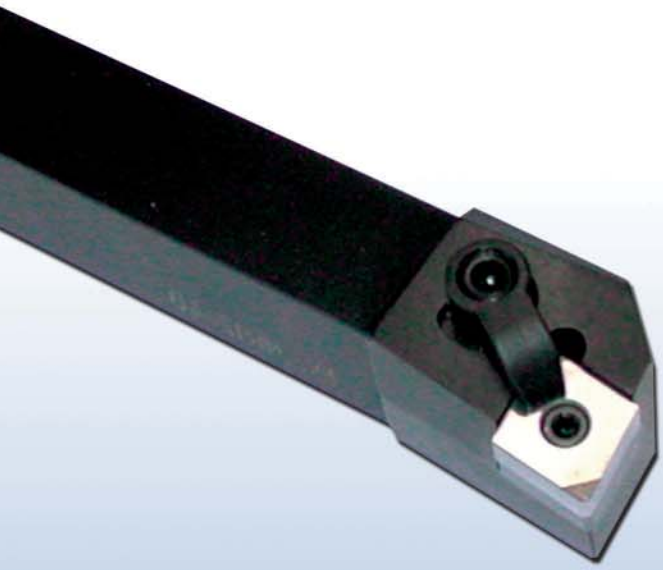
TPKN..PD R MW milling insert



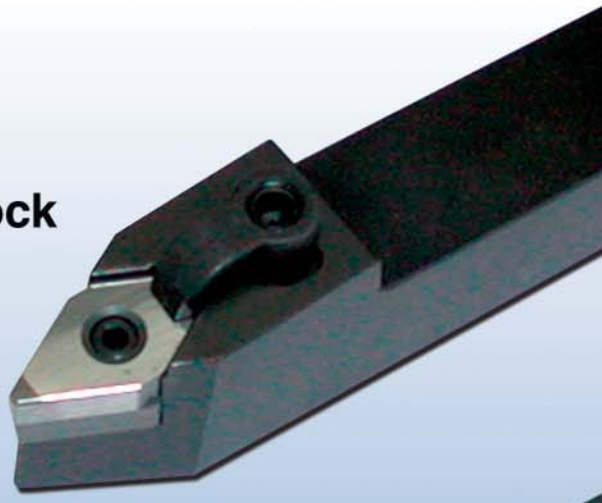
Insert	Designation	Dimensions d	d¹	s	l	l¹	r	PBC-10	PBC-15	PBC-17	PBC-20	PBC-25	PBC-30	PBC-40
											BL			
	TPKN-32PDRT-MW	.375	--	.125	.650	.157	--	■	■	■	■	■	■	■
	TPKN-43PDRT-MW	.500	--	.187	.866	.157	--	■	■	■	■	■	■	■

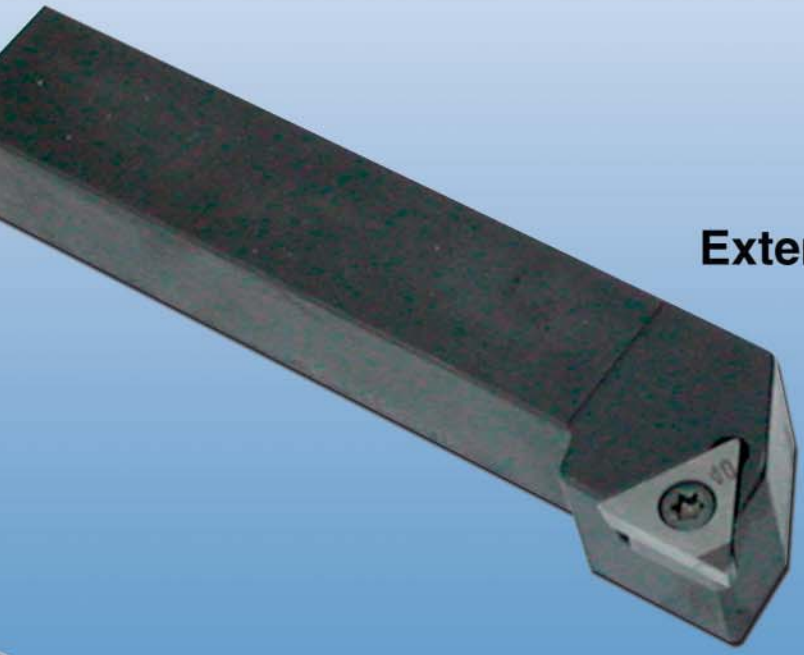
Note: RDHX-070202MOT-VM: F= sharp cutting edge, T= T-Land

Tools

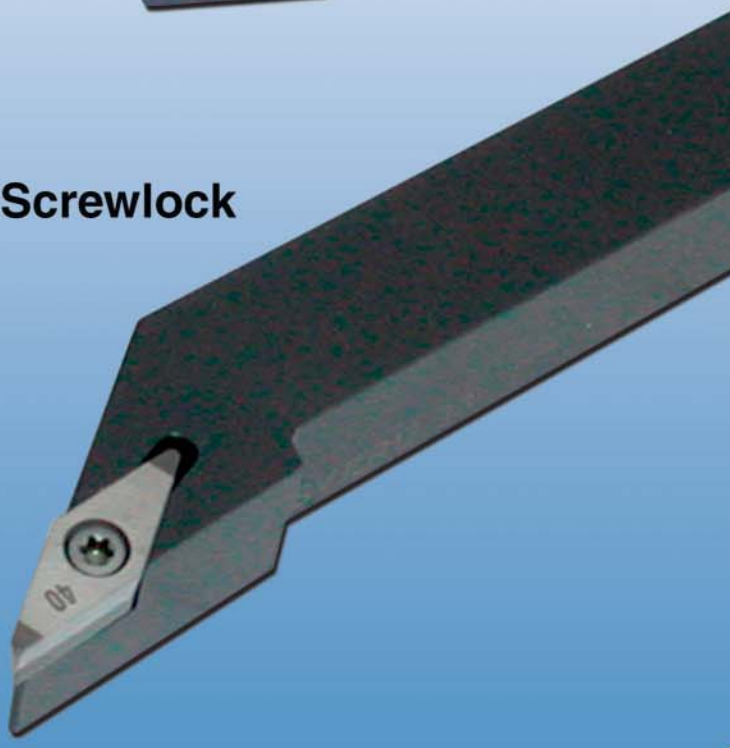


External Pinlock





External Screwlock

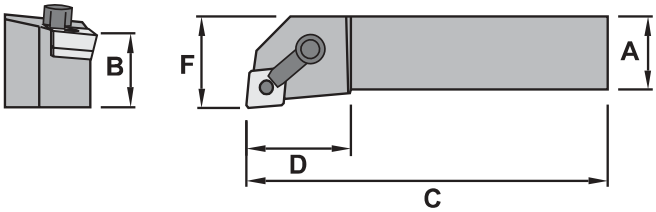


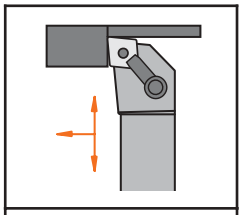
Internal Screwlock
Carbide Shank

Go Back

External Pinlock

MCLNR/L





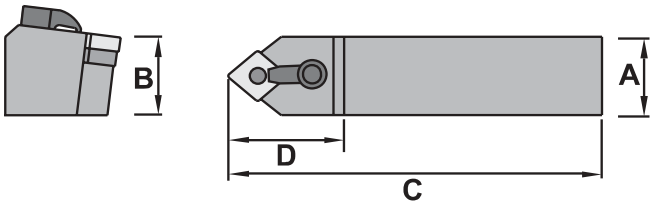
Lead Angle: -5°

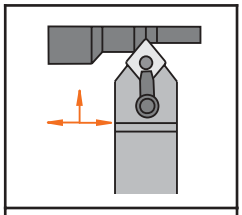
Entering Angle: 95°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MCLNR/L 12-4B	.750	.750	4.5	1.13	1.000	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCLNR/L 16-4D	1.000	1.000	6.0	1.13	1.250					
MCLNR/L 20-4D	1.250	1.250	6.0	1.13	1.500					
MCLNR/L 85-4D	1.000	1.250	6.0	1.13	1.250					

R/L= please choose right or left hand designation

MCMNN



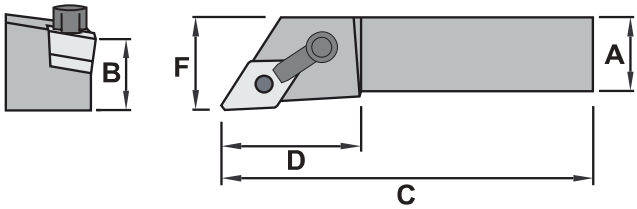


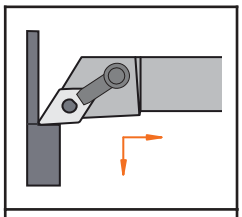
Lead Angle: 40°

Entering Angle: 50°

Designation	A	B	C	D	Insert	shim	pin	clamp	clamp screw
MCMNN 12-4B	.750	.750	4.5	1.28	CNM_-43_	ICSN-432	NL-46	CL-20	XNS-48
MCMNN 16-4D	1.000	1.000	6.0	1.28					
MCMNN 20-4D	1.250	1.250	6.0	1.39					
MCMNN 85-4D	1.000	1.250	6.0	1.28					

MDJNR/L





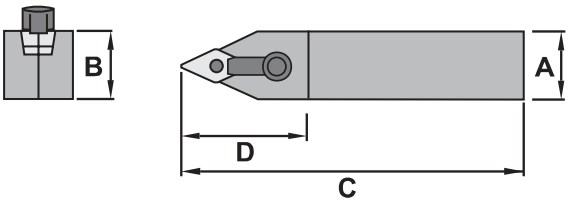
Lead Angle: -3°

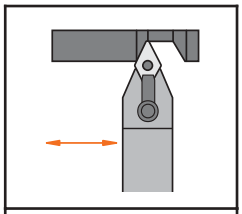
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MDJNR/L 12-4B	.750	.750	4.5	1.25	1.000	DNM_-43_	IDSN-432	NL-46	CL-20	XNS-48
MDJNR/L 16-4D	1.000	1.000	6.0	1.25	1.250					
MDJNR/L 20-4D	1.250	1.250	6.0	1.25	1.500					
MDJNR/L 24-4D	1.500	1.500	6.0	1.25	2.000					
MDJNR/L 85-4D	1.000	1.250	6.0	1.25	1.250					
MDJNR/L 12-44B	.750	.750	4.5	1.44	1.000	DNM_-44_	IDSN-432	NL-46	CL-20	XNS-48
MDJNR/L 16-44D	1.000	1.000	6.0	1.50	1.250					
MDJNR/L 20-44E	1.250	1.250	7.0	1.62	1.500					

R/L= please choose right or left hand designation

MDPNN





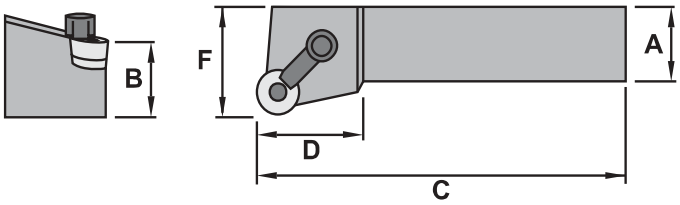
Lead Angle: 27.5°

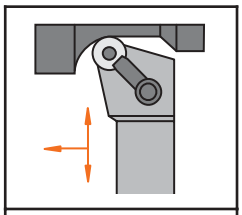
Entering Angle: 62.5°

Designation	A	B	C	D	Insert	shim	pin	clamp	clamp screw
MDPNN 12-4B	.750	.750	4.5	1.62	DNM_-43_	IDSN-432	NL-46	CL-20	XNS-48
MDPNN 16-4D	1.000	1.000	6.0	1.62					
MDPNN 20-4D	1.250	1.250	6.0	1.62					
MDPNN 12-44B	.750	.750	4.5	1.62	DNM_-44_	IDSN-432	NL-46	CL-20	XNS-48
MDPNN 16-44D	1.000	1.000	6.0	1.62					
MDPNN 20-44E	1.250	1.250	7.0	1.62					

External Pinlock

MRGNR/L





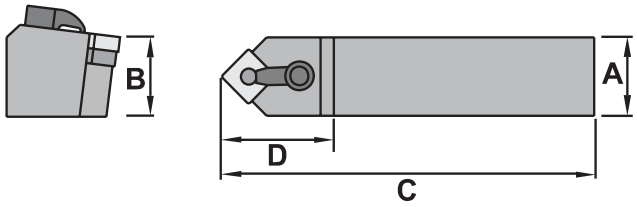
Lead Angle: 45°

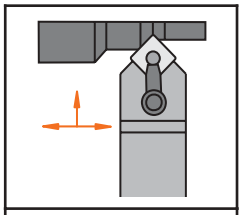
Entering Angle: 45°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MRGNR/L 12-3B	.750	.750	4.5	.81	1.000	RNMG-32	--	NL-33	CL-6	XNS-36
MRGNR/L 12-4B	.750	.750	4.5	1.06	1.000	RNMG-43	IRSN-43	NL-46	CL-20	XNS-48
MRGNR/L 16-4D	1.000	1.000	6.0	1.06	1.250					
MRGNR/L 20-4D	1.250	1.250	6.0	1.06	1.500					
MRGNR/L 85-4D	1.000	1.250	6.0	1.06	1.250					
MRGNR/L 86-4D	1.000	1.500	6.0	1.06	1.250					

R/L= please choose right or left hand designation

MSDNN



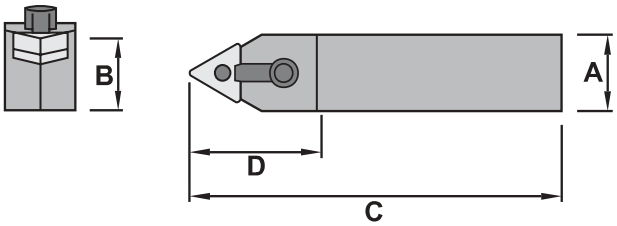


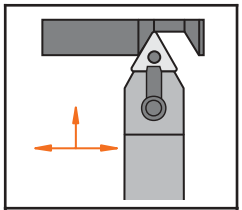
Lead Angle: 45°

Entering Angle: 45°

Designation	A	B	C	D	Insert	shim	pin	clamp	clamp screw
MSDNN 12-4B	.750	.750	4.5	1.30	SNM_-43_	ISSN-432	NL-46	CL-20	XNS-48
MSDNN 16-4D	1.000	1.000	6.0	1.30					
MSDNN 85-4D	1.000	1.250	6.0	1.30					

MTENN



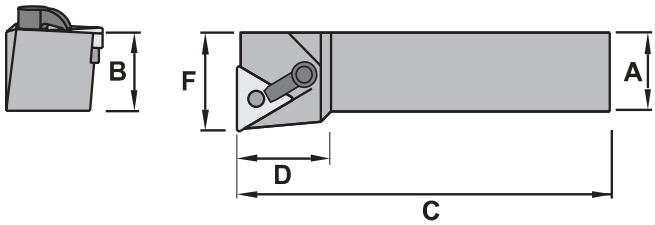


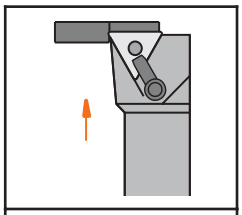
Lead Angle: 30°

Entering Angle: 60°

Designation	A	B	C	D	Insert	shim	pin	clamp	clamp screw
MTENN 12-3B	.750	.750	4.5	1.15	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTENN 16-3D	1.000	1.000	6.0	1.15					
MTENN 16-4D	1.000	1.000	6.0	1.50	TNM_-43_	ITSN-433	NL-63	CL-20	XNS-48

MTFNR/L





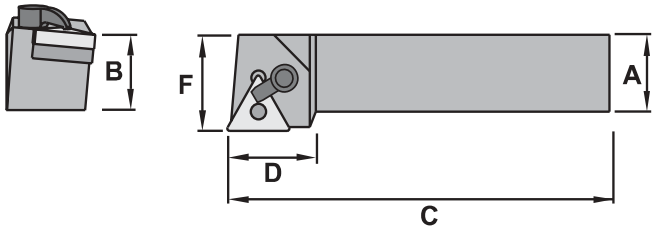
Lead Angle: 0°

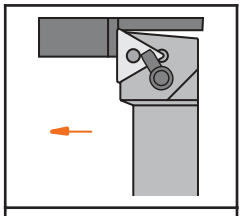
Entering Angle: 90°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MTFNR/L 12-3B	.750	.750	4.5	1.00	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTFNR/L 16-3D	1.000	1.000	6.0	1.00	1.250					
MTFNR/L 16-4D	1.000	1.000	6.0	1.00	1.250	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTFNR/L 20-4D	1.250	1.250	6.0	1.00	1.500					
MTFNR/L 85-4D	1.000	1.250	6.0	1.00	1.250					
MTFNR/L 86-4D	1.000	1.500	6.0	1.00	1.250					

R/L= please choose right or left hand designation

MTGNR/L





Lead Angle: 0°

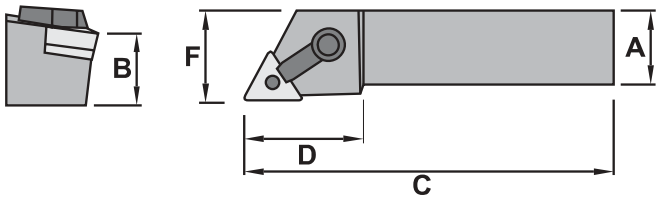
Entering Angle: 90°

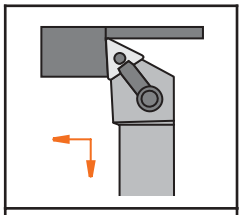
Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MTGNR/L 12-3B	.750	.750	4.5	1.06	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTGNR/L 16-3D	1.000	1.000	6.0	1.06	1.250					
MTGNR/L 16-4D	1.000	1.000	6.0	1.22	1.250	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTGNR/L 20-4D	1.250	1.250	6.0	1.22	1.500					
MTGNR/L 85-4D	1.000	1.250	6.0	1.22	1.250					
MTGNR/L 86-4D	1.000	1.500	6.0	1.22	1.250					

R/L= please choose right or left hand designation

External Pinlock

MTJNR/L





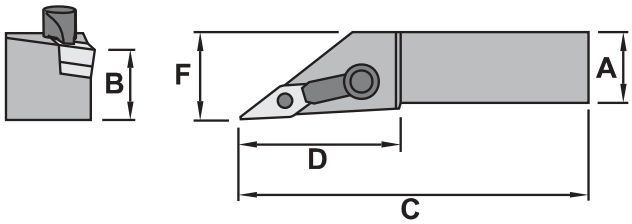
Lead Angle: -3°

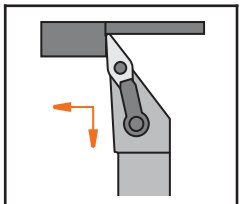
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MTJNR/L 12-3B	.750	.750	4.5	1.03	1.000	TNM_-33_	ITSN-322	NL-34L	CL-20	XNS-48
MTJNR/L 16-3D	1.000	1.000	6.0	1.03	1.250					
MTJNR/L 16-4D	1.000	1.000	6.0	1.25	1.250	TNM_-43_	ITSN-433	NL-46	CL-20	XNS-48
MTJNR/L 20-4D	1.250	1.250	6.0	1.25	1.500					

R/L= please choose right or left hand designation

MVJNR/L





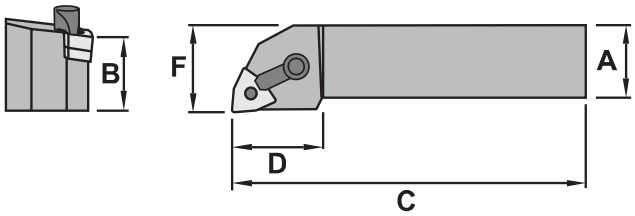
Lead Angle: -3°

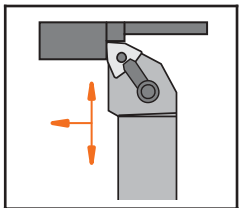
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MVJNR/L 12-3B	.750	.750	4.5	1.62	1.000	VNM_-33_	IVSN-322	NL-34L	CL-22	XNS-48
MVJNR/L 16-3D	1.000	1.000	6.0	1.62	1.250					
MVJNR/L 20-3D	1.250	1.250	6.0	1.62	1.500					

R/L= please choose right or left hand designation

MWLNR/L





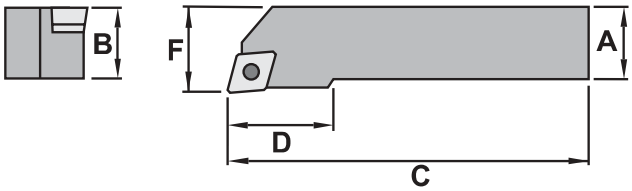
Lead Angle: -5°

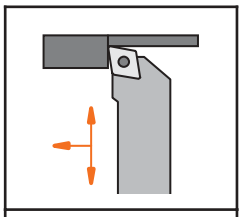
Entering Angle: 95°

Designation	A	B	C	D	F	Insert	shim	pin	clamp	clamp screw
MWLNR/L 12-4B	.750	.750	4.5	1.07	1.000	WNM_-43_	IWSN-432	NL-46	CL-20	XNS-48
MWLNR/L 16-4D	1.000	1.000	6.0	1.07	1.250					
MWLNR/L 20-4D	1.250	1.250	6.0	1.07	1.500					
MWLNR/L 24-4E	1.500	1.500	7.0	1.07	2.000					

R/L= please choose right or left hand designation

SCLCR/L





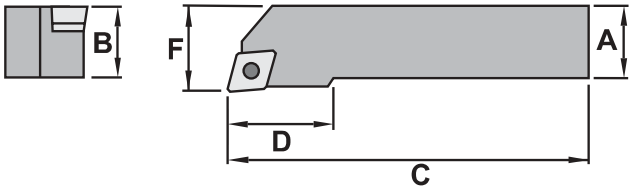
Lead Angle: -5°

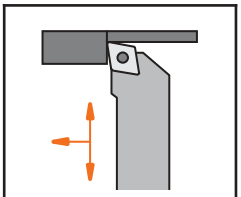
Entering Angle: 95°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SCLCR/L 6-2I	.375	.375	2.5	.39	.500	CC__-21.5_	C-1425	C-5507	--	--
SCLCR/L 8-3J	.500	.500	3.5	.39	.625	CC__-32.5_	C-1440	C-5515	--	--
SCLCR/L 10-3A	.625	.625	4.0	.63	.750		C-1240	C-5515	--	--
SCLCR/L 12-3B	.750	.750	4.5	.63	1.000					
SCLCR/L 16-3D	1.000	1.000	6.0	.63	1.250					
SCLCR/L 12-4B	.750	.750	4.5	1.00	1.000	CC__-43_	C-1540	C-5517	C-3614	C-1760
SCLCR/L 16-4D	1.000	1.000	6.0	1.00	1.250					
SCLCR/L 20-4D	1.250	1.250	6.0	1.00	1.500					

R/L= please choose right or left hand designation

SCLPR/L





Lead Angle: -5°

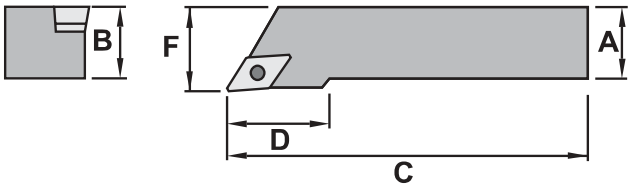
Entering Angle: 95°

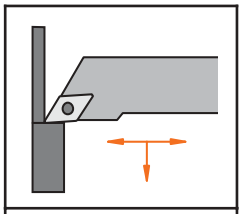
Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SCLPR/L 6-2I	.375	.375	2.5	.500	.500	CP__-21.5_	C-1425	C-5507	--	--
SCLPR/L 8-2J	.500	.500	3.5	.500	.625					
SCLPR/L 10-2A	.625	.625	4.0	.500	.750					
SCLPR/L 12-2B	.750	.750	4.5	.500	.875					
SCLPR/L 10-3A	.625	.625	4.0	.625	.750	CP__-32.5_	C-1240	C-5515	--	--
SCLPR/L 12-3B	.750	.750	4.5	.625	1.000					

R/L= please choose right or left hand designation

External Screwlock

SDJCR/L





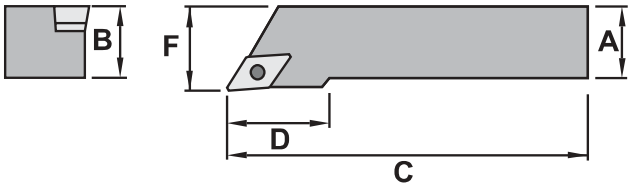
Lead Angle: -3°

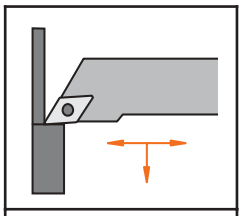
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SDJCR/L 6-2I	.375	.375	2.5	.59	.500	DC__-21.5_	C-1225	C-5507	--	--
SDJCR/L 8-2J	.500	.500	3.5	.67	.625					
SDJCR/L 10-2A	.625	.625	4.0	.67	.750					
SDJCR/L 12-2B	.750	.750	4.5	.70	1.000					
SDJCR/L 12-3B	.750	.750	4.5	.940	1.000	DC__-32.5_	C-1335	C-5516	C-3714	C-1750
SDJCR/L 16-3D	1.000	1.000	6.0	1.10	1.250					

R/L= please choose right or left hand designation

SDJPR/L





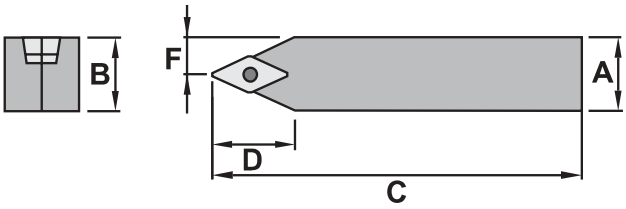
Lead Angle: -3°

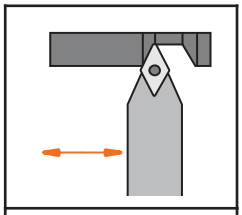
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SDJPR/L 6-2I	.375	.375	2.5	.625	.500	DP__-21.5_	C-1425	C-5507	--	--
SDJPR/L 8-2J	.500	.500	3.5	.625	.625					
SDJPR/L 10-2A	.625	.625	4.0	.625	.750					
SDJPR/L 12-3B	.750	.750	4.5	.875	.875	DP__-32.5_	C-1335	C-5516	C-3714	C-1750

R/L= please choose right or left hand designation

SDNCN



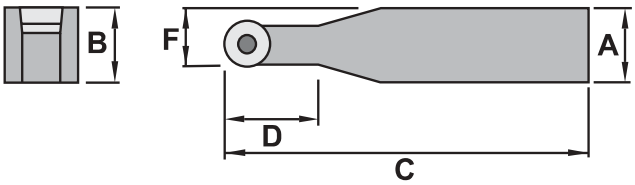


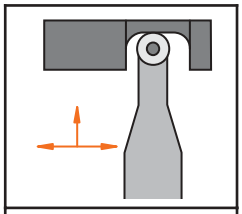
Lead Angle: 27.5°

Entering Angle: 62.5°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SDNCN 6-2I	.375	.375	2.5	.37	.197	DC__-21.5_	C-1225	C-5507	--	--
SDNCN 8-2J	.500	.500	3.5	.49	.260					
SDNCN 10-3A	.625	.625	4.0	.63	.323	DC__-32.5_	C-1335	C-5516	C-3714	C-1750
SDNCN 12-3B	.750	.750	4.5	.74	.382					
SDNCN 16-3D	1.000	1.000	6.0	.98	.520					

SRDCN





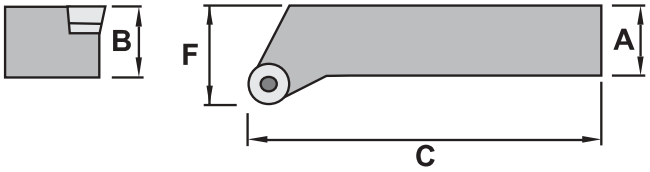
Lead Angle: 45°

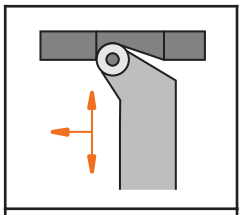
Entering Angle: 45°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SRDCN 8-08J	.500	.500	3.5	.50	.407	RCMT-0803MO	C-1230	C-5508	--	--
SRDCN 10-10A	.625	.625	4.0	.63	.510	RCMT-10T3MO	C-1335	C-5516	C-3811	C-1750
SRDCN 12-10B	.750	.750	4.5	1.00	.570					
SRDCN 16-12D	1.000	1.000	6.0	1.00	.756	RCMT-1204MO	C-1335	C-5516	C-3814	C-1750
SRDCN 20-12D	1.250	1.250	6.0	1.00	.861					

External Screwlock

SRGCR/L





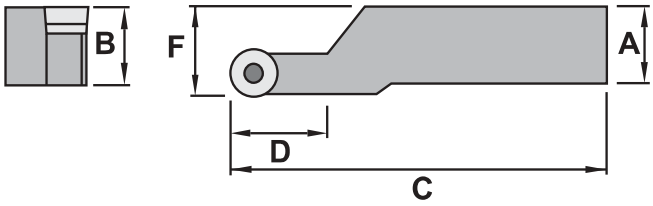
Lead Angle: 45°

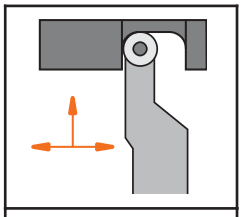
Entering Angle: 45°

Designation	A	B	C	F	Insert	insert screw	wrench	shim	shim screw
SRGCR/L 12-10B	.750	.750	4.5	1.000	RCMT-10T3MO	C-1335	C-5516	C-3811	C-1750
SRGCR/L 16-10D	1.000	1.000	6.0	1.250					
SRGCR/L 16-12D	1.000	1.000	6.0	1.250	RCMT-1204MO	C-1335	C-5516	C-3814	C-1750
SRGCR/L 85-12D	1.000	1.250	6.0	1.250					
SRGCR/L 20-12D	1.250	1.250	6.0	1.500					

R/L= please choose right or left hand designation

SRSCR/L





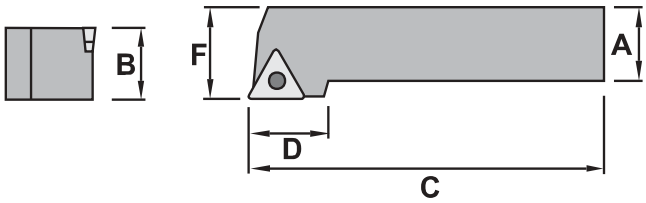
Lead Angle: 45°

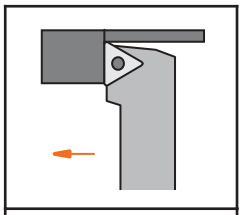
Entering Angle: 45°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SRSCR/L 16-10D	1.000	1.000	6.0	.750	1.250	RCMT-10T3MO	C-1335	C-5516	C-3811	C-1750
SRSCR/L 20-10D	1.250	1.250	6.0	.750	1.500					
SRSCR/L 12-12B	.750	.750	4.5	.750	1.000	RCMT-1204MO	C-1335	C-5516	C-3814	C-1750
SRSCR/L 16-12D	1.000	1.000	6.0	1.00	1.250					
SRSCR/L 20-12D	1.250	1.250	6.0	1.00	1.500					

R/L= please choose right or left hand designation

STGCR/L





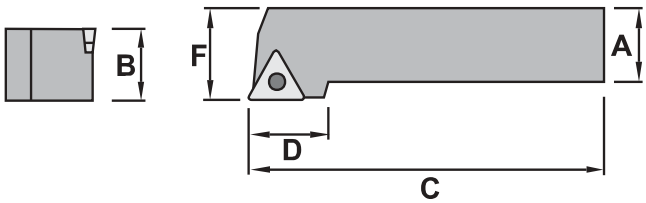
Lead Angle: 0°

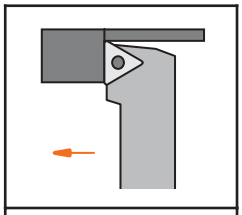
Entering Angle: 90°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
STGCR/L 6-2I	.375	.375	2.5	.50	.500	TC__-21.5_	C-1225	C-5507	--	--
STGCR/L 8-2J	.500	.500	3.5	.56	.625					
STGCR/L 10-3A	.625	.625	4.0	1.00	.750	TC__-32.5_	C-1335	C-5516	C-3414	C-1750
STGCR/L 12-3B	.750	.750	4.5	1.00	1.000					
STGCR/L 16-3D	1.000	1.000	6.0	1.00	1.250					

R/L= please choose right or left hand designation

STGPR/L





Lead Angle: 0°

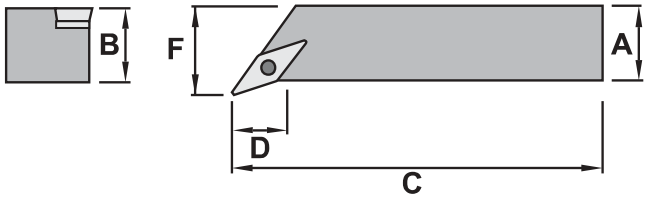
Entering Angle: 90°

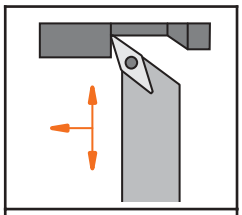
Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
STGPR/L 6-2I	.375	.375	2.5	.625	.500	TP__-21.5_	C-1425	C-5507	--	--
STGPR/L 8-2J	.500	.500	3.5	.625	.625					
STGPR/L 10-2A	.625	.625	4.0	.625	.750					
STGPR/L 12-2B	.750	.750	4.5	.625	1.000					
STGPR/L 10-3A	.625	.625	4.0	.750	.750	TP__-32.5_	C-1440	C-5515	--	--
STGPR/L 12-3B	.750	.750	4.5	.750	1.000					

R/L= please choose right or left hand designation

External Screwlock

SVHBR/L





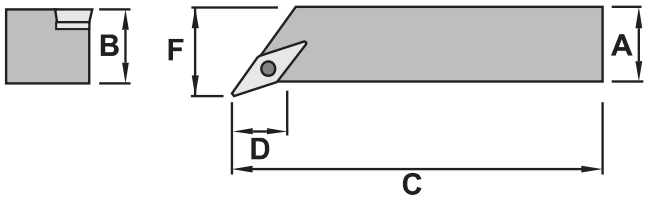
Lead Angle: -17°

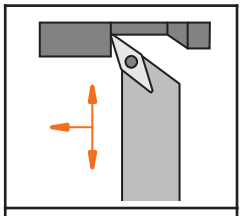
Entering Angle: 107.5°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVHBR/L 12-3B	.750	.750	4.5	1.000	1.000	VB__-33_	C-1440	C-5516	C-3718	C-1750
SVHBR/L 16-3D	1.000	1.000	6.0	1.000	1.250					

R/L= please choose right or left hand designation

SVHCR/L





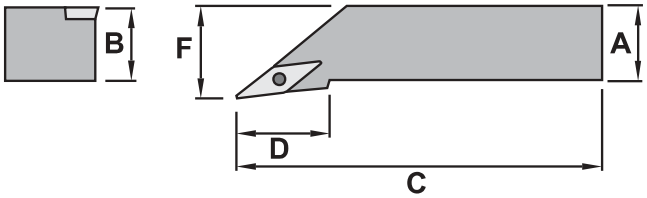
Lead Angle: -17°

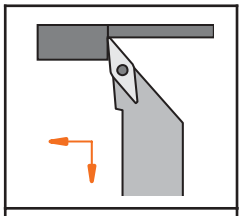
Entering Angle: 107.5°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVHCR/L 12-3B	.750	.750	4.5	.740	1.000	VC__-33_	C-1335	C-5516	C-3718	C-1750
SVHCR/L 16-3D	1.000	1.000	6.0	.740	1.250					

R/L= please choose right or left hand designation

SVJBR/L





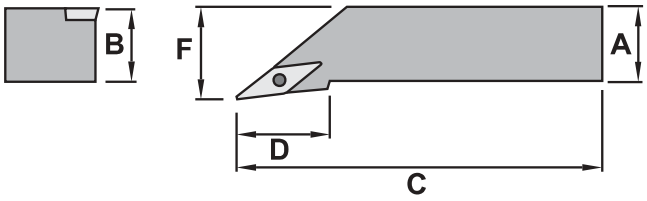
Lead Angle: -3°

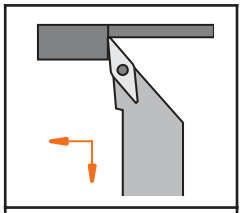
Entering Angle: -93°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVJBR/L 12-3B	.750	.750	4.5	1.61	1.00	VB__-33_	C-1335	C-5516	C-3718	C-1750
SVJBR/L 16-3D	1.000	1.000	6.0	1.61	1.25					

R/L= please choose right or left hand designation

SVJCR/L





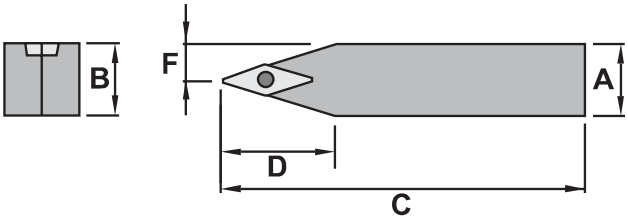
Lead Angle: -3°

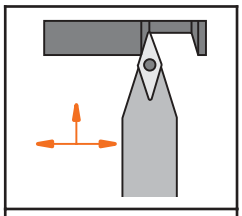
Entering Angle: 93°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVJCR/L 6-2	.375	.375	3.0	.875	.500	VC__-22_	C-1225	C-5507	--	--
SVJCR/L 8-2J	.500	.500	3.5	.875	.625					
SVJCR/L 10-2A	.625	.625	4.0	.875	.750					
SVJCR/L 12-2B	.750	.750	4.5	.875	.875					
SVJCR/L 12-3B	.750	.750	4.5	1.61	1.000	VC__-33_	C-1335	C-5516	C-3718	C-1750
SVJCR/L 16-3D	1.000	1.000	6.0	1.61	1.250					
SVJCR/L 20-3D	1.250	1.250	6.0	1.61	1.500					

R/L= please choose right or left hand designation

SVVBN



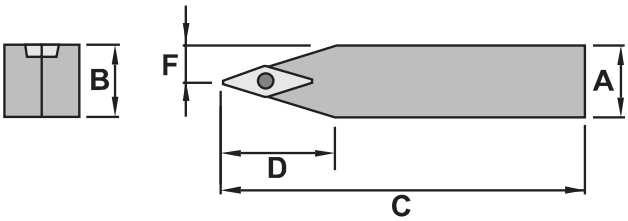


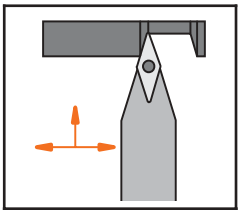
Lead Angle: 17.5°

Entering Angle: 72.5°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVVBN 12-3B	.750	.750	4.5	1.21	.398	VB__-33_	C-1335	C-5516	C-3718	C-1750
SVVBN 20-3D	1.250	1.250	6.0	1.61	.648					

SVVCN





Lead Angle: 17.5°

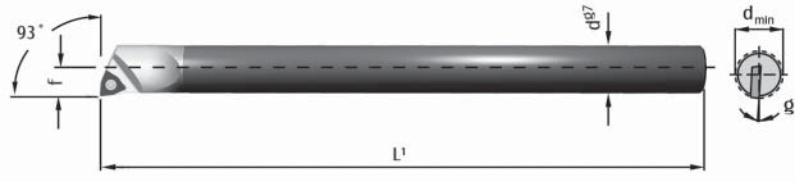
Entering Angle: 72.5°

Designation	A	B	C	D	F	Insert	insert screw	wrench	shim	shim screw
SVVCN 12-3B	.750	.750	4.5	1.63	.398	VC__-33_	C-1335	C-5516	C-3718	C-1750
SVVCN 16-3D	1.000	1.000	6.0	1.63	.523					
SVVCN 20-3D	1.250	1.250	6.0	1.63	.648					

Internal Screwlock

Boring Bar, Solid Carbide, Design C...SWUC, right or left hand

Boring bar with cylindrical solid carbide shank



Inch

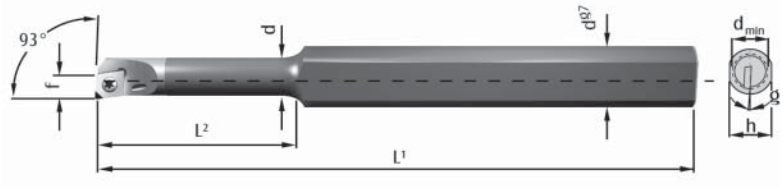
Right hand bar shown

Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
C03A-SWUCR-12	C03A-SWUCL-12	.228	.188	4.78	.114	4.000	17°	WCGW-1.21..
C04A-SWUCR-12	C04A-SWUCL-12	.312	.250	6.35	.156	4.000	17°	WCGW-1.21..
*E04A-SWUCR-12	*E04A-SWUCL-12	.312	.250	6.35	.156	4.000	17°	WCGW-1.21..

*This item is supplied with coolant

Boring Bar, Solid Carbide, Design E...SEUP, right or left hand

Boring bar with cylindrical solid carbide shank, two clamping surfaces and internal coolant feed



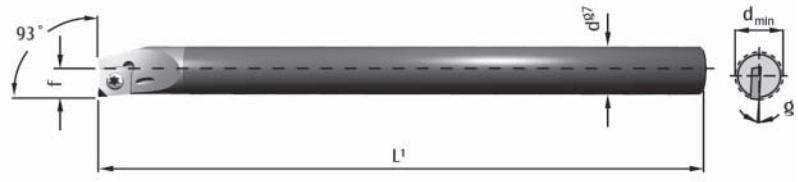
Metric

Right hand bar shown

Designation	d min	d	f	L1	L2	d g7	d g7 mm	h	g	Insert
E0610H-SEUPR/L-04	.268	.236	.134	3.94	1.42	.394	10	.31	9°	EPH.. 1.51..
E0710K-SEUPR/L-04	.331	.276	.173	4.92	1.65	.394	10	.31	5°	EPH.. 1.51..
E0810K-SEUPR/L-04	.374	.315	.193	4.92	1.89	.394	10	.31	5°	EPH.. 1.51..

Boring Bar, Solid Carbide, Design E...SEUP, right or left hand

Boring bar with cylindrical solid carbide shank and internal coolant feed



Inch

Right hand bar shown

Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
E04H-SEUPR-15	E04H-SEUPL-15	.290	.250	6.35	.142	4	5°	EPH.. 1.51..
E05K-SEUPR-15	E05K-SEUPL-15	.350	.312	7.94	.173	5	5°	EPH.. 1.51..
E06M-SEUPR-2	E06M-SEUPL-2	.400	.375	9.53	.205	6	5°	EPH.. 21.2..

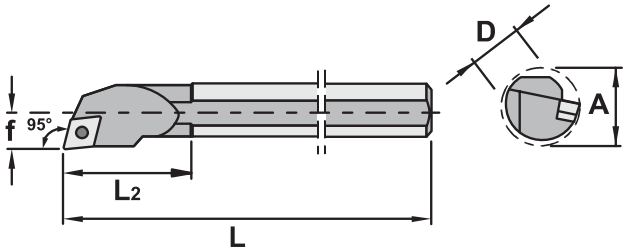
Metric

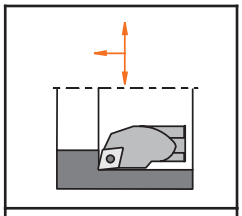
Designation Right hand	Designation Left hand	d min	d g7	d g7 mm	f	L1	g	Insert
E06F-SEUPR-04	E06F-SEUPL-04	.268	.236	6	.134	3.15	9°	EPH.. 1.51..
E07H-SEUPR-04	E07H-SEUPL-04	.331	.276	7	.173	3.94	5°	EPH.. 1.51..
E08H-SEUPR-04	E08H-SEUPL-04	.374	.315	8	.193	3.94	5°	EPH.. 1.51..
E10K-SEUPR-06	E10K-SEUPL-06	.453	.394	10	.228	4.92	5°	EPH.. 21.2..
E12M-SEUPR-06	E12M-SEUPL-06	.531	.472	12	.272	5.91	3°	EPH.. 21.2..
E16R-SEUPR-06	E16R-SEUPL-06	.728	.630	16	.386	7.87	0°	EPH.. 21.2..

Note: for right hand boring bars use left hand wiper inserts, for left hand boring bars use right hand wiper inserts

Boring Bar, Solid Carbide Shank, Design C_-SCLCR/L

C_-SCLCR/L





Lead Angle: -5°

Entering Angle: 95°

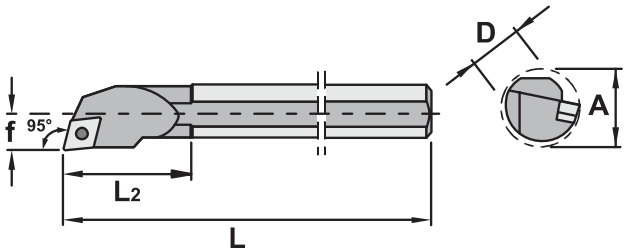
Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C06M-SCLCR/L 2	.500	.375	6.00	.550	.250	CC__-21.5_	C-1425	C-5507
C08M-SCLCR/L 2	.625	.500	6.00	.650	.312			
C10R-SCLCR/L 3	.750	.625	8.00	.740	.406	CC__-32.5_	C-1440	C-5515
C12S-SCLCR/L 3	1.000	.750	10.00	.740	.500			
C16T-SCLCR/L 3	1.280	1.000	12.00	.740	.640			
C16T-SCLCR/L 4	1.280	1.000	12.00	.850	.640	CC__-43_	C-1550	C-5525

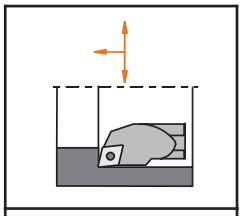
R/L= please choose right or left hand designation

These bars are also available with coolant through

Boring Bar, Solid Carbide Shank, Design C_-SCLPR/L

C_-SCLPR/L





Lead Angle: -5°

Entering Angle: 95°

Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C06M-SCLPR/L 2	.500	.375	6.00	.550	.250	CP__-21.5_	C-1425	C-5507
C08R-SCLPR/L 2	.625	.500	8.00	.650	.312			
C10S-SCLPR/L 2	.750	.625	10.00	.740	.406			
C12S-SCLPR/L 3	1.000	.750	10.00	.740	.500	CP__-32.5_	C-1440	C-5515
C16T-SCLPR/L 3	1.280	1.000	12.00	.740	.640			

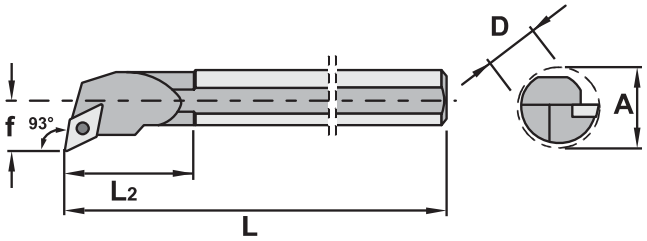
R/L= please choose right or left hand designation

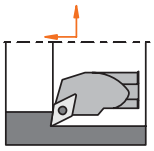
These bars are also available with coolant through

Internal Screwlock

Boring Bar, Solid Carbide Shank, Design C_-SDUCR/L

C_-SDUCR/L





Lead Angle: -3°

Entering Angle: 93°

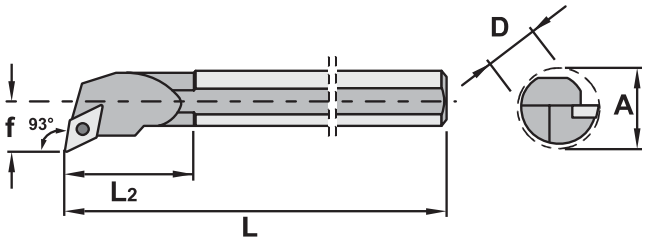
Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C06M-SDUCR/L 2	.624	.375	6.00	.650	.375	DC__-21.5_	C-1425	C-5507
C08M-SDUCR/L 2	.750	.500	6.00	.650	.437			
C10R-SDUCR/L 2	.937	.625	8.00	.650	.500			
C12S-SDUCR/L 3	1.000	.750	10.00	.900	.562	DC__-32.5_	C-1440	C-5515
C16T-SDUCR/L 3	1.250	1.000	12.00	.900	.750			

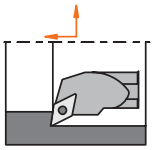
R/L= please choose right or left hand designation

These bars are also available with coolant through

Boring Bar, Solid Carbide Shank, Design C_-SDUPR/L

C_-SDUPR/L





Lead Angle: -3°

Entering Angle: 93°

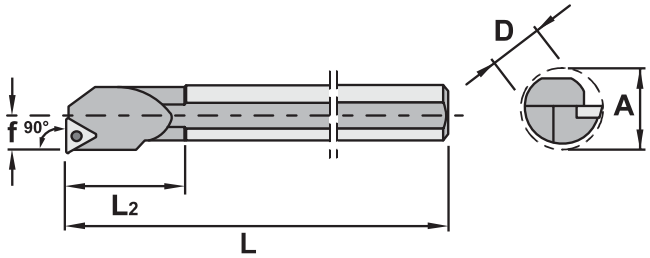
Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C06M-SDUPR/L 2	.600	.375	6.00	.650	.375	DP__-21.5_	C-1425	C-5507
C08R-SDUPR/L 2	.730	.500	8.00	.650	.437			
C10S-SDUPR/L 2	.850	.625	10.00	.650	.500			
C12S-SDUPR/L 3	.980	.750	10.00	.740	.562	DP__-32.5_	C-1440	C-5515
C16T-SDUPR/L 3	1.300	1.000	12.00	.740	.750			

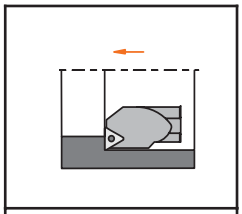
R/L= please choose right or left hand designation

These bars are also available with coolant through

Boring Bar, Solid Carbide Shank, Design C_-STFCR/L

C_-STFCR/L





Lead Angle: 0°

Entering Angle: 90°

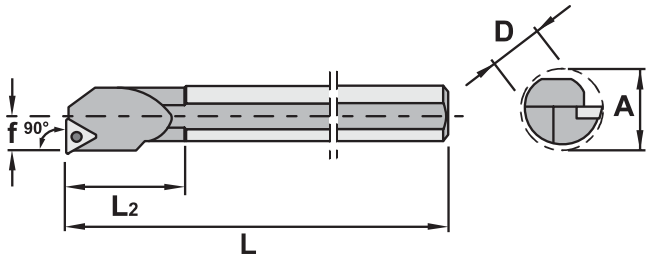
Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C06M-STFCR/L 2	.500	.375	6.00	.550	.250	TC__-21.5_	C-1425	C-5507
C08M-STFCR/L 2	.625	.500	6.00	.650	.312			
C10R-STFCR/L 2	.750	.625	8.00	.740	.406			
C12S-STFCR/L 3	1.000	.750	10.00	.740	.500	TC__-32.5_	C-1440	C-5515
C16T-STFCR/L 3	1.280	1.000	12.00	.740	.640			
C20U-STFCR/L 3	1.530	1.250	14.00	.850	.765			

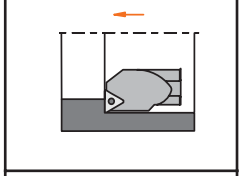
R/L= please choose right or left hand designation

These bars are also available with coolant through

Boring Bar, Solid Carbide Shank, Design C_-STFPR/L

C_-STFPR/L





Lead Angle: 0°

Entering Angle: 90°

Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C05K-STFPR/L 18	.415	.312	5.00	.550	.219	TP__-1.8___	C-1425	C-5507
C06M-STFPR/L 2	.480	.375	6.00	.550	.250	TP__-21.5_	C-1425	C-5507
C08R-STFPR/L 2	.600	.500	8.00	.650	.312			
C10S-STFPR/L 3	.770	.625	10.00	.740	.406	TP__-32.5_	C-1440	C-5515
C12S-STFPR/L 3	.930	.750	10.00	.740	.500			
C16T-STFPR/L 3	1.200	1.000	12.00	.740	.640			

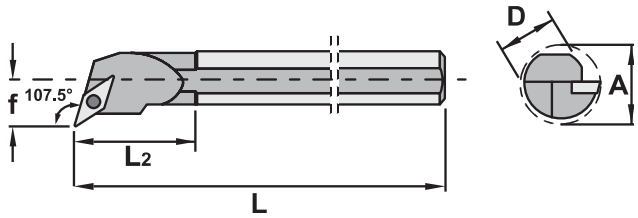
R/L= please choose right or left hand designation

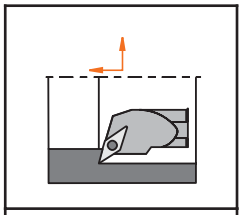
These bars are also available with coolant through

Internal Screwlock

Boring Bar, Solid Carbide Shank, Design C_-SVQCR/L

C_-SVQCR/L





Lead Angle: -17.5°

Entering Angle: 107.5°

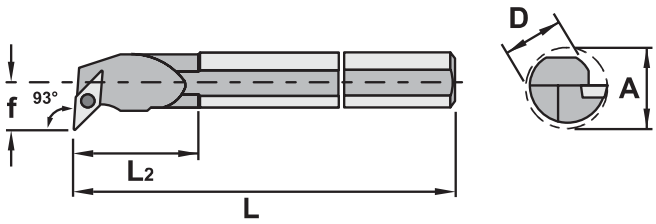
Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C10R-SVQCR/L 2	.750	.625	8.00	.740	.406	VC__-22_	C-1425	C-5507
C12S-SVQCR/L 2	.875	.750	10.00	.740	.500			
C16T-SVQCR/L 3	1.150	1.000	12.00	.840	.640	VC__-33_	C-1440	C-5515

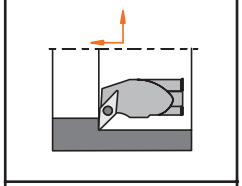
R/L= please choose right or left hand designation

These bars are also available with coolant through

Boring Bar, Solid Carbide Shank, Design C_-SVUCR/L

C_-SVUCR/L





Lead Angle: -3°

Entering Angle: 93°

Designation	Min. Bore A	D	L	L²	F	Insert	insert screw	wrench
C12S-SVUCR/L 2	.875	.750	10.00	.740	.500	VC__-22_	C-1425	C-5507
C16T-SVUCR/L 3	1.140	1.000	12.00	.740	.640	VC__-33_	C-1440	C-5515

R/L= please choose right or left hand designation

These bars are also available with coolant through

FormCut

External Grooving

10 grades CBN,
2 grades - PCD & MDC
2.5 - 5mm widths

Internal Grooving

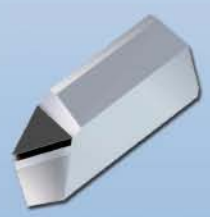
10 grades CBN,
2 grades - PCD & MDC
1.5 - 2.5mm widths

External Copying

10 grades CBN,
2 grades - PCD & MDC
8 different 60° partial profile

External Threading

10 grades CBN,
2 grades - PCD & MDC



MDC= Monocrystalline Diamond
(Natural Diamond)

External Profiling

10 grades CBN,
2 grades - PCD & MDC
different radii and wipers avail.

Internal holders available in
5/8", 3/4" & 1" sizes

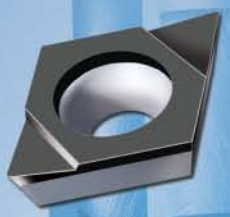
pages 45 - 60

External holders available in
3/4", 1", & 1.25" sizes

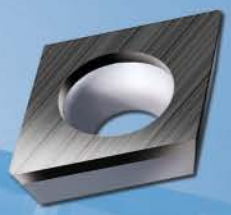
MiniCut

3/16" & 1/4" I.C. sizes
available in PCD & CBN!

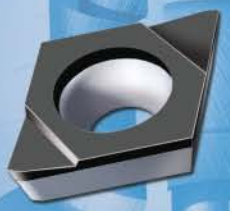
pages 31 - 44



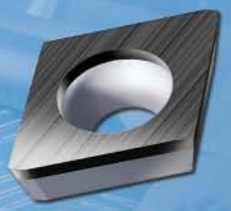
EPHT
(full face)



EPHW
(full face)

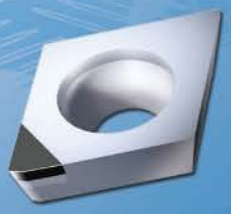


EPHT
(full face,
wiper)



EPHW
(full face,
wiper)

EPHT
(wiper)



EPHW
(wiper)

Tipped carbide boring bars!

- able to achieve depths of up to 7 x D!
- soild tungsten carbide design
- 75° positive insert style produces excellent cutter performance!
- featuring MAXICOOL™ through coolant technology!

Available corner radii:
.004", .008", .016", & .031"

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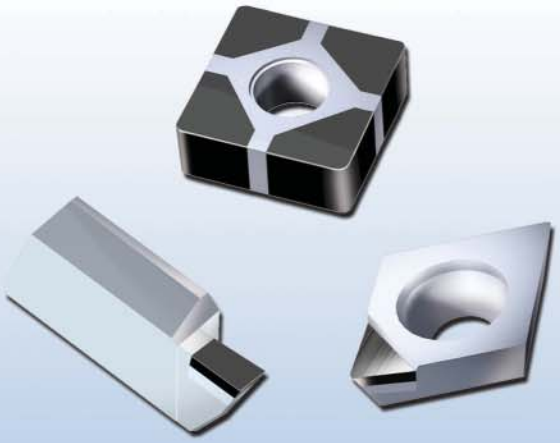

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Go Back