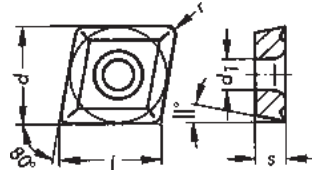
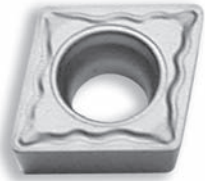


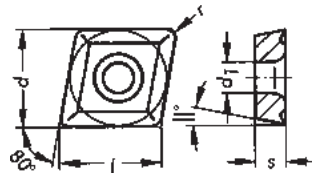
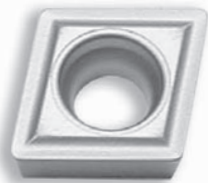
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁
CCGT-21.50.5-2	.254	3/32	.008	1/4	.110
CCGT-32.50.5-2	.380	5/32	.008	3/8	.173

CCGT- ... -2

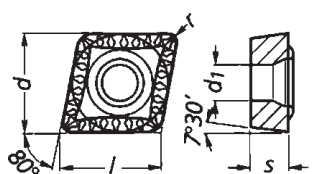
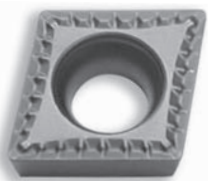
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
					●							●		
												●		



DESIGNATION	l	s	r	d	d ₁
CCGT-21.51-3	.254	3/32	1/64	1/4	.114
CCGT-21.52-3			1/32		
CCGT-2.521-3	.317	1/8	1/64	5/16	.134
CCGT-2.522-3			1/32		

CCGT- ... -3

COATED						UNCOATED					CERMET				
TN7015	TN7025	TN200	TN250	TN35	TPC25	TPC35	TN5515	HK150	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
				●							●				
				●											
				●											
				●											

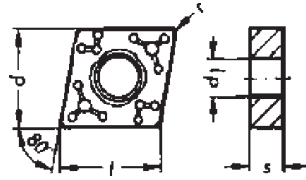
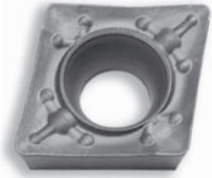


DESIGNATION	l	s	r	d	d ₁
CCGT-21.50.5-MU	.254	3/32	.008	1/4	.110

CCGT- ... -MU

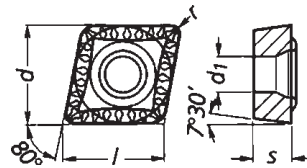
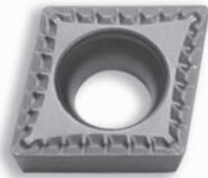
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●			●		●							

WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
CCMT-432-67	.508	3/16	1/32	1/2	.217		●		●									
CCMT-433-67			3/64				●		●									

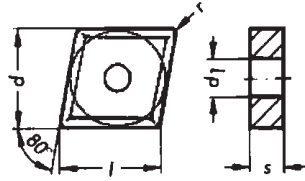
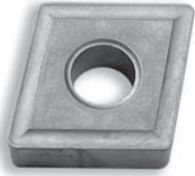
CCMT- ... -67



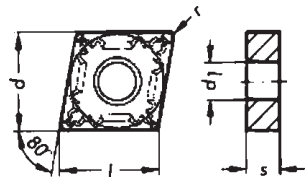
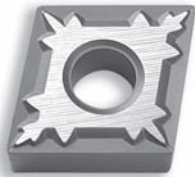
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
CCMT-21.51-MU	.254	3/32	1/64	1/4	.110		●	●	●		●							
CCMT-21.52-MU			1/32				●	●	●		●							
CCMT-321-MU	.380	1/8	1/64	3/8	.173	●	●	●	●		●	●						
CCMT-322-MU			1/32			●	●	●	●		●	●						
CCMT-323-MU			3/64				●	●	●		●	●						
CCMT-32.51-MU	.380	5/32	1/64	3/8	.173	●	●	●	●		●	●						
CCMT-32.52-MU			1/32			●	●	●	●		●	●						
CCMT-32.53-MU			3/64				●	●	●		●	●						
CCMT-431-MU	.508	3/16	1/64	1/2	.217		●	●	●		●	●						
CCMT-432-MU			1/32				●	●	●		●	●						
CCMT-433-MU			3/64				●	●	●		●	●						

CCMT- ... -MU

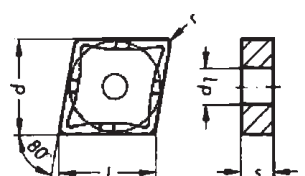
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	CNMG- ...															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
CNMG-431	.508	3/16	1/64	1/2	.203	●	●	●	●	●		●	●	●							
CNMG-432			1/32			●	●	●	●	●		●	●		●	●		●			
CNMG-433			3/64			●	●	●	●	●		●	●								
CNMG-542	.634	1/4	1/32	5/8	.250					●		●	●								
CNMG-543			3/64					●				●	●								
CNMG-643	.760	1/4	3/64	3/4	.313			●				●	●								
CNMG-644			1/16									●	●								

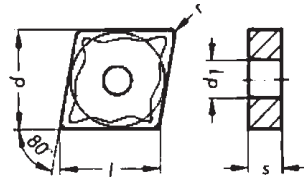
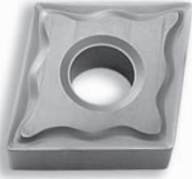


DESIGNATION	l	s	r	d	d ₁	CNMG- ... -22															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
CNMG-321-22	.380	1/8	1/64	3/8	.150	●	●	●	●											●	
CNMG-322-22			1/32			●	●	●	●												●
CNMG-431-22	.508	3/16	1/64	1/2	.203	●	●	●	●		●	●	●								●
CNMG-432-22			1/32			●	●	●	●		●	●	●								●
CNMG-433-22			3/64			●	●	●	●		●	●	●								●



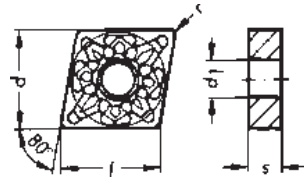
DESIGNATION	l	s	r	d	d ₁	CNMG- ... -4															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
CNMG-431-4	.508	3/16	1/64	1/2	.203		●		●				●								●
CNMG-432-4			1/32				●	●	●	●		●	●								●

WIDIA INDEXABLE INSERTS



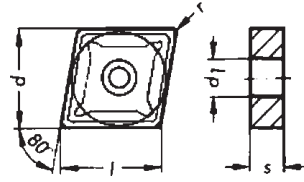
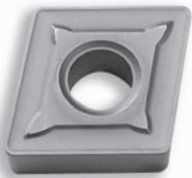
CNMG- ... -48

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
CNMG-431-48	.508	3/16	1/64	1/2	.203	●	●	●	●	●	●	●	●						
CNMG-432-48			1/32			●	●	●	●	●	●	●	●						
CNMG-433-48			3/64			●	●	●	●	●	●	●	●						
CNMG-543-48	.634	1/4	3/64	5/8	.250			●											



CNMG- ... -49

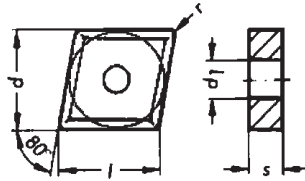
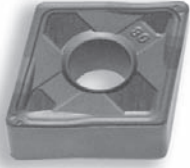
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
CNMG-322-49	.380	1/8	1/32	3/8	.150	●	●	●	●	●	●	●	●						
CNMG-432-49	.508	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●						
CNMG-433-49			3/64			●	●	●	●	●	●	●	●						
CNMG-434-49			1/16			●	●	●	●	●	●	●	●						



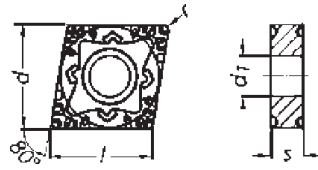
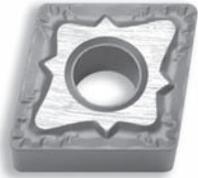
CNMG- ... -5

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
CNMG-432-5	.508	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●						
CNMG-433-5			3/64			●	●	●	●	●	●	●	●						
CNMG-434-5			1/16			●	●	●	●	●	●	●	●						
CNMG-542-5	.634	1/4	1/32	5/8	.250			●											
CNMG-543-5			3/64			●	●	●	●	●	●	●	●						
CNMG-544-5			1/16			●	●	●	●	●	●	●	●						
CNMG-642-5	.760	1/4	1/32	3/4	.313			●											
CNMG-643-5			3/64			●	●	●	●	●	●	●	●						
CNMG-644-5			1/16			●	●	●	●	●	●	●	●						
CNMG-646-5			3/32			●	●	●	●	●	●	●	●						

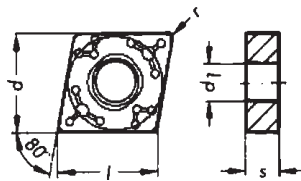
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
CNMG-432-AP	.508	3/16	1/32	1/2	.203	●	●	●	●	●	●									
CNMG-433-AP			3/64			●	●	●	●	●	●									



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
CNMG-432-SL	.508	3/16	1/32	1/2	.203	●	●	●	●	●	●									
CNMG-433-SL			3/64			●	●	●	●	●	●									
CNMG-434-SL			1/16			●	●	●	●	●	●									
CNMG-542-SL	.634	1/4	1/32	5/8	.250	●	●	●	●	●	●									
CNMG-543-SL			3/64			●	●	●	●	●	●									
CNMG-544-SL			1/16			●	●	●	●	●	●									
CNMG-643-SL	.760	1/4	3/64	3/4	.313	●	●	●	●	●	●									
CNMG-644-SL			1/16			●	●	●	●	●	●									



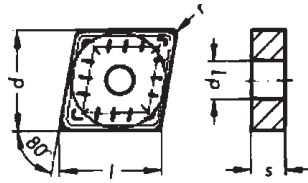
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
CNMM-432-65	.508	3/16	1/32	1/2	.203	●	●	●	●	●	●									
CNMM-433-65			3/64			●	●	●	●	●	●									
CNMM-434-65			1/16			●	●	●	●	●	●									
CNMM-542-65	.634	1/4	1/32	5/8	.250	●	●	●	●	●	●									
CNMM-543-65			3/64			●	●	●	●	●	●									
CNMM-544-65			1/16			●	●	●	●	●	●									
CNMM-643-65	.760	1/4	3/64	3/4	.313	●	●	●	●	●	●									
CNMM-644-65			1/16			●	●	●	●	●	●									
CNMM-646-65			3/32			●	●	●	●	●	●									

CNMG- ... -AP

CNMG- ... -SL

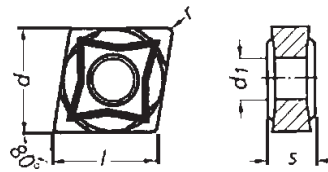
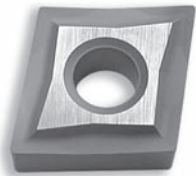
CNMM- ... -65

WIDIA INDEXABLE INSERTS



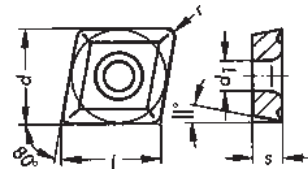
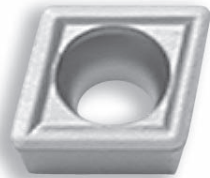
CNMM- ... -8

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET						
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15			
CNMM-432-8	.508	3/16	1/32	1/2	.203	●	●	●	●	●													
CNMM-433-8			3/64			●	●	●	●	●													
CNMM-434-8			1/16			●	●	●	●	●													
CNMM-542-8	.634	1/4	1/32	5/8	.250	●	●	●	●	●													
CNMM-543-8			3/64			●	●	●	●	●													
CNMM-544-8			1/16			●	●	●	●	●													
CNMM-546-8			3/32			●	●	●	●	●													
CNMM-643-8	.760	1/4	3/64	3/4	.313	●	●	●	●	●													
CNMM-644-8			1/16			●	●	●	●	●													
CNMM-646-8			3/32			●	●	●	●	●													
CNMM-856-8	1.00	5/16	3/32	1.00	.359	●																	



CNMP- ... -SM

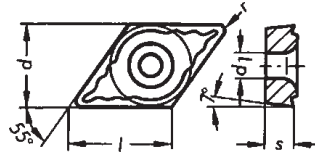
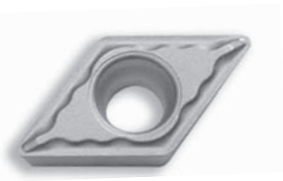
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET						
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15			
CNMP-431-SM	.508	3/16	1/64	1/2	.203						●												
CNMP-432-SM			1/32								●												
CNMP-433-SM			3/64								●												
CNMP-542-SM	.634	1/4	1/32	5/8	.250						●												
CNMP-543-SM			3/64								●												
CNMP-544-SM			1/16								●												
CNMP-644-SM	.760	1/4	1/16	3/4	.313						●												



CPGT- ... -3

DESIGNATION	l	s	r	d	d ₁	COATED								UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN35	TPC25	TPC35	TN5515	HK150	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
CPGT-1.51.21-3	.189	5/64	1/64	3/16	.085					●							●	●	●				
CPGT-1.81.51-3	.222	3/32	1/64	7/32	.100					●								●		●			

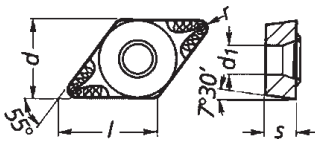
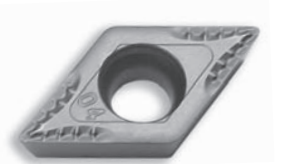
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁
DCGT-21.50.5-2	.305	3/32	.008	1/4	.110
DCGT-32.50.5-2	.457	5/32	.008	3/8	.173

DCGT- ... -2

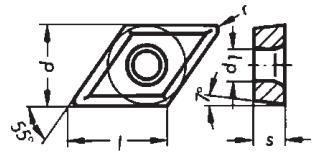
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
					●		●					●		●
●							●					●		●



DESIGNATION	l	s	r	d	d ₁
DCGT-21.50.5-MU	.305	3/32	.008	1/4	.110

DCGT- ... -MU

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●			●		●							

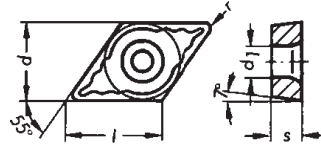
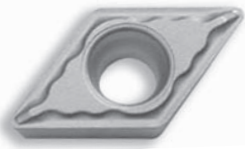


DESIGNATION	l	s	r	d	d ₁
DCMT-21.50.5	.305	3/32	.008	1/4	.110
DCMT-21.51			1/64		
DCMT-21.52			1/32		
DCMT-32.51	.457	5/32	1/64	3/8	.173
DCMT-32.52			1/32		
DCMT-32.53			3/64		
DCMT-431	.610	3/16	1/64	1/2	.217
DCMT-432			1/32		
DCMT-433			3/64		
DCMT-434			1/16		

DCMT- ...

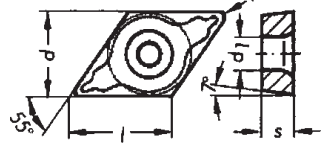
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●		●	●	●				●		
●	●	●	●	●		●	●	●	●			●	●	
●	●	●	●	●	●	●	●	●	●	●		●	●	
●	●	●	●	●		●	●	●	●	●		●	●	
●	●	●	●	●	●	●	●	●	●	●		●	●	
●	●	●	●	●	●	●	●	●	●	●		●	●	
●	●	●	●	●	●	●	●	●	●	●		●	●	

WIDIA INDEXABLE INSERTS



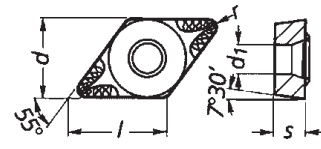
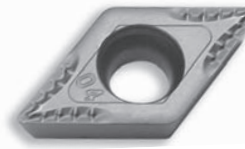
DCMT- ... -2

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
DCMT-21.51-2	.305	3/32	1/64	1/4	.110	●	●	●										
DCMT-21.52-2			1/32							●								
DCMT-32.51-2	.457	5/32	1/64	3/8	.173		●	●						●			●	
DCMT-32.52-2			1/32			●	●	●									●	



DCMT- ... -41

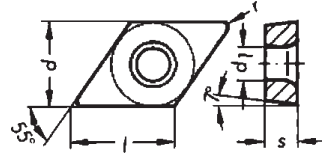
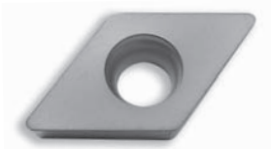
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET		
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F
DCMT-32.51-41	.457	5/32	1/64	3/8	.173	●	●	●							●		●
DCMT-32.52-41			1/32			●	●	●			●						●
DCMT-32.53-41			3/64			●	●	●									
DCMT-431-41	.610	3/16	1/64	1/2	.217	●	●	●						●			●
DCMT-432-41			1/32			●	●	●			●						
DCMT-433-41			3/64			●	●	●									



DCMT- ... -MU

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET		
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F
DCMT-21.51-MU	.305	3/32	1/64	1/4	.110	●	●	●									
DCMT-21.52-MU			1/32			●	●	●									
DCMT-32.51-MU	.457	5/32	1/64	3/8	.173	●	●	●									
DCMT-32.52-MU			1/32			●	●	●			●						
DCMT-32.53-MU			3/64			●	●	●									
DCMT-431-MU	.610	3/16	1/64	1/2	.217	●	●	●									
DCMT-432-MU			1/32			●	●	●			●						
DCMT-433-MU			3/64			●	●	●									

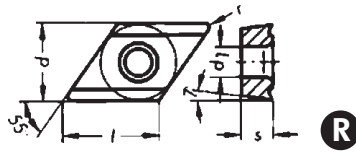
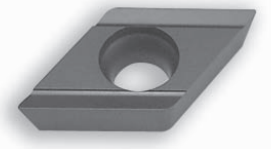
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁
DCMW-21.51	.305	3/32	1/64	1/4	.110
DCMW-32.51	.457	5/32	1/64	3/8	.173
DCMW-432	.610	3/16	1/32	1/2	.217

DCMW- ...

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
						●						●		
						●						●		
						●						●		

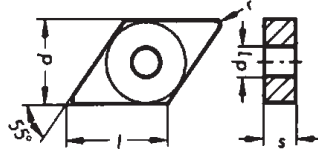


DESIGNATION	l	s	r	d	d ₁
DCMX-32.50.5-L18	.457	5/32	.008	3/8	.173
DCMX-32.51-L18			1/64		
DCMX-32.50.5-R18	.457	5/32	.008	3/8	.173
DCMX-32.51-R18			1/64		
DCMX-32.52-R18			1/32		
DCMX-431-R25	.610	3/16	1/64	1/2	.217
DCMX-432-R29			1/32		

DCMX- ...

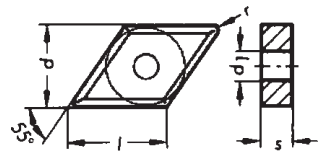
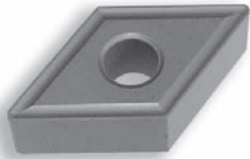
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
				●								●		
	●						●					●		
				●				●				●		
				●										
				●										

WIDIA INDEXABLE INSERTS



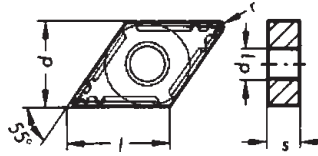
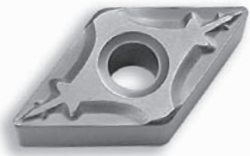
DESIGNATION	l	s	r	d	d ₁
DNMA-442	.610	1/4	1/32	1/2	.203
DNMA-443			3/64		

DNMA- ...														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
						●	●							
						●	●							



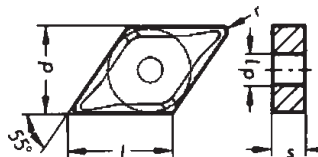
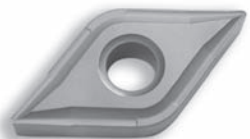
DESIGNATION	l	s	r	d	d ₁
DNMG-441	.610	1/4	1/64	1/2	.203
DNMG-442			1/32		
DNMG-443			3/64		

DNMG- ...														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●	●	●		●	●	●						
	●	●	●	●		●	●							
	●	●	●	●		●	●							



DESIGNATION	l	s	r	d	d ₁
DNMG-331-22	.457	3/16	1/64	3/8	.150
DNMG-332-22			1/32		
DNMG-333-22			3/64		
DNMG-441-22	.610	1/4	1/64	1/2	.203
DNMG-442-22			1/32		
DNMG-443-22			3/64		

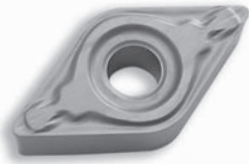
DNMG- ... -22														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●	●	●	●						●	●
●	●	●	●	●	●	●	●						●	●
●	●	●	●	●	●	●	●						●	●



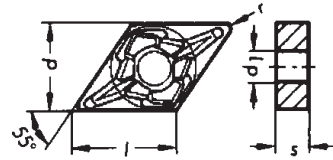
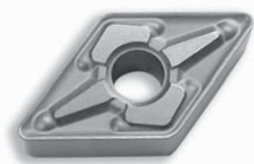
DESIGNATION	l	s	r	d	d ₁
DNMG-431-4	.610	3/16	1/64	1/2	.203
DNMG-441-4	.610	1/4	1/64	1/2	.203
DNMG-442-4			1/32		
DNMG-443-4			3/64		

DNMG- ... -4													
COATED						UNCOATED			CERMET				
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	THM-F	THM	TTI-05	TTI-15
		●											
	●	●	●	●		●	●						●
	●	●	●	●		●	●						●

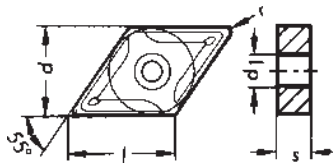
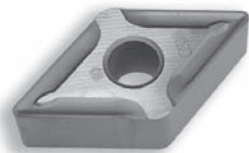
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET		
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
DNMG-331-48	.457	3/16	1/64	3/8	.150						●								
DNMG-332-48			1/32								●								
DNMG-333-48			3/64								●								
DNMG-431-48	.610	3/16	1/64	1/2	.203			●											
DNMG-441-48	.610	1/4	1/64	1/2	.203						●								
DNMG-442-48			1/32				●	●			●								
DNMG-443-48			3/64				●	●	●		●								
DNMG-444-48			1/16								●								



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET		
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
DNMG-332-49	.457	3/16	1/32	3/8	.150		●	●	●	●	●								
DNMG-333-49			3/64				●	●	●										
DNMG-432-49	.610	3/16	1/32	1/2	.203				●	●									
DNMG-442-49	.610	1/4	1/32	1/2	.203	●	●	●	●	●	●								
DNMG-443-49			3/64			●	●	●	●	●	●								
DNMG-444-49			1/16				●	●	●										



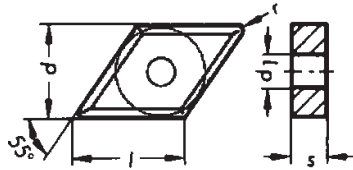
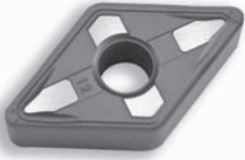
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET		
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
DNMG-331-5	.457	3/16	1/64	3/8	.150						●								
DNMG-332-5			1/32								●								
DNMG-333-5			3/64								●								
DNMG-432-5	.610	3/16	1/32	1/2	.203			●	●										
DNMG-442-5	.610	1/4	1/32	1/2	.203	●	●	●	●	●	●								
DNMG-443-5			3/64			●	●	●	●	●	●								
DNMG-444-5			1/16				●	●											

DNMG- ... -48

DNMG- ... -49

DNMG- ... -5

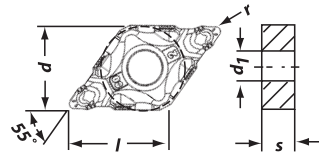
WIDIA INDEXABLE INSERTS



DNMG- ... -AP

DESIGNATION	l	s	r	d	d ₁
DNMG-442-AP	.610	1/4	1/32	1/2	.203
DNMG-443-AP			3/64		

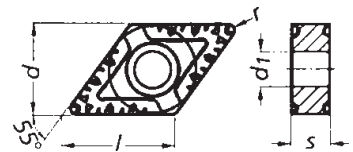
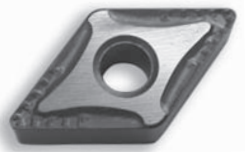
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●	●									



DNMG- ... -CT

DESIGNATION	l	s	r	d	d ₁
DNMG-441-CT	.610	1/4	1/64	1/2	.203
DNMG-442-CT			1/32		
DNMG-443-CT			3/64		

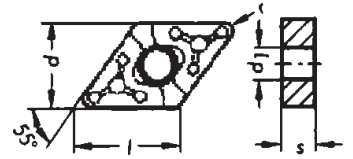
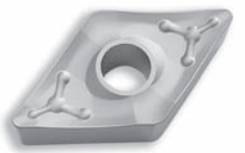
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●	●									



DNMG- ... -SL

DESIGNATION	l	s	r	d	d ₁
DNMG-442-SL	.610	1/4	1/32	1/2	.203
DNMG-443-SL			3/64		

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●	●									

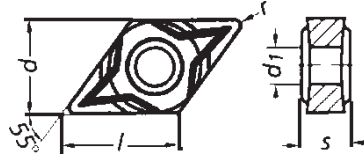
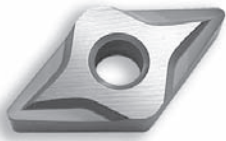


DNMM- ... -65

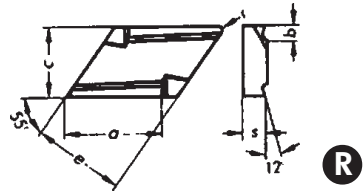
DESIGNATION	l	s	r	d	d ₁
DNMM-442-65	.610	1/4	1/32	1/2	.203
DNMM-443-65			3/64		
DNMM-444-65			1/16		

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●	●	●									

WIDIA INDEXABLE INSERTS

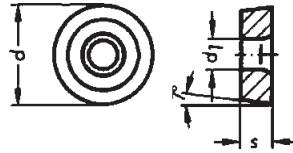


DESIGNATION	l	s	r	d	d ₁	DNMP- ... -SM																
						COATED				UNCOATED			CERMET									
						TN200	TN7010	TN7015	TN7025	TN7035	TN8025	HK35	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
DNMP-432-SM	.610	3/16	1/32	1/2	.203	●						●										
DNMP-441-SM	.610	1/4	1/64	1/2	.203						●											
DNMP-442-SM			1/32								●											
DNMP-443-SM			3/64								●											



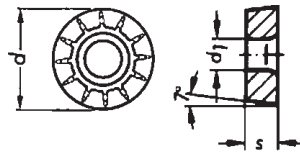
DESIGNATION	l	s	r	d	KNUX- ...																	
					COATED				UNCOATED			CERMET										
					TN7005	TN7010	TN7015	TN7025	TN35	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15			
KNUX-160405-L11	.630	3/16	.020	3/8					●				●									
KNUX-160405-R11	.630	3/16	.020	3/8					●				●									

WIDIA INDEXABLE INSERTS



RCMT/RCMX

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
RCMT-0602MO	---	3/32	---	.236	.110	●	●	●	●			●	●		●		●	
RCMT-0803MO	---	1/8	---	.315	.134	●	●	●	●			●	●		●			
RCMT-10T3MO	---	5/32	---	.394	.173	●	●	●	●			●	●		●			
RCMT-1204MO	---	3/16	---	.472	.173	●	●	●	●			●	●		●		●	
RCMT-1606MO	---	1/4	---	.630	.213	●	●	●	●			●	●		●			
RCMX-2006MOT	---	1/4	---	.787	.256	●	●	●	●									
RCMX-2507MOT	---	5/16	---	.984	.283	●	●	●	●			●						
RCMX-3209MOT	---	3/8	---	1.260	.374													



RCMT/RCMX-43

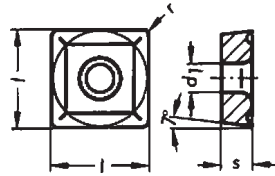
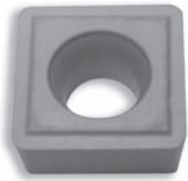
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
RCMT-0602MO-43	---	3/32	---	.236	.110	●	●	●	●						●			
RCMT-0803MO-43	---	1/8	---	.315	.134	●	●	●	●						●			
RCMT-10T3MO-43	---	5/32	---	.394	.173	●	●	●	●						●			
RCMT-1204MO-43	---	3/16	---	.472	.173	●	●	●	●						●			
RCMT-1606MO-43	---	1/4	---	.630	.213	●	●	●	●						●			



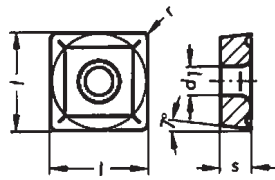
RNMG- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET			
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM
RNMG-43	---	3/16	---	1/2	.203		●											
RNMG-86	---	3/8	---	1.00	.359				●									

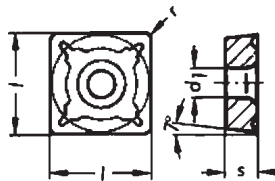
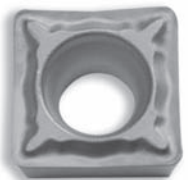
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	SCGT- ... -3																
						COATED						UNCOATED		CERMET								
						TN7015	TN7025	TN200	TN250	TN35	TPC25	TPC35	TN5515	HK150	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
SCGT-32.51-3	.375	5/32	1/64	3/8	.173					●												
SCGT-32.52-3			1/32							●							●					
SCGT-432-3	.500	3/16	1/32	1/2	.217					●												

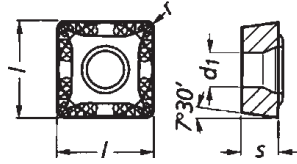
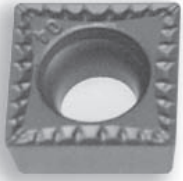


DESIGNATION	l	s	r	d	d ₁	SCMT- ...																
						COATED						UNCOATED		CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
SCMT-321	.375	1/8	1/64	3/8	.173		●	●		●								●				
SCMT-322			1/32				●	●		●					●			●				
SCMT-32.51	.375	5/32	1/64	3/8	.173		●	●	●	●								●				
SCMT-32.52			1/32				●	●	●	●			●					●				
SCMT-432	.500	3/16	1/32	1/2	.217		●	●	●	●	●			●	●	●		●				
SCMT-433			3/64				●	●	●	●	●							●			●	
SCMT-434			1/16					●	●	●	●							●				
SCMT-53.53	.625	7/32	3/64	5/8	.217					●					●	●		●				



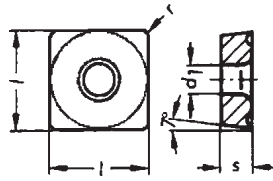
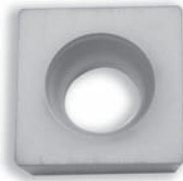
DESIGNATION	l	s	r	d	d ₁	SCMT- ... -41																
						COATED						UNCOATED		CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
SCMT-32.51-41	.375	5/32	1/64	3/8	.173		●	●	●					●							●	
SCMT-32.52-41			1/32				●	●	●	●											●	

WIDIA INDEXABLE INSERTS



SCMT- ... -MU

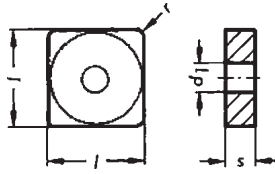
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
SCMT-321-MU	.375	1/8	1/64	3/8	.173	●	●	●	●	●	●	●	●						
SCMT-322-MU			1/32			●	●	●	●	●	●	●	●						
SCMT-32.51-MU	.375	5/32	1/64	3/8	.173	●	●	●	●	●	●	●	●						
SCMT-32.52-MU			1/32			●	●	●	●	●	●	●	●						
SCMT-432-MU	.500	3/16	1/32	1/2	.217		●	●	●	●	●	●	●						
SCMT-433-MU			3/64				●	●	●	●	●	●	●						
SCMT-434-MU			1/16					●	●	●	●	●	●						



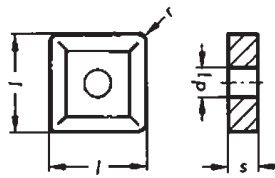
SCMW- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
SCMW-321	.375	1/8	1/64	3/8	.173							●	●						
SCMW-432	.500	3/16	1/32	1/2	.217							●	●						

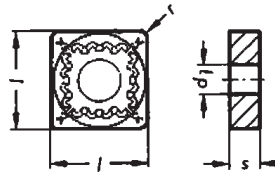
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	SNMA- ...														
						COATED			UNCOATED			CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
SNMA-432	.500	3/16	1/32	1/2	.203							●	●					●		
SNMA-433			3/64									●	●							
SNMA-643	.750	1/4	3/64	3/4	.313							●	●							
SNMA-644			1/16									●	●					●		

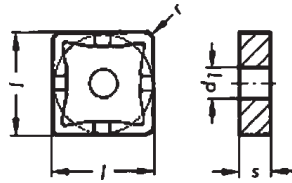


DESIGNATION	l	s	r	d	d ₁	SNMG- ...														
						COATED			UNCOATED			CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
SNMG-322	.375	1/8	1/32	3/8	.150		●	●	●	●										
SNMG-431	.500	3/16	1/64	1/2	.203		●	●	●	●			●	●		●	●			
SNMG-432			1/32				●	●	●	●			●	●						
SNMG-433			3/64				●	●	●	●			●	●						
SNMG-543	.625	1/4	3/64	5/8	.250					●			●							
SNMG-643	.750	1/4	3/64	3/4	.313					●			●		●					
SNMG-644			1/16						●	●			●							



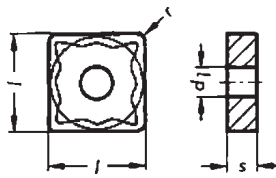
DESIGNATION	l	s	r	d	d ₁	SNMG- ... -22														
						COATED			UNCOATED			CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
SNMG-321-22	.375	1/8	1/64	3/8	.150	●	●	●	●				●	●						●
SNMG-322-22			1/32			●	●	●	●				●	●						●
SNMG-431-22	.500	3/16	1/64	1/2	.203	●	●	●	●		●		●	●						●
SNMG-432-22			1/32			●	●	●	●		●		●	●						●
SNMG-433-22			3/64			●	●	●	●		●		●	●						●
SNMG-434-22			1/16							●			●							●

WIDIA INDEXABLE INSERTS



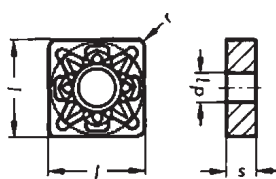
SNMG- ... -4

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
SNMG-432-4	.500	3/16	1/32	1/2	.203			●	●										●
SNMG-433-4			3/64			●	●	●	●										



SNMG- ... -48

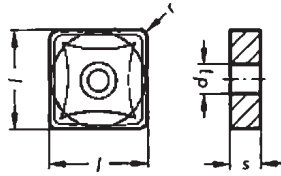
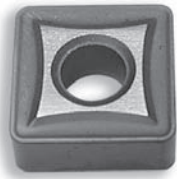
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
SNMG-431-48	.500	3/16	1/64	1/2	.203		●												
SNMG-432-48			1/32			●	●	●											
SNMG-433-48			3/64			●	●	●											
SNMG-542-48	.625	1/4	1/32	5/8	.250			●											



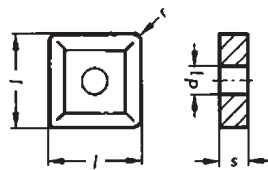
SNMG- ... -49

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
SNMG-432-49	.500	3/16	1/32	1/2	.203	●	●	●	●	●	●								
SNMG-433-49			3/64			●	●	●	●	●	●								
SNMG-434-49			1/16			●	●	●	●	●	●								

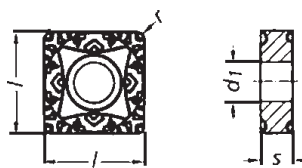
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
SNMG-432-5	.500	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●								
SNMG-433-5			3/64			●	●	●	●	●	●	●	●								
SNMG-434-5			1/16			●	●	●	●	●	●	●	●								
SNMG-542-5	.625	1/4	1/32	5/8	.250	●	●	●	●	●	●	●	●								
SNMG-543-5			3/64			●	●	●	●	●	●	●	●								
SNMG-544-5			1/16			●	●	●	●	●	●	●	●								
SNMG-546-5			3/32			●	●	●	●	●	●	●	●								
SNMG-642-5	.750	1/4	1/32	3/4	.313	●	●	●	●	●	●	●	●								
SNMG-643-5			3/64			●	●	●	●	●	●	●	●								
SNMG-644-5			1/16			●	●	●	●	●	●	●	●								



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
SNMG-432-AP	.500	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●								
SNMG-433-AP			3/64			●	●	●	●	●	●	●	●								



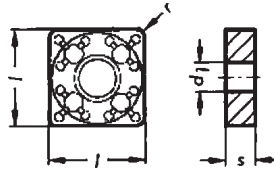
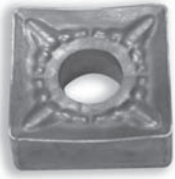
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
SNMG-432-SL	.500	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●								
SNMG-433-SL			3/64			●	●	●	●	●	●	●	●								
SNMG-434-SL			1/16			●	●	●	●	●	●	●	●								
SNMG-542-SL	.625	1/4	1/32	5/8	.250	●	●	●	●	●	●	●	●								
SNMG-543-SL			3/64			●	●	●	●	●	●	●	●								
SNMG-544-SL			1/16			●	●	●	●	●	●	●	●								
SNMG-643-SL	.750	1/4	3/64	3/4	.313	●	●	●	●	●	●	●	●								
SNMG-644-SL			1/16			●	●	●	●	●	●	●	●								

SNMG- ... -5

SNMG- ... -AP

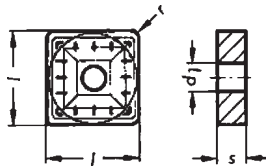
SNMG- ... -SL

WIDIA INDEXABLE INSERTS



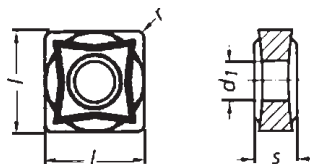
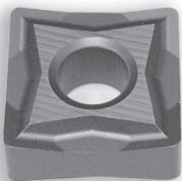
SNMM- ... -65

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
SNMM-432-65	.500	3/16	1/32	1/2	.203	●	●	●	●	●												
SNMM-433-65			3/64			●	●	●	●	●												
SNMM-434-65			1/16			●	●	●	●	●												
SNMM-544-65	.625	1/4	1/16	5/8	.250				●													
SNMM-643-65	.750	1/4	3/64	3/4	.313	●	●	●	●	●												
SNMM-644-65			1/16			●	●	●	●	●												
SNMM-646-65			3/32			●	●	●	●	●												



SNMM- ... -8

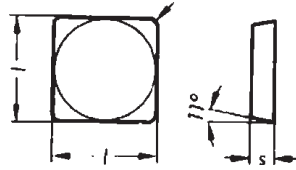
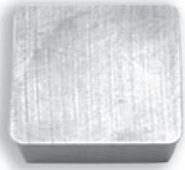
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
SNMM-432-8	.500	3/16	1/32	1/2	.203			●	●	●												
SNMM-433-8			3/64					●	●	●												
SNMM-434-8			1/16					●	●	●												
SNMM-543-8	.625	1/4	3/64	5/8	.250	●	●	●	●	●												
SNMM-544-8			1/16			●	●	●	●	●												
SNMM-546-8			3/32			●	●	●	●	●												
SNMM-643-8	.750	1/4	3/64	3/4	.313	●	●	●	●	●												
SNMM-644-8			1/16			●	●	●	●	●												
SNMM-646-8			3/32			●	●	●	●	●												
SNMM-856-8	1.00	5/16	3/32	1.00	.359	●	●	●	●	●												



SNMP- ... -SM

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
SNMP-432-SM	.500	3/16	1/32	1/2	.203						●											
SNMP-433-SM			3/64								●											
SNMP-542-SM	.625	1/4	1/32	5/8	.250						●											
SNMP-543-SM			3/64								●											
SNMP-544-SM			1/16								●											
SNMP-644-SM	.750	1/4	1/16	3/4	.313						●											

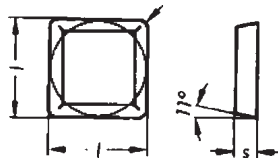
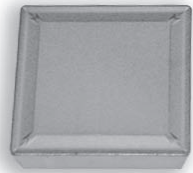
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁
SPG-321	.375	1/8	1/64	3/8	---
SPG-322			1/32		
SPG-421	.500	1/8	1/64	1/2	---
SPG-422			1/32		
SPG-423			3/64		
SPG-433	.500	3/16	3/64	1/2	---
SPG-630	.750	3/16	.004	3/4	---

SPG- ...

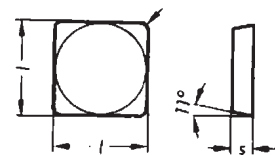
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
									●			●		
						●			●			●		
						●		●	●			●		
						●		●	●			●		
								●						
									●					



DESIGNATION	l	s	r	d	d ₁
SPMR-322	.375	1/8	1/32	3/8	---
SPMR-421	.500	1/8	1/64	1/2	---
SPMR-422			1/32		
SPMR-423			3/64		

SPMR- ...

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●			●			●							
	●	●		●			●							
	●	●		●			●		●	●				
	●	●		●			●							

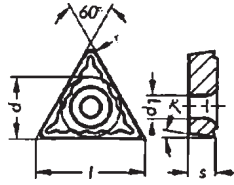
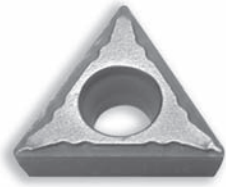


DESIGNATION	l	s	r	d	d ₁
SPU-321	.375	1/8	1/64	3/8	---
SPU-322			1/32		
SPU-421	.500	1/8	1/64	1/2	---
SPU-422			1/32		
SPU-423			3/64		
SPU-423T			3/64		
SPU-433	.500	3/16	3/64	1/2	---
SPU-533	.625	3/16	3/64	5/8	---
SPU-533T			3/64		
SPU-633	.750	3/16	3/64	3/4	---
SPU-634T			1/16		
SPU-845T	1.00	1/4	5/64	1.00	---

SPU- ...

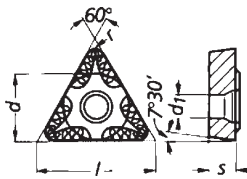
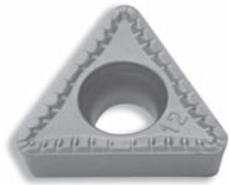
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
									●			●		
	●	●						●	●			●		
	●					●	●	●	●	●		●		
						●		●	●			●		
									●					
									●	●		●		
									●	●		●		

WIDIA INDEXABLE INSERTS



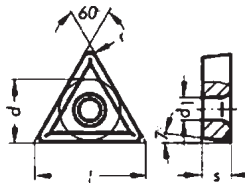
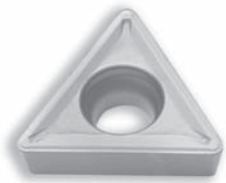
TCGT- ... -2

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TCGT-21.50.5-2	.433	3/32	.008	1/4	.110						●								



TCGT- ... -MU

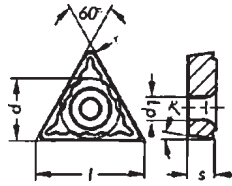
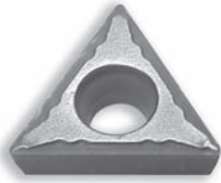
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TCGT-21.50.5-MU	.433	3/32	.008	1/4	.110		●	●			●		●						



TCMT- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TCMT-21.50.5	.433	3/32	.008	1/4	.110	●	●	●	●	●			●		●				
TCMT-21.51			1/64			●	●	●	●	●				●	●			●	
TCMT-21.52			1/32			●	●	●	●	●					●			●	
TCMT-32.51	.650	5/32	1/64	3/8	.173	●	●	●	●	●			●	●	●			●	
TCMT-32.52			1/32			●	●	●	●	●				●	●			●	
TCMT-32.53			3/64			●	●	●	●	●					●			●	
TCMT-432	.866	3/16	1/32	1/2	.217	●	●	●	●	●			●		●				
TCMT-433			3/64			●	●	●	●	●					●				

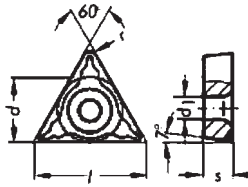
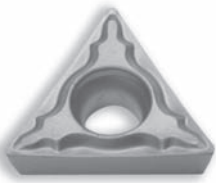
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁
TCMT-21.51-2	.433	3/32	1/64	1/4	.110
TCMT-21.52-2			1/32		
TCMT-32.51-2	.650	5/32	1/64	3/8	.173

TCMT- ... -2

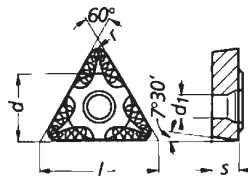
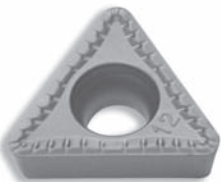
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●	●		●		●							●
						●								
	●	●	●											●



DESIGNATION	l	s	r	d	d ₁
TCMT-32.51-41	.650	5/32	1/64	3/8	.173
TCMT-32.52-41			1/32		

TCMT- ... -41

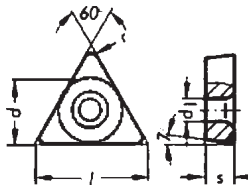
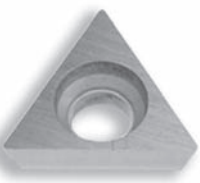
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●	●	●								●		●
	●	●	●	●										●



DESIGNATION	l	s	r	d	d ₁
TCMT-21.51-MU	.433	3/32	1/64	1/4	.110
TCMT-21.52-MU			1/32		
TCMT-32.51-MU	.650	5/32	1/64	3/8	.173
TCMT-32.52-MU			1/32		
TCMT-32.53-MU			3/64		

TCMT- ... -MU

COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
	●	●	●	●	●		●							
●	●	●	●	●	●	●	●							
●	●	●	●	●	●									

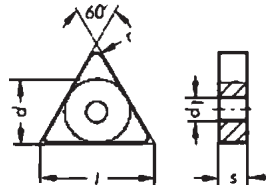


DESIGNATION	l	s	r	d	d ₁
TCMW-21.51	.433	3/32	1/64	1/4	.110
TCMW-32.51	.650	5/32	1/64	3/8	.173

TCMW- ...

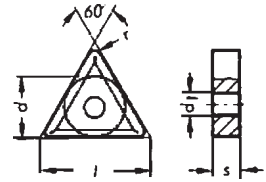
COATED						UNCOATED					CERMET			
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
						●			●			●		
						●			●			●		

WIDIA INDEXABLE INSERTS



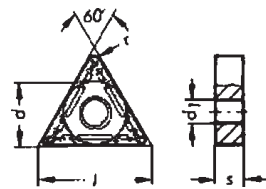
TNMA- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
TNMA-332	.650	3/16	1/32	3/8	.150							●	●							
TNMA-333			3/64									●	●							
TNMA-432	.866	3/16	1/32	1/2	.203							●	●							
TNMA-433			3/64									●	●							
TNMA-434			1/16									●	●							



TNMG- ...

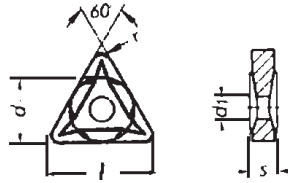
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
TNMG-331	.650	3/16	1/64	3/8	.150		●	●	●	●			●	●						
TNMG-332			1/32				●	●	●	●			●	●						
TNMG-333			3/64					●	●	●										
TNMG-431	.866	3/16	1/64	1/2	.203		●	●	●	●			●	●						
TNMG-432			1/32				●	●	●	●			●	●	●					
TNMG-433			3/64					●	●	●										
TNMG-434			1/16						●	●										



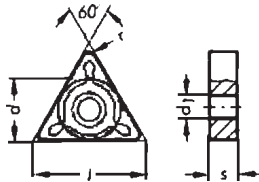
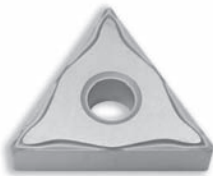
TNMG- ... -22

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
TNMG-221-22	.433	1/8	1/64	1/4	.091	●	●	●	●	●										
TNMG-222-22			1/32			●	●	●	●	●										
TNMG-331-22	.650	3/16	1/64	3/8	.150	●	●	●	●	●	●								●	
TNMG-332-22			1/32			●	●	●	●	●	●								●	
TNMG-333-22			3/64			●	●	●	●	●	●									

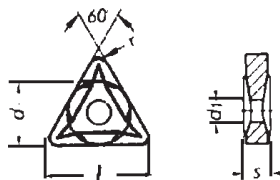
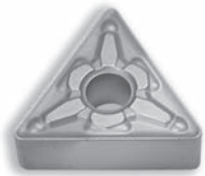
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	TNMG- ... -4															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNMG-331-4	.650	3/16	1/64	3/8	.150		●						●								
TNMG-332-4			1/32				●														●
TNMG-333-4			3/64				●														
TNMG-432-4	.866	3/16	1/32	1/2	.203				●												
TNMG-433-4			3/64						●												

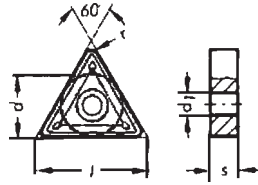


DESIGNATION	l	s	r	d	d ₁	TNMG- ... -48															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNMG-331-48	.650	3/16	1/64	3/8	.150		●														
TNMG-332-48			1/32				●						●								
TNMG-333-48			3/64				●														
TNMG-334-48			1/16								●										
TNMG-431-48	.866	3/16	1/64	1/2	.203				●												
TNMG-432-48			1/32						●				●								
TNMG-433-48			3/64						●												



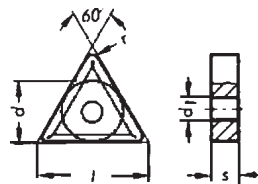
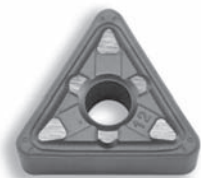
DESIGNATION	l	s	r	d	d ₁	TNMG- ... -49															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNMG-222-49	.433	1/8	1/32	1/4	.091		●	●	●												
TNMG-332-49	.650	3/16	1/32	3/8	.150		●	●	●	●	●										
TNMG-333-49			3/64				●	●	●	●											
TNMG-334-49			1/16				●	●	●	●											
TNMG-432-49	.866	3/16	1/32	1/2	.203		●	●	●	●											
TNMG-433-49			3/64				●	●	●	●											
TNMG-434-49			1/16				●	●	●	●											

WIDIA INDEXABLE INSERTS



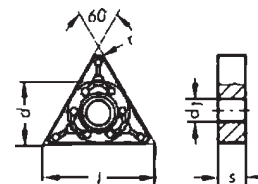
TNMG- ... -5

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TNMG-332-5	.650	3/16	1/32	3/8	.150	●	●	●	●	●	●	●	●						
TNMG-333-5			3/64			●	●	●	●	●	●	●	●						
TNMG-334-5			1/16			●	●	●	●	●	●	●	●						
TNMG-432-5	.866	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●						
TNMG-433-5			3/64			●	●	●	●	●	●	●	●						
TNMG-434-5			1/16			●	●	●	●	●	●	●	●						
TNMG-542-5	1.08	1/4	1/32	5/8	.250			●	●										
TNMG-543-5			3/64			●		●	●										
TNMG-544-5			1/16			●		●	●										
TNMG-546-5			3/32					●	●										



TNMG- ... -AP

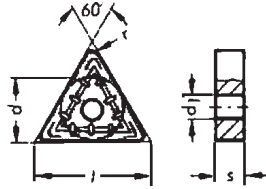
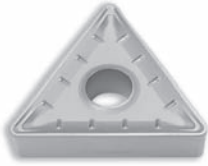
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TNMG-332-AP	.650	3/16	1/32	3/8	.150		●				●								
TNMG-333-AP			3/64				●				●								



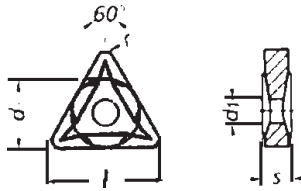
TNMM- ... -65

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED			CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05
TNMM-332-65	.650	3/16	1/32	3/8	.150		●												
TNMM-333-65			3/64				●												
TNMM-334-65			1/16				●												
TNMM-432-65	.866	3/16	1/32	1/2	.203		●												
TNMM-433-65			3/64				●												
TNMM-434-65			1/16				●												

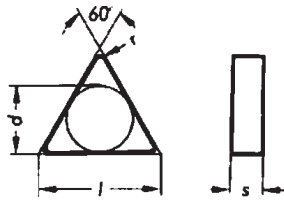
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	TNMM- ... -8															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNMM-332-8	.650	3/16	1/32	3/8	.150		●	●			●										
TNMM-333-8			3/64					●	●	●	●										
TNMM-334-8			1/16								●										
TNMM-432-8	.866	3/16	1/32	1/2	.203		●	●	●	●											
TNMM-433-8			3/64					●	●	●	●										
TNMM-434-8			1/16							●	●										
TNMM-543-8	1.080	1/4	3/64	5/8	.250				●	●											
TNMM-544-8			1/16						●	●											
TNMM-546-8			3/32						●	●											

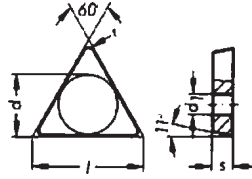
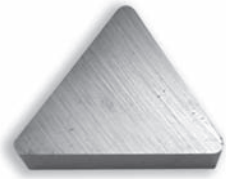


DESIGNATION	l	s	r	d	d ₁	TNMP- ... -SM															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNMP-331-SM	.650	3/16	1/64	3/8	.150						●										
TNMP-332-SM			1/32								●										
TNMP-333-SM			3/64								●										
TNMP-431-SM	.866	3/16	1/64	1/2	.203						●										
TNMP-432-SM			1/32								●										
TNMP-433-SM			3/64								●										



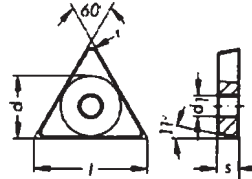
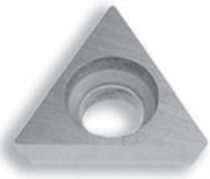
DESIGNATION	l	s	r	d	d ₁	TNU- ...															
						COATED			UNCOATED			CERMET									
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15	
TNU-322	.650	1/8	1/32	3/8	---										●						
TNU-323			3/64													●					
TNU-332	.650	3/16	1/32	3/8	---							●							●		
TNU-333			3/64																●		
TNU-334			1/16													●					
TNU-434	.866	3/16	1/16	1/2	---										●						

WIDIA INDEXABLE INSERTS



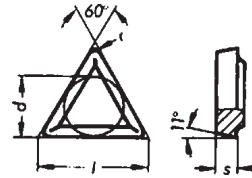
TPG- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET							
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15				
TPG-21.51	.433	3/32	1/64	1/4	---																			
TPG-21.52			1/32																					
TPG-221	.433	1/8	1/64	1/4	---																			
TPG-222			1/32																					
TPG-321	.650	1/8	1/64	3/8	---																			
TPG-322			1/32																					
TPG-323			3/64																					



TPGA- ...

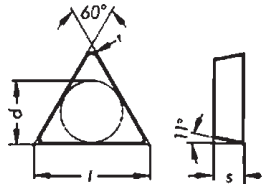
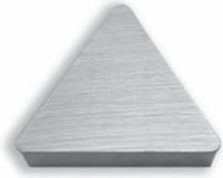
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15					
TPGA-21.51	.433	3/32	1/64	1/4	.134																				
TPGA-21.52			1/32																						



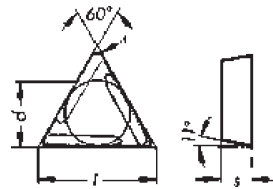
TPMR- ...

DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET								
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15					
TPMR-221	.433	1/8	1/64	1/4	---																				
TPMR-222			1/32																						
TPMR-321	.650	1/8	1/64	3/8	---																				
TPMR-322			1/32																						
TPMR-323			3/64																						

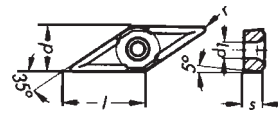
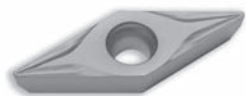
WIDIA INDEXABLE INSERTS



DESIGNATION	l	s	r	d	d ₁	TPU- ...														
						COATED					UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
TPU-21.51	.433	3/32	1/64	1/4	---										●					
TPU-21.52			1/32												●					
TPU-221	.433	1/8	1/64	1/4	---		●	●		●				●	●				●	
TPU-222			1/32				●	●		●				●	●				●	
TPU-321	.650	1/8	1/64	3/8	---		●	●	●	●			●	●	●				●	
TPU-322			1/32				●	●	●	●			●	●	●				●	
TPU-323			3/64						●	●			●	●	●				●	
TPU-432	.866	3/16	1/32	1/2	---		●	●	●					●	●					
TPU-433			3/64				●	●	●				●	●	●				●	
TPU-434			1/16						●					●	●					
TPU-545T	1.08	1/4	5/64	5/8	---									●						

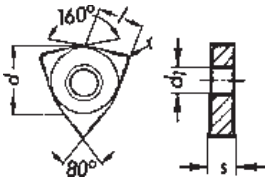
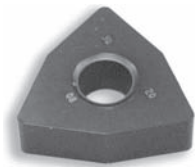


DESIGNATION	l	s	r	d	d ₁	TPUR- ...														
						COATED					UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
TPUR-322L	.650	1/8	1/32	3/8	---										●					
TPUR-322R			1/32												●					



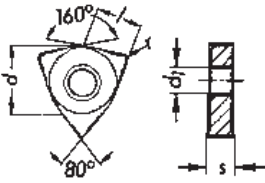
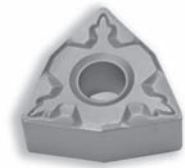
DESIGNATION	l	s	r	d	d ₁	VBMT- ...														
						COATED					UNCOATED					CERMET				
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
VBMT-331	.654	3/16	1/64	3/8	.173	●	●	●	●	●			●	●					●	●
VBMT-332			1/32			●	●	●	●	●			●	●					●	●
VBMT-333			3/64			●	●	●	●	●			●	●					●	●

WIDIA INDEXABLE INSERTS



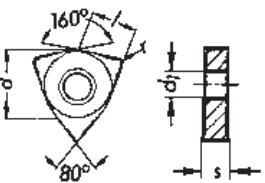
DESIGNATION	l	s	r	d	d ₁
WNMA-432	.342	3/16	1/32	1/2	.203
WNMA-433			3/64		

WNMA- ...														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
						●	●							
						●	●							



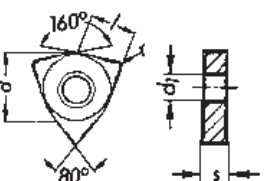
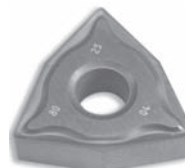
DESIGNATION	l	s	r	d	d ₁
WNMG-331-22	.261	3/16	1/64	3/8	.150
WNMG-332-22			1/32		

WNMG- ... -22														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●			●	●							●
●	●	●	●			●	●							



DESIGNATION	l	s	r	d	d ₁
WNMG-431-4	.342	3/16	1/64	1/2	.203
WNMG-432-4			1/32		
WNMG-433-4			3/64		

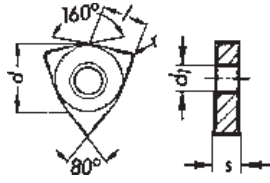
WNMG- ... -4														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
●	●	●	●		●		●							
●	●	●	●		●		●							
●	●	●	●		●									●



DESIGNATION	l	s	r	d	d ₁
WNMG-331-48	.261	3/16	1/64	3/8	.173
WNMG-332-48			1/32		
WNMG-333-48			3/64		
WNMG-431-48	.342	3/16	1/64	1/2	.203
WNMG-432-48			1/32		
WNMG-433-48			3/64		
WNMG-434-48			1/16		

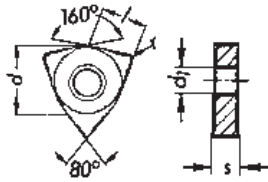
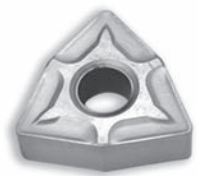
WNMG- ... -48														
COATED						UNCOATED			CERMET					
TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15
					●									
					●									
					●									
					●									
					●									
					●									

WIDIA INDEXABLE INSERTS



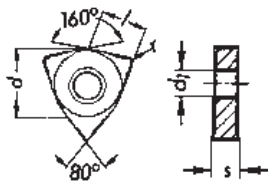
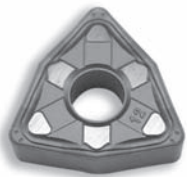
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
WNMG-332-49	.261	3/16	1/32	3/8	.150	●	●	●	●	●												
WNMG-333-49			3/64			●	●	●	●	●												
WNMG-432-49	.342	3/16	1/32	1/2	.203	●	●	●	●	●	●											
WNMG-433-49			3/64			●	●	●	●	●	●											
WNMG-434-49			1/16			●	●	●	●	●	●											

WNMG- ... -49



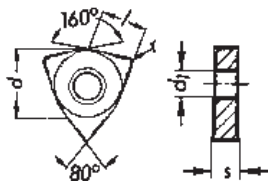
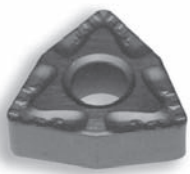
DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
WNMG-332-5	.261	3/16	1/32	3/8	.150						●											
WNMG-333-5			3/64								●											
WNMG-432-5	.342	3/16	1/32	1/2	.203	●	●	●	●	●	●	●	●									
WNMG-433-5			3/64			●	●	●	●	●	●	●	●									
WNMG-434-5			1/16			●	●	●	●	●	●	●	●									

WNMG- ... -5



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
WNMG-432-AP	.342	3/16	1/32	1/2	.203		●	●	●		●											
WNMG-433-AP			3/64				●	●	●		●											

WNMG- ... -AP



DESIGNATION	l	s	r	d	d ₁	COATED						UNCOATED					CERMET					
						TN7005	TN7010	TN7015	TN7025	TN7035	TN8025	TN5015	TN5020	TTX	TTM	TTR	THM-F	THM	TTI-05	TTI-15		
WNMG-432-SL	.342	3/16	1/32	1/2	.203		●	●	●		●											
WNMG-433-SL			3/64				●	●	●		●											

WNMG- ... -SL