

<90 degree Square Negative type>

Item Number	IC	T
SN_1204	12.7	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide								Chip Control Range	For applicable holder, see pages:																																																																						
				PVD Coated				CVD Coated																																																																											
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1			CP7	KM1																																																																				
			<table border="1"> <tr><td>Steel</td><td>P</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Stainless Steel</td><td>M</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Cast Iron</td><td>K</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Non-Ferrous Material</td><td>N</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Heat Resistant Alloy</td><td>S</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Hardened Material</td><td>H</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> </table>	Steel	P	●	●	●	●	●	●	●	●	●	●	●	Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●	Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●	Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●	●	Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●	●	Hardened Material	H	●	●	●	●	●	●	●	●	●	●	●	<ul style="list-style-type: none"> ● : 1st Choice ● : 2nd choice 	
Steel	P	●	●	●	●	●	●	●	●	●	●	●																																																																							
Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●																																																																							
Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●																																																																							
Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●	●																																																																							
Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●	●																																																																							
Hardened Material	H	●	●	●	●	●	●	●	●	●	●	●																																																																							
	SNMG 120408 G SNMG 120412 G SNMG 120416 G	SNMG432-G SNMG433-G SNMG434-G	0.8 1.2 1.6								●	●			F17 F19 K36																																																																				
	SNMG 120408 TNB Z5	SNMG432-TNB-Z5	0.8			●						●																																																																							

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<60 degree Triangle Negative type>

Item Number	IC	T
TN_1604	9.525	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide								Chip Control Range	For applicable holder, see pages:																																																																						
				PVD Coated				CVD Coated																																																																											
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1			CP7	KM1																																																																				
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Steel	P	●	●	●	●	●	●	●	●	●	●	●																																																																							
Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●																																																																							
Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●																																																																							
Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●	●																																																																							
Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●	●																																																																							
Hardened Material	H	●	●	●	●	●	●	●	●	●	●	●																																																																							
	TNMG 160408 G 160412 G	TNMG332-G 333-G	0.8 1.2								●	●																																																																							
	TNMG 160404 TNB Z5 160408 TNB Z5	331-TNB-Z5 332-TNB-Z5	0.4 0.8			●					●																																																																								
	TNGG 160402 FN ZP 160404 FN ZP 160408 FN ZP	TNGG33Y-FN--ZP 331-FN--ZP 332-FN--ZP	0.2 0.4 0.8			●	●	●			●																																																																								
	TNGG 160402 F ^R / _L C	TNGG33Y-F ^R / _L --C	0.2			R									F23 F25 G39																																																																				
	TNEG 160402 F ^R / _L D1 160404 F ^R / _L D1 160408 F ^R / _L D1		0.2 0.4 0.8					●			●																																																																								
	TNGG 160401 F ^R / _L DA	TNGG331CF ^R / _L --DA	0.1			R	R																																																																												
	TNGG 160401 F ^R / _L U2 160402 F ^R / _L U2 160404 F ^R / _L U2 160408 F ^R / _L U2	TNGG331CF ^R / _L --U2 33Y-F ^R / _L --U2 331-F ^R / _L --U2 332-F ^R / _L --U2	0.1 0.2 0.4 0.8			R					●																																																																								
	TNGG 160401M FN UL 160402M FN UL 160404M FN UL 160408M FN UL	TNGG3304MFNUL 3308MFNUL 331MFNUL 332MFNUL	*0.08 *0.18 *0.38 *0.78			●	●	●			●																																																																								

*Inserts having 01M, 02M or 04M as the R code can be used for machining when the component drawing specifies that the radius is less than R=0.1, R=0.2 or R=0.4 respectively. ● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<35 degree Rhombic Negative type>

Item Number	IC	T
VN_1604	9.525	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:	
				PVD Coated					CVD Coated							
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1			
				Steel	P	●	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice
				Stainless Steel	M	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●		
AM1	VNMG 160404 TNB AM1	331-TNB-AM1	0.4			●										F27
	160408 TNB AM1	332-TNB-AM1	0.8			●										
G	VNMG 160404 G	VNMG331-G	0.4									●				
	160408 G	332-G	0.8									●				
	160412 G	333-G	1.2									●				
ZP	VNMG 160402 FN ZP	VNMG331-FN-ZP	0.2			●										
	160404 FN ZP	331-FN-ZP	0.4			●										
	160408 FN ZP	332-FN-ZP	0.8			●										

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<80 degree Hexagon Negative type>

Item Number	IC	T
WN_0804	12.7	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:	
				PVD Coated					CVD Coated							
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1			
				Steel	P	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice	
				Stainless Steel	M	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●		
G	WNMG 080408 G	WNMG432-G	0.8									●				F29 K37
	080412 G	433-G	1.2									●				
Z5	WNMG 080408 TNB Z5	WNMG432-TNB-Z5	0.8			●										
	080412 TNB Z5	433-TNB-Z5	1.2			●										
ZP	WNGG 080404 FN ZP	WNGG431-FN-ZP	0.4			●	●					●				
	080408 FN ZP	432-FN-ZP	0.8			●	●					●				
UL	WNGG 080404 FN UL	WNGG431FNUL	0.4			●	●					●				
	080408 FN UL	432FNUL	0.8			●	●					●				

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)