

00

Turning



THE METAL CUTTING TOOL PHILOSOPHY



Cost-effective

Get more for less. MRW offers quality tools at prices that makes them budget-friendly.



Reliable

Tested, trusted. Every MRW tool carries the legacy of WIDIA's technical expertise and pioneering innovation.



Versatile

One tool, many solutions. Most MRW tools provide versatility in operations with a single tool. Productivity, inventory and sourcing simplified.



Available

Just get it. MRW redefines productivity with most tools readily available at retailers across the country.

METAL REMOVAL BY WIDIA

MRW addresses customer needs by providing them with innovative products and latest technologies. Our precision metalworking tools cover applications like ISO turning, milling, drilling and solid end mills.

Our solutions meet customers' machining needs in the transportation, general engineering and die & mold industries – and enable them to gain a competitive edge.



DIFFERENT MACHINING CONDITIONS

Chip Breaker Details:

Chip Breaker Geometries	Cutting Conditions	Ap (mm)	f (mm/rev)
MA	Very stable cutting edge design offers maximum stability and rigidity. Recommended for cast iron machining.	1 - 4	0.1 - 0.7
MP	For medium-duty machining of tough work materials, such as stainless steel. Minimises tendency for materials to adhere to insert.	0.5 - 4	0.5 - 2
MRT1	For medium-duty roughing. Outstanding chip control. High edge strength for interrupted cuts, forging skin, or scale.	1 - 3.5	0.1 - 0.4
MRT2	Geometry for small- to medium-chip cross-sections.	0.5 - 5	0.08 - 0.6
MRT3	For rough to medium turning of all kinds of steel.	1.1 - 5.6	0.3 - 0.6
MRT4	For medium to rough turning of stainless steel	0.75 - 5	0.15 - 0.5
MMT1	Geometry for medium to rough turning. Outstanding chip control, even at lower depths of cuts.	0.8 - 5	0.1 - 0.4
MMT2	Provides good chip control and low cutting forces. Can be used for steel, stainless steel, and cast iron.	0.5 - 2	0.05 - 0.2
MMT3	For medium machining of steel and finishing of stainless steel.	0.25 - 3	0.05 - 0.25
MFT1	For finish turning, producing smooth, accurate surfaces. Very good chip control, especially at low depths of cut.	0.2 - 2.5	0.06 - 0.2
MFT2	For medium turning to finish turning with strong cutting edge that works well in interrupted cuts.	0.5 - 2	0.05 - 0.2

Grades

			wear	resista	ince	_					toug	Inness		
	Coating	Grade Description		05	10	15	20	25	30	35	40	45	Ρ	Steel
			Ρ										Μ	Stainless Steel
													Κ	Cast Iron
0		PVD TiALN-coated grade with micro-fine substrate suited for machining steel	к										Ν	Non-Ferrous
MR25	and cast iron in medium to finish turning applications.											S	Steel	
		0 11										$\left - \right $	Н	Hardened Materials
			P											
٩														
100		CVD-coated carbide, great for general-purpose turning for steels and ideal for	Κ											
ß		medium machining to heavy roughing.												
Σ														
			D									$\left \right $		
		r.												
		Composition: An advanced PVD-AlTiN-coated grade with a tough, ultra-fine- grain unalloyed substrate Application: For general-purpose machining of most steels, stainless steels, high-temp alloys, titaniums, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.	IVI											
500			Κ											
R2			Ν											
Σ			S											
		Composition: A touch cohalt opriched carbido grado with a multilayor	D											
		MTCVD TiCN-Al. O. coating with superior interlayer adhesion.												
P		Application: Best general-purpose turning grade for most steels and ferritic												
51		and martensitic stainless steels. The substrate design ensures adequate	K											
R2		deformation resistance with excellent insert edge strength. Coating layers												
2		offer good wear resistance over a wide range of machining conditions, and the post-coat treatment minimizes microchipping and improves coating adhesion												
		to substrate, leading to long tool life and improved workpiece finishes.												
		Composition: A multilavered coating with moderately thick MTCVD TiCN-	Р									\vdash		
		Al ₂ O ₂ layers over a highly deformation-resistant carbide substrate.												
¥		Application: Designed for high-speed machining of gray and ductile irons.												
00		The substrate and coating architecture together with post-coat treatment	ĸ											
MR		ensure a tremendous tool life advantage, especially when cutting higher												
		rensile strength ductile and gray irons where workpiece size consistency and reliability of tool life are critical. Excellent both in continuous cuts and varied												
		depths of cut.												
		L '												



SELECT THE CUTTING SPEED

	1				Turning												
			N	IR2000	к	M	R2500	м	N	IR2000	Р	N	IR2500	P	N	IR2510	P
	Material group	Material Specification		m/min			m/min			m/min		m/min			m/min		
			max.	start	min.	max.	start	min.	max.	start	min.	max.	start	min.	max.	start	min.
	1	Low carbon steel (<0.3%C)							360	275	135	330	290	270	360	275	135
	2	Medium & High carbon steel (>0.3%C)							320	195	135	275	250	200	320	195	135
P	3	Alloy/Tool steels <35HRc							225	155	135	255	220	175	225	155	135
P	4	Alloy/Tool steels 36 to 48HRc							180	105	75	225	190	150	180	105	75
	5	Ferritic, Martensitic & PH SS (<35HRc)							270	195	120	185	175	150	270	195	120
	6	Ferritic, Martensitic & PH SS 36 to 48HRc)							225	150	105	165	130	100	225	150	105
	1	Austenitic SS				250	180	100									
м	2	Austenitic SS				225	165	100									
	3	Austenitic SS : Duplex				200	150	100									
	1	Gray Cl	500	360	240				250	220	185	250	220	185			
к	2	Ductile, Compacted graphite and malleable CI <80KSI	420	270	160				200	180	150	200	180	150			
	3	Ductile, Compacted graphite and malleable CI >80KSI	330	215	135				180	150	120	180	150	120			





ISO INSERT NOMENCLATURE



METAL REMOVAL BY WIDIA Cost-effective | Versatile | Reliable

ISO INSERT NOMENCLATURE



		± Tolera	nce on "D"			± Tolerance on "B"					
		Class M Tolera	nce	Class U Tolerance		c	lass M Toleran	ice	Class U Tolerance		
"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C	"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C		
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
3,97	0,05	-	-	-	3,97	0,08	-	-	-		
4,76	0,05	-	-	0,08	4,76	0,08	-	-	0,13		
5,56	0,05	0,05	0,05	0,08	5,56	0,08	0,11	-	0,13		
6,35	0,05	0,05	0,05	0,08	6,35	0,08	0,11	-	0,13		
7,94	0,05	0,05	0,05	0,08	7,94	0,08	0,11	-	0,13		
9,52	0,05	0,05	0,05	0,08	9,52	0,08	0,11	0,18	0,13		
11,11	0,08	0,08	0,08	0,13	11,11	0,13	0,15	-	-		
12,70	0,08	0,08	0,08	0,13	12,70	0,13	0,15	0,25	0,20		
14,29	0,08	0,08	0,08	0,13	14,29	0,13	0,15	-	-		
15,88	0,10	0,10	0,10	0,18	15,88	0,15	0,18	-	0,27		
17,46	0,10	0,10	0,10	0,18	17,46	0,15	0,18	-	0,27		
19,05	0,10	0,10	0,10	0,18	19,05	0,15	0,18	-	0,27		
22,22	0,13	-	_	0,25	22,22	0,15	-	_	0,38		
25,40	0,13	-	_	0,25	25,40	0,18	-	_	0,38		
31,75	0,15	-	-	0,25	31,75	0,20	-	-	0,38		



CNMG

Insert	Description	Insert grade	Work material	Ordering code
	CNMG120404-MRT1	MR2000P	Steel & Cast Iron	6655331
	CNMG120408-MMT1	MR2000P	Steel & Cast Iron	6655332
	CNMG120408-MRT1	MR2000P	Steel & Cast Iron	6655335
	CNMG120404-MRT2	MR2000P	Steel & Cast Iron	6740718
	CNMG190612-MRT2	MR2000P	Steel & Cast Iron	6740715
	CNMG190608-MRT2	MR2000P	Steel & Cast Iron	6851880
	CNMG120412-MRT1	MR2000P	Steel & Cast Iron	6772974
	CNMG190612-MRT1	MR2000P	Steel & Cast Iron	6755261

TNMG

Insert	Description	Insert grade	Work material	Ordering code
	TNMG160404- MRT1	MR2000P	Steel & Cast Iron	6655329
	TNMG160408-MMT1	MR2000P	Steel & Cast Iron	6655328
	TNMG160412-MRT1	MR2000P	Steel & Cast Iron	6655330
	TNMG160404-MFT1	MR2000P	Steel & Cast Iron	6740717
U	TNMG160408-MRT1	MR2000P	Steel & Cast Iron	6870156
	TNMG160412-MMT1	MR2000P	Steel & Cast Iron	6905623

WNMG

Insert	Description	Insert grade	Work material	Ordering code
	WNMG060408-MRT1	MR2000P	Steel & Cast Iron	6655337
	WNMG080408-MMT1	MR2000P	Steel & Cast Iron	6655338
	WNMG080412-MRT1	MR2000P	Steel & Cast Iron	6655339
	WNMG080412-MMT1	MR2000P	Steel & Cast Iron	6905624
	WNMG080408-MRT1	MR2000P	Steel & Cast Iron	6870253
	WNMG060412-MRT1	MR2000P	Steel & Cast Iron	6870155



VNMG

Insert	Description	Insert grade	Work material	Ordering code
	VNMG12T304-MRT2	MR2000P	Steel & Cast Iron	6740720
	VNMG12T308-MRT2	MR2000P	Steel & Cast Iron	6870254

SNMG

Insert	Description	Insert grade	Work material	Ordering code
	SNMG190612-MRT2	MR2000P	Steel & Cast Iron	6740716
	SNMG120412-MRT1	MR2000P	Steel & Cast Iron	6870146
	SNMG120408-MRT1	MR2000P	Steel & Cast Iron	6870144

CCMT

Insert	Description	Insert grade	Work material	Ordering code
	CCMT060204-MRT2	MR2000P	Steel & Cast Iron	6655316
	CCMT060208-MFT2	MR2000P	Steel & Cast Iron	6655317
	CCMT09T304-MRT2	MR2000P	Steel & Cast Iron	6655319
	CCMT09T308-MRT2	MR2000P	Steel & Cast Iron	6655320



DNMG

Insert	Description	Insert grade	Work material	Ordering code
	DNMG150608-MMT1	MR2000P	Steel & Cast Iron	6797566
101	DNMG150608-MRT1	MR2000P	Steel & Cast Iron	6797565

VBMT

Insert	Description	Insert grade	Work material	Ordering code
	VBMT160408-MRT2	MR2000P	Steel & Cast Iron	6870256

CNMG

Insert	Description	Insert grade	Work material	Ordering code
	CNMG120404-MRT2	MR2500P	Steel & Cast Iron	6740749
	CNMG120408-MMT2	MR2500P	Steel & Cast Iron	6741544
	CNMG190612-MRT2	MR2500P	Steel & Cast Iron	6749002
	CNMG120408-MMT1	MR2500P	Steel & Cast Iron	6870252
	CNMG120408-MRT1	MR2500P	Steel & Cast Iron	6870251
	CNMG190612-MRT1	MR2500P	Steel & Cast Iron	6755262



CNMP



TNMG

Insert	Description	Insert grade	Work material	Ordering code
	TNMG160404-MFT1	MR2500P	Steel & Cast Iron	6740747
	TNMG160408-MMT2	MR2500P	Steel & Cast Iron	6740748
	TNMG160408-MMT1	MR2500P	Steel & Cast Iron	6826644

Insert	Description	Insert grade	Work material	Ordering code
	TNMP160408	MR2500P	Steel & Stainless Steel	6749252



VNMG

Insert	Description	Insert grade	Work material	Ordering code
	VNMG12T304-MRT2	MR2500P	Steel & Cast Iron	6749003
	VNMG12T308-MRT2	MR2500P	Steel & Cast Iron	6749004

CCMT

Insert	Description	Insert grade	Work material	Ordering code
	CCMT060204-MRT2	MR2500P	Steel & Cast Iron	6740667
	CCMT060208-MFT2	MR2500P	Steel & Cast Iron	6740668
	CCMT09T304-MRT2	MR2500P	Steel & Cast Iron	6740669
	CCMT09T308-MRT2	MR2500P	Steel & Cast Iron	6740670
	CCMT060208MFT2	MR2500P	Steel & Cast Iron	6927966
	CCMT09T308-MFT2	MR2500P	Steel & Cast Iron	6780840

TCMT

Insert	Description	Insert grade	Work material	Ordering code
	TCMT110204-MRT2	MR2500P	Steel & Cast Iron	6740735
	TCMT110208-MFT2	MR2500P	Steel & Cast Iron	6740736
	TCMT16T304-MRT2	MR2500P	Steel & Cast Iron	6740737
	TCMT16T308-MRT2	MR2500P	Steel & Cast Iron	6740738



VBMT/VCMT

Insert	Description	Insert grade	Work material	Ordering code
	VBMT160408MRT2	MR2500P	Steel & Cast Iron	6870258
	VBMT160404MRT2	MR2500P	Steel & Cast Iron	6870259
	VCMT16T308MRT2	MR2500P	Steel & Cast Iron	6826645

SCMT

Insert	Description	Insert grade	Work material	Ordering code
	SCMT120408-MRT2	MR2500P	Steel & Cast Iron	6740739
	SCMT09T308-MRT2	MR2500P	Steel & Cast Iron	6826646

• WNMG

Insert	Description	Insert grade	Work material	Ordering code
	WNMG080412-MRT1	MR2500P	Steel & Cast Iron	6758425
R	WNMG080408-MMT1	MR2500P	Steel & Cast Iron	6758424



Steel

MR2510P

TNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
\wedge	TNMG160408MMT1	MR2510P	Steel	7172188
	TNMG160412MRT1	MR2510P	Steel	7172189
	TNMG160408MRT3	MR2510P	Steel	7172262
	TNMG220412MRT1	MR2510P	Steel	7172190
	TNMG160408MMT2	MR2510P	Steel	7183748

CNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	CNMG190612MRT1	MR2510P	Steel	7172191
	CNMG120412MRT1	MR2510P	Steel	7172192
	CNMG120408MRT1	MR2510P	Steel	7172193
	CNMG120408MMT1	MR2510P	Steel	7172194
	CNMG120408MRT3	MR2510P	Steel	7172263
	CNMG120412MRT3	MR2510P	Steel	7172264

WNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	WNMG080408MMT1	MR2510P	Steel	7172197
	WNMG080412MRT1	MR2510P	Steel	7172198
	WNMG080408MRT1	MR2510P	Steel	7172199
	WNMG060408MRT1	MR2510P	Steel	7183749

SNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	SNMG190612MRT2	MR2510P	Steel	7172195
	SNMG120408MRT1	MR2510P	Steel	7172196



Stainless Steel

MR2500M

Insert	Description	Insert Grade	Work Material	Ordering Code
	TNMG160404MRT4	MR2500M	Stainless Steel	7172621
	TNMG160408MRT4	MR2500M	Stainless Steel	7172622
	TNMG160412MRT3	MR2500M	Stainless Steel	7172623

Insert	Description	Insert Grade	Work Material	Ordering Code
	CNMG120404MMT3	MR2500M	Stainless Steel	7172624
	CNMG120408MRT4	MR2500M	Stainless Steel	7172625
	CNMG120412MRT4	MR2500M	Stainless Steel	7172626



Cast Iron

MR2000K

Insert	Description	Insert Grade	Work Material	Ordering Code
	CNMA120404MA	MR2000K	Cast Iron	7166715
	CNMA120408MA	MR2000K	Cast Iron	7166716
	CNMA120412MA	MR2000K	Cast Iron	7166717
	CNMA190616MA	MR2000K	Cast Iron	7183750

Insert	Description	Insert Grade	Work Material	Ordering Code
	CNMG120408MRT1	MR2000K	Cast Iron	7166718
	CNMG120408MRT1	MR2000K	Cast Iron	7166719
	CNMG120412MRT1	MR2000K	Cast Iron	7166720

SCMT

Insert	Description	Insert Grade	Work Material	Ordering Code
	SCMT09T308MRT2	MR2000K	Cast Iron	7166721
	SCMT120408MRT2	MR2000K	Cast Iron	7166722

SNMA

Insert	Description	Insert Grade	Work Material	Ordering Code
	SNMA120408	MR2000K	Cast Iron	7166723
	SNMA120412	MR2000K	Cast Iron	7166724

SNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	SNMG120408MRT1	MR2000K	Cast Iron	7166725
	SNMG120412MRT1	MR2000K	Cast Iron	7166726

Insert	Description	Insert Grade	Work Material	Ordering Code
	TCMT16T308MRT2	MR2000K	Cast Iron	7166727



Cast Iron

MR2000K

TNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	TNMA160408MA	MR2000K	Cast Iron	7166728
	TNMA160412MA	MR2000K	Cast Iron	7166729
	TNMG160408MRT1	MR2000K	Cast Iron	7166730
	TNMG160412MRT1	MR2000K	Cast Iron	7166731

VBMT

Insert	Description	Insert Grade	Work Material	Ordering Code
	VBMT160408MRT2	MR2000K	Cast Iron	7166732

VNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	VNMG12T304MRT2	MR2000K	Cast Iron	7166733
	VNMG12T308MRT2	MR2000K	Cast Iron	7166734

WNMA

Insert	Description	Insert Grade	Work Material	Ordering Code
	WNMA060408	MR2000K	Cast Iron	7166735
	WNMA080408	MR2000K	Cast Iron	7166736
	WNMA080412MA	MR2000K	Cast Iron	7166737

WNMG

Insert	Description	Insert Grade	Work Material	Ordering Code
	WNMG060408MRT1	MR2000K	Cast Iron	7166738
	WNMG080408MRT1	MR2000K	Cast Iron	7166739
	WNMG080412MRT1	MR2000K	Cast Iron	7166740



ISO NOMENCLATURE FOR TOOLHOLDERS





Turning

ISO NOMENCLATURE FOR TOOLHOLDERS





ISO NOMENCLATURE FOR BORING BARS



METAL REMOVAL ^{BY} WIDIA^T Cost-effective | Versatile | Reliable

ISO NOMENCLATURE FOR BORING BARS





ISO NOMENCLATURE FOR CARTRIDGES





Turning

ISO NOMENCLATURE FOR CARTRIDGES



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TOOLHOLDERS

Description	ISO text	Ordering code
ISO TOOL HOLDER 'P' CLAMPING	PSBNR2020M12 MRW	6870707
ISO TOOL HOLDER 'P' CLAMPING	PSBNR2525M12 MRW	6870706
ISO TOOL HOLDER 'P' CLAMPING	PDJNL3232P15 MRW	6870705
ISO TOOL HOLDER 'P' CLAMPING	PDJNR3232P15 MRW	6870704
ISO TOOL HOLDER 'P' CLAMPING	PDJNL2525M15 MRW	6870703
ISO TOOL HOLDER 'P' CLAMPING	PDJNR2525M15 MRW	6870702
ISO TOOL HOLDER 'P' CLAMPING	PCLNL2525M12 MRW	6870701
ISO TOOL HOLDER 'P' CLAMPING	PCLNR2525M12 MRW	6870680
ISO TOOL HOLDER 'P' CLAMPING	PCLNL2020K12 MRW	6870679
ISO TOOL HOLDER 'P' CLAMPING	PCLNR2020K12 MRW	6870678
ISO TOOL HOLDER 'M' CLAMPING	MWLNR2020K08 MRW	6870677
ISO TOOL HOLDER 'M' CLAMPING	MWLNL2020K08 MRW	6870676
ISO TOOL HOLDER 'M' CLAMPING	MWLNL2525M08 MRW	6870299
ISO TOOL HOLDER 'M' CLAMPING	MWLNR2525M08 MRW	6870298
ISO TOOL HOLDER 'M' CLAMPING	MWLNL2020M06 MRW	6870297
ISO TOOL HOLDER 'M' CLAMPING	MWLNR2020M06 MRW	6870296
ISO TOOL HOLDER 'M' CLAMPING	MWLNL2525M06 MRW	6870295
ISO TOOL HOLDER 'M' CLAMPING	MWLNR2525M06 MRW	6870294
ISO TOOL HOLDER 'M' CLAMPING	MTJNR2020K16 MRW	6870293
ISO TOOL HOLDER 'M' CLAMPING	MTJNL2020K16 MRW	6870292
ISO TOOL HOLDER 'M' CLAMPING	MTJNR2525M16 MRW	6870291
ISO TOOL HOLDER 'M' CLAMPING	MTJNL2525M16 MRW	6870260





Turning

BORING BARS

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6		

Description	ISO text	Ordering code
P CLAMPING BORING BAR	S32SPCLNR12F3 MRW	6870718
P CLAMPING BORING BAR	S32SPCLNL12F3 MRW	6870717
P CLAMPING BORING BAR	S25TPCLNR12F3 MRW	6870716
P CLAMPING BORING BAR	S25TPCLNL12F3 MRW	6870715
SCREW ON BORING BAR	S20SSCLCR09T3 MRW	6870714
SCREW ON BORING BAR	S20SSCLCL09T3 MRW	6870713
SCREW ON BORING BAR	S16RSCLCL09T3 MRW	6870712
SCREW ON BORING BAR	S12MSCLCR06F3 MRW	6870711
SCREW ON BORING BAR	S10KSCLCL06F3 MRW	6870710
SCREW ON BORING BAR	S08HSCLCR06F3 MRW	6870709
SCREW ON BORING BAR	S08HSCLCL06F3 MRW	6870708

CARTRIDGES



Description	ISO text	Ordering code
SCREW ON CARTRDIGE	STFCR12CA16 MRW	6870724
SCREW ON CARTRDIGE	STFCR10CA11 MRW	6870723
P CLAMPING CARTRIDGE	PTFNR12CA16 MRW	6870722
P CLAMPING CARTRIDGE	PTFNL16CA16 MRW	6870720
P CLAMPING CARTRIDGE	PTFNR16CA16 MRW	6870719

METAL REMOVAL BY WIDIA Cost-effective Versatile Reliable



INDIA HEADQUARTERS

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