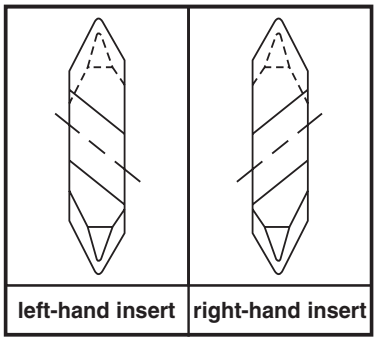
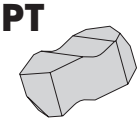
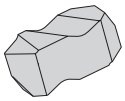
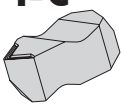
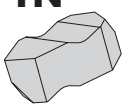
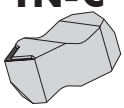
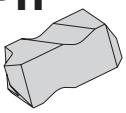
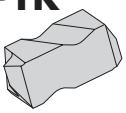
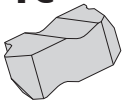
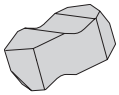
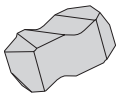
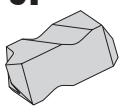
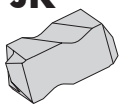
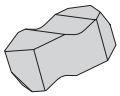
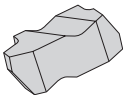
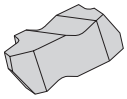
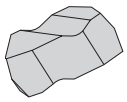
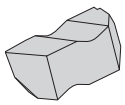
ProNotch Threading Insert Styles

- All ProNotch threading inserts are precision ground to provide accurate edge location and secure locking of the insert in the toolholder pocket.
- ProNotch threading and grooving inserts can be used in either toolholders or boring bars.
- All non-cresting type threading inserts can be used for either external or internal appplications. All cresting type inserts are designated specifically for external use.
- Right-hand ProNotch toolholders use right-hand inserts. Left-hand ProNotch toolholders use left-hand inserts.
- Right-hand ProNotch boring bars use left-hand inserts. Left-hand ProNotch boring bars use right-hand inserts.



insert style	thread form	rake angle	cresting	tpi range (pitch in mm) external	tpi range (pitch in mm) internal	application
60° Partial Profile						
PT 	60°V UN class 2 ISO 6g/6H	neutral	no	size 2=8 - 36 (.70 - 3.00) size 3=6 - 20 (1.25 - 4.00) size 4=4 - 20 (1.25 - 6.25)	size 2=7 - 20 (1.25 - 3.50) size 3=5 - 12 (2.00 - 5.00) size 4=4 - 12 (2.00 - 6.25)	**general purpose** •a popular threading insert style for general use •provides satisfactory performance in most applications
PTP 	60°V UN class 2 ISO 6g/6H	5° positive	no	size 2=8 - 36 (.70 - 3.00) size 3=6 - 20 (1.25 - 4.00) size 4=4 - 20 (1.25 - 6.25)	size 2=7 - 20 (1.25 - 3.50) size 3=5 - 12 (2.00 - 5.00) size 4=4 - 12 (2.00 - 6.25)	**general purpose** •ground positive rake reduces cutting forces •recommended for threading aluminum and difficult-to-machine materials
PT-C 	60°V UN class 2 ISO 6g/6H	10° positive chip control	no	size 2=8 - 36 (.70 - 3.00) size 3=6 - 20 (1.25 - 4.00) size 4=4 - 20 (1.25 - 6.25)	size 2=7 - 20 (1.25 - 3.50) size 3=5 - 12 (2.00 - 5.00) size 4=4 - 12 (2.00 - 6.25)	**general purpose with chip control** •threading insert with chip control and positive cutting action •especially helpful for internal threading operations
PTN 	60°V UN class 2 ISO 6g/6H	neutral	no	size 3=6 - 11 (2.50 - 4.00) size 4=4.5 - 11 (2.50 - 5.50)	size 3=6 only (4.00 only) size 4=4.5 - 6 (4.00 - 5.50)	**coarse pitches** •larger nose radius than general purpose inserts •promotes longer tool life
PTN-C 	60°V UN class 2 ISO 6g/6H	10° positive chip control	no	size 3=6 - 11 (2.50 - 4.00) size 4=4.5 - 11 (2.50 - 5.50)	size 3=6 only (4.00 only) size 4=4.5 - 6 (4.00 - 5.50)	**coarse pitches with chip control** •positive cutting action •larger nose radius than general purpose inserts •promotes longer tool life
PTF 	60°V UN class 2 ISO 6g/6H	neutral	no	size 2=14 - 44 (.60 - 1.75) size 3=10 - 44 (.60 - 2.50) size 4=10 - 44 (.60 - 2.50)	size 2=12 - 24 (1.00 - 2.00) size 3=9 - 24 (1.00 - 2.50) size 4=9 - 24 (1.00 - 2.50)	**fine pitches, close to shoulder operations** •smaller nose radius than general purpose inserts •use this style insert only when reqired for the operation
PTK 	60°V UN class 2 ISO 6g/6H	5° positive	no	size 2=14 - 44 (.60 - 1.75) size 3=10 - 44 (.60 - 2.50) size 4=10 - 44 (.60 - 2.50)	size 2=12 - 24 (1.00 - 2.00) size 3=9 - 24 (1.00 - 2.50) size 4=9 - 24 (1.00 - 2.50)	**fine pitches, close to shoulder operations** •ground positive rake •smaller nose radius than gereral purpose inserts •use this insert only when required for the operation
60° American UN						
PTC 	60°V UN class 2	neutral	yes	each insert produces a specific tpi	each insert produces a specific tpi	**cresting style for UN inch threads** •offers the best possible tool life for the application •produces the best surface finish, and accurate thread depth

ProNotch Threading Insert Styles

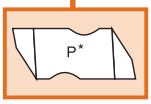
insert style	thread form	rake angle	cresting	tpi range (pitch in mm)		application
				external	internal	
60° UNJ						
PJ 	60°V UNJ class 3	neutral	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	**UNJ external threads** •close tolerance on nose radius to control thread root radius •meets or exceeds SPEC MIL-S-8879C
PJP 	60°V UNJ class 3	5° positive	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	**UNJ external threads** •ground positve rake •close tolerance on nose radius to control thread root radius •meets or exceeds SPEC MIL-S-8879C
PJF 	60°V UNJ class 3	neutral	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	**UNJ external threads, fine pitches, close to shoulder** •close to shoulder applications •close tolerance on nose radius to control thread root radius •meets or exceeds SPEC MIL-S-8879C
PJK 	60°V UNJ class 3	5° positive	no	each insert produces a specific tpi	use a class 2 insert, then finish bore the minor diameter	**UNJ external threads, fine pitches, close to shoulder** •ground positive rake •close to shoulder applications •close tolerance on nose radius to control thread root radius •meets or exceeds SPEC MIL-S-8879C
API						
PD 	API 60°V	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	**API rotary shouldered connections- tapered** •for thread forms: V-.038R, V-.040 and V.050
Acme Threads						
PA 	29° Acme	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	**Acme threads** •strong ProNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
PAS 	29° Acme	neutral	no	each insert produces a specific tpi	each insert produces a specific tpi	**Stub Acme threads** •strong ProNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
American Buttress						
PTB-A 	52° American Buttress with radius	neutral	no	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	**7° pressure flank leading** •strong ProNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
PTB-B 	52° American Buttress with radius	neutral	no	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	size 2 = 16 - 20 size 3 = 8 - 16 size 4 = 4 - 6	**45° pressure flank leading** •strong ProNotch design does not allow the insert to move in the pocket during this type of threading operation, which places high cutting forces on the insert
Specials						
	—	—	—	—	—	**made to your order** •let our expert design team and manufacturing personnel make the insert required for your application, including special API thread forms.

ProNotch Insert Designations

ProNotch Threading Insert Designations

P T C – 3 R 1 8 E

ProNotch Type Insert



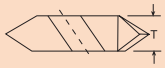
Insert Style

- A = Acme
- B = Blank (special forms)
- D = API or NPT
- J = UNJ Thread
- T = 60° V thread

Additional Information

- B = Buttress
- C = Cresting
- F = Fine Pitch
- K = Fine pitch, positive
- N= Coarse
- P = Positive rake
- S = Stub Acme

Insert Size



Insert No.	T
2	.150
3	.195
4	.255

Hand

- R = Right
- L = Left

Definition of Insert

- Threads per inch

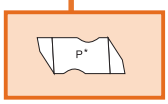
Additional Information

- I = Internal thread
- E = External thread (used only if internal and external thread forms are different)
- C = Standard chip control

ProNotch Grooving Insert Designations

P G P – 3 1 2 5 R C

ProNotch Insert Type



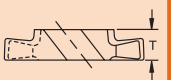
Insert Style

- B = Blank (special forms)
- F = Face grooving
- G = Grooving
- P = Back Turning
- R = Full Radius
- V = Poly Vee

Additional Information

- D = Deep grooving
- P = Positive

Insert Size



Insert No.	T
2	.150
3	.195
4	.255

Width of Insert Groove

- Position pertains to groove width and radii in .001 increments for F, G and R-style grooving inserts.
- Example: 1/8" wide groove or radius equals "125" catalog position number

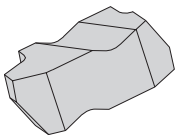
Hand

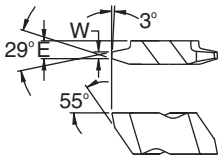
- R = Right
- L = Left

Chipbreaker Design

- C = Standard chip control

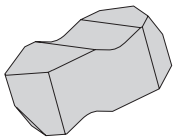
ProNotch Inserts - Threading

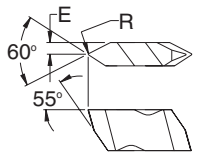




PA- ...

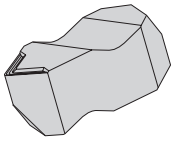
DESIGNATION	tpi	W +/- .001	E +/- .001	Coated									
				TC706		T541		T321		T323		T013	
				R	L	R	L	R	L	R	L	R	L
PA-3R/L10	10	.0319	.149	●	●								
PA-3R/L8	8	.0411	.149	●	●								
PA-3R/L6	6	.0566	.149	●	●								
PA-3R/L5	5	.0689	.149	●	●								
PA-3R/L4	4	.0875	.133	●	●								

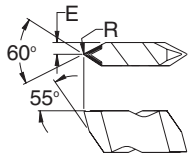




PT- ...

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/- .001	Coated									
	ext	int	ext	int			TC706		T541		T321		T323		T013	
							R	L	R	L	R	L	R	L	R	L
PT-2R/L	8-36	7-20	.70 - 3.0	1.25 3.5	.003 / .005	.075	●	●			●	●				
PT-3R/L	6 -20	5 - 12	1.25 - 4.0	2.0 - 5.0	.005 / .008	.098	●	●	●		●	●				
PT-4R/L	4 - 20	4 - 12	1.25 - 6.25	2.0 - 6.25	.005 / .008	.128	●	●			●	●				

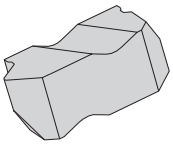


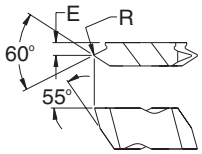


PT- ...C

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/- .001	Coated									
	ext	int	ext	int			TC706		T541		T321		T323		T013	
							R	L	R	L	R	L	R	L	R	L
PT-3R/LC	6 -20	5 - 12	1.25 - 4.0	2.0 - 5.0	.005 / .008	.098	●	●			●	●				

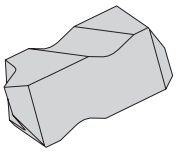
ProNotch Inserts - Threading

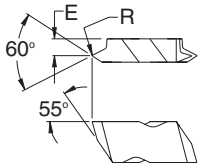




PTC- ...

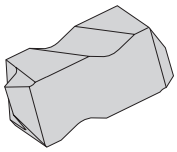
DESIGNATION	tpi		R +/- .001	E +/- .001	Coated									
					TC706		T541		T321		T323		T013	
	ext	int			R	L	R	L	R	L	R	L	R	L
PTC-3R/L12E	12	---	.0100	.148					●	●				
PTC-3R/L12I	---	12	.0040	.148					●	●				
PTC-3R/L16E	16	---	.0075	.148					●	●				
PTC-3R/L16I	---	16	.0030	.148					●	●				
PTC-3R/L18E	18	---	.0070	.148					●	●				

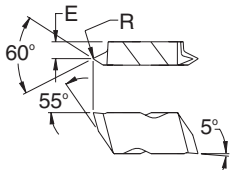




PTF- ...

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/- .001	Coated									
							TC706		T541		T321		T323		T013	
	ext	int	ext	int			R	L	R	L	R	L	R	L	R	L
PTF-2R/L	14 - 44	12 - 24	.6 - 1.75	1.0 - 2.0	.002 / .004	.110	●	●			●	●				
PTF-3R/L	10 - 44	9 - 24	.6 - 2.5	1.0 - 2.5	.002 / .004	.141	●	●			●	●				

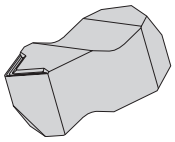


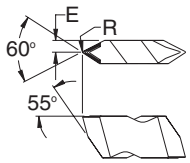


PTK- ...

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/- .001	Coated									
							TC706		T541		T321		T323		T013	
	ext	int	ext	int			R	L	R	L	R	L	R	L	R	L
PTK-2R/L	14 - 44	12 - 24	.6 - 1.75	1.0 - 2.0	.002 / .004	.110					●	●				
PTK-3R/L	10 - 44	9 - 24	.6 - 2.5	1.0 - 2.5	.002 / .004	.141			●		●	●				

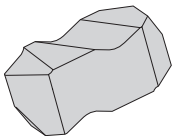
ProNotch Inserts - Threading

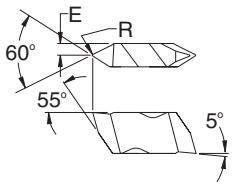




PTN- ...C

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/-.001	Coated									
							TC706		T541		T321		T323		T013	
	ext	int	ext	int			R	L	R	L	R	L	R	L	R	L
PTN-3R/LC	6 -11	6	2.5 - 4.0	4.0	.012 / .015	.098	●	●			●	●				

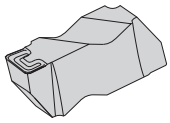


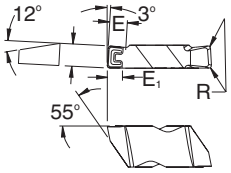


PTP- ...

DESIGNATION	tpi		pitch (mm)		R +/- .001	E +/- .001	Coated									
							TC706		T541		T321		T323		T013	
	ext	int	ext	int			R	L	R	L	R	L	R	L	R	L
PTP-2R/L	8 - 36	7- 20	.70 - 3.0	1.25 - 3.5	.003 / .005	.075			●		●	●				
PTP-3R/L	6 - 20	5 - 12	1.25 - 4.0	2.0 - 5.0	.005 / .008	.098			●	●	●	●				

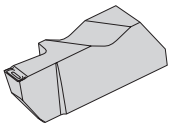
ProNotch Inserts - Grooving

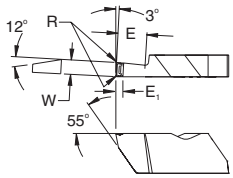




PF- ...C

DESIGNATION	W +/- .001	R	E +/- .005	E1	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PF-3125R/LC	.125	.005 / .010	.150	.040			●	●						
PF-3156R/LC	.156	.005 / .010	.150	.115				●						

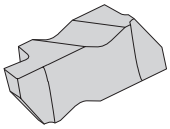


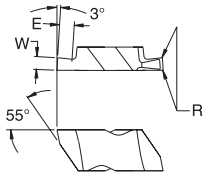


PFD- ...C

DESIGNATION	W +/- .001	R	E +/- .005	E1	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PFD-3125R/LC*	.125	.005 / .010	.250	.040			●	●						

* These inserts have one cutting edge.

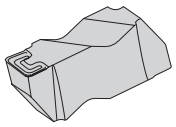


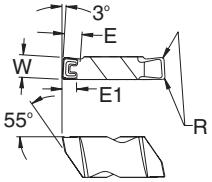


PG- ...

DESIGNATION	W +/- .001	R	E +/- .005	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PG-2031R/L	.031	.002 / .005	.050	●	●					●	●		
PG-2062R/L	.062	.005 / .010	.110	●	●					●	●		
PG-2094R/L	.094	.005 / .010	.110	●	●					●	●		
PG-2125R/L	.125	.005 / .010	.110	●	●					●	●		
PG-3047R/L	.047	.005 / .010	.075	●	●					●	●		
PG-3062R/L	.062	.005 / .010	.094	●	●					●	●		
PG-3072R/L	.072	.005 / .010	.094	●	●					●	●		
PG-3078R/L	.078	.005 / .010	.094	●	●					●	●		
PG-3094R/L	.094	.005 / .010	.150	●	●					●	●		
PG-3125R/L	.125	.005 / .010	.150	●	●					●	●		
PG-3156R/L	.156	.005 / .010	.150	●	●					●	●		
PG-3189R/L	.189	.020 / .025	.150	●	●					●	●		
PG-4125R/L	.125	.005 / .010	.150	●	●					●	●		
PG-4189R/L	.189	.020 / .025	.250	●	●					●	●		
PG-4250R/L	.250	.020 / .025	.250	●	●					●	●		

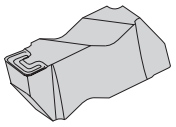
ProNotch Inserts - Grooving

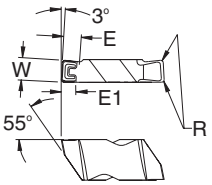




PG- ...C

DESIGNATION	W +/- .001	R	E +/- .005	E1	Coated						Uncoated		Cermet	
					TC706		T321		T013		TQ23		TTC4010	
					R	L	R	L	R	L	R	L	R	L
PG-2031R/LC	.031	.002 / .005	.050	.030	●	●	●	●						
PG-2062R/LC	.062	.005 / .010	.110	.043	●	●	●	●						
PG-2094R/LC	.094	.005 / .010	.110	.043	●	●	●	●						
PG-2125R/LC	.125	.005 / .010	.110	.043	●	●	●	●						
PG-3047R/LC	.047	.005 / .010	.075	.030	●	●	●	●						
PG-3062R/LC	.062	.005 / .010	.094	.040	●	●	●	●						
PG-3072R/LC	.072	.005 / .010	.094	.040	●	●	●	●						
PG-3078R/LC	.078	.005 / .010	.094	.040	●	●	●	●						
PG-3094R/LC	.094	.005 / .010	.150	.040	●	●	●	●						
PG-3125R/LC	.125	.005 / .010	.150	.040	●	●	●	●						
PG-3156R/LC	.156	.005 / .010	.150	.115	●	●	●	●						
PG-3189R/LC	.189	.020/ .025	.150	.115	●	●	●	●						
PG-4125R/LC	.125	.005 / .010	.150	.040	●	●	●	●						
PG-4189R/LC	.189	.020/ .025	.250	.115	●	●	●	●						
PG-4250R/LC	.250	.020 / .025	.250	.150	●	●	●	●						

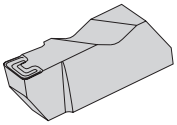


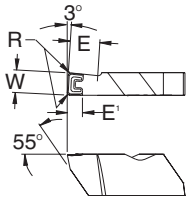


PG- ...C (metric)

DESIGNATION	W mm	R	E +/- .005	E1	Coated						Uncoated		Cermet	
					TC706		T321		T013		TQ23		TTC4010	
					R	L	R	L	R	L	R	L	R	L
PG-2M100R/LC	1.00	.002 / .005	.050	.030	●	●	●	●						
PG-211R/LC	1.19	.002 / .005	.050	.030	●	●	●	●						
PG-2M140R/LC	1.40	.002 / .005	.050	.030	●	●	●	●						
PG-2M170R/LC	1.70	.005 / .010	.110	.043	●	●	●	●						
PG-2M195R/LC	1.95	.005 / .010	.110	.043	●	●	●	●						
PG-2M200R/LC	2.00	.005 / .010	.110	.043	●	●	●	●						
PG-2M225R/LC	2.25	.005 / .010	.110	.043	●	●	●	●						
PG-2M275R/LC	2.75	.005 / .010	.110	.043	●	●	●	●						
PG-2M300R/LC	3.00	.005 / .010	.110	.043	●	●	●	●						
PG-3M225R/LC	2.25	.005 / .010	.094	.040	●	●	●	●						
PG-3M275R/LC	2.75	.005 / .010	.150	.040	●	●	●	●						
PG-3M300R/LC	3.00	.005 / .010	.150	.040	●	●	●	●						
PG-4M500R/LC	.500	.010/ .015	.250	.115	●	●	●	●						

ProNotch Inserts - Grooving

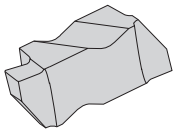


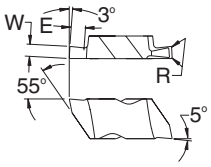


PGD- ...C

DESIGNATION	W +/- .001	R	E +/- .005	E¹	Coated						Uncoated		Cermet	
					TC706		T321		T013		TQ23		TTC4010	
					R	L	R	L	R	L	R	L	R	L
PGD-3062R/LC	.062	.005 / .010	.125	.040	●	●	●	●						
PGD-3094R/LC*	.094	.005 / .010	.250	.040	●	●	●	●						
PGD-3125R/LC*	.125	.005 / .010	.250	.040	●	●	●	●						
PGD-3189R/LC*	.189	.020 / .025	.250	.115	●	●	●	●						
PGD-4125R/LC	.125	.005 / .010	.250	.040	●	●	●	●						
PGD-4185R/LC*	.185	.020 / .025	.375	.115	●		●							
PGD-4189R/LC*	.189	.020 / .025	.375	.115	●	●	●	●						
PGD-4250R/LC*	.250	.020 / .025	.500	.150	●	●	●	●						

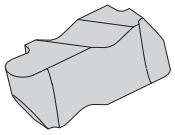
* Note: These inserts have one cutting edge.

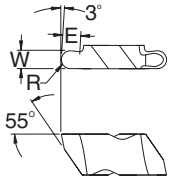




PGP- ...

DESIGNATION	W +/- .001	R	E +/- .005	Coated						Uncoated		Cermet	
				TC706		T321		T013		TQ23		TTC4010	
				R	L	R	L	R	L	R	L	R	L
PGP-2031R/L	.031	.002 / .005	.050	●	●	●				●			
PGP-3088R/L	.088	.005 / .010	.094	●	●	●	●			●	●		
PGP-3125R/L	.125	.005 / .010	.150	●	●	●	●			●	●		
PGP-4250R/L	.250	.020 / .025	.250	●	●								

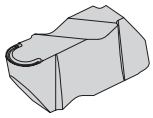


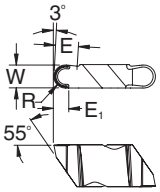


PR- ...

DESIGNATION	W +/- .001	R	E +/- .005	Coated						Uncoated		Cermet	
				TC706		T321		T013		TQ23		TTC4010	
				R	L	R	L	R	L	R	L	R	L
PR-3031R/L	.062	.031	.094	●	●	●	●						
PR-3047R/L	.094	.047	.150	●						●	●		
PR-3062R/L	.125	.062	.150	●	●					●	●		
PR-3078R/L	.156	.078	.150	●						●	●		
PR-3094R/L	.188	.094	.150	●									

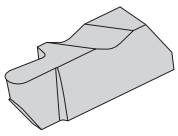
ProNotch Inserts - Grooving

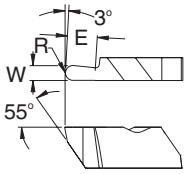




PR- ...C

DESIGNATION	W +/- .001	R	E +/- .005	E1	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PR-3047R/LC	.094	.047	.150	.100	●	●	●	●						
PR-3062R/LC	.125	.062	.150	.100	●	●	●	●						
PR-3078R/LC	.156	.078	.150	.100	●	●	●							

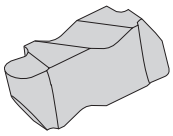


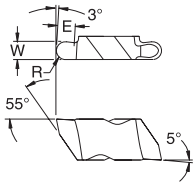


PRD- ...

DESIGNATION	W +/- .001	R	E +/- .005	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PRD-3031R/L	.062	.031	.125			●	●						
PRD-3062R/L*	.125	.062	.250			●	●						

* Note: These inserts have one cutting edge.





PRP- ...

DESIGNATION	W +/- .001	R	E +/- .005	Coated TC706 R	Coated TC706 L	Coated T321 R	Coated T321 L	Coated T013 R	Coated T013 L	Uncoated TQ23 R	Uncoated TQ23 L	Cermet TTC4010 R	Cermet TTC4010 L
PRP-3031R/L	.062	.031	.094	●	●	●	●			●			
PRP-3047R/L	.094	.047	.150	●	●	●	●						
PRP-3062R/L	.125	.062	.150	●	●	●	●						
PRP-3094R/L	.188	.094	.150	●	●	●	●						