

NEXXTOOLS

Tooling Technology



GENERAL CATALOG **TURNING**, DRILLING AND MILLING SOLUTIONS



Just make your choice

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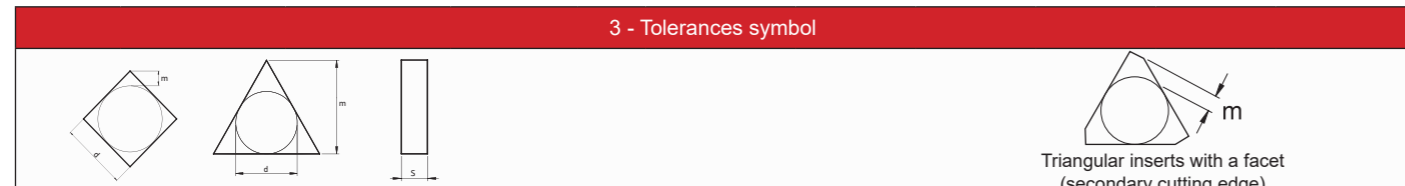
ISO TURNING INSERTS CODE KEY



ISO	1	2	3	4	ANSI	1	2	3	4
	T	N	M	G		T	N	M	G

1 - Insert shape symbol																	
A		B		C		D		E		F		H		K		L	
M		O		P		R		S		T		V		W		X	Special

2 - Normal clearance symbol									
A	B	C	D	E	F	G	N	P	O
									Other clearance angle



Sym- bol	m (mm)	d (mm)	s (mm)
A	±0.005	±0.025	±0.025
F	±0.005	±0.013	±0.025
C	±0.013	±0.025	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J	±0.005	±0.05~±0.13	±0.025
K*	±0.013	±0.05~±0.13	±0.025
L*	±0.025	±0.05~±0.13	±0.025
M*	±0.08~±0.20	±0.05~±0.13	±0.13
N*	±0.08~±0.20	±0.05~±0.13	±0.025
U*	±0.13~±0.38	±0.08~±0.25	±0.13

Detailed dimension of M class insert Insert height Tolerances (mm)					
Inscribed circle					
6.35	±0.08	-	-	-	-
9.525	±0.08	±0.08	±0.11	±0.10	±0.13
12.70	±0.13	±0.13	±0.13	±0.15	-
15.875	±0.15	±0.15	±0.15	±0.18	-
19.05	±0.15	±0.15	±0.15	±0.18	-
25.40	-	±0.18	-	-	-
31.75	-	±0.25	-	-	-

Inscribed circle Tolerances (mm)					
Inscribed circle					
6.35	±0.05	-	-	-	-
9.525	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	±0.10
19.05	-	-	-	-	±0.10
25.40	-	±0.13	-	-	±0.10
31.75	-	±0.20	-	-	±0.12

*As a rule, the sides of these inserts are as sintered. Tolerance differs with insert size, for the accuracy of class M, refer to the table on the right.

4 - Insert symbol														
symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape	symbol	Type	Hole type	Chipbreaker	Shape
W	with hole	Round hole / one countersink (40°~60°)	Without chipbreaker		H	with hole	Round hole / one countersink (70°~90°)	Chipbreaker on one side		G	without hole	Round hole	Chipbreaker on both sides	
T			Chipbreaker on one side		C		Round hole / double countersink (70°~90°)	Without chipbreaker		N		-	Without chipbreaker	
Q		Round hole / double countersink (40°~60°)	Without chipbreaker		J		Round hole / double countersink (70°~90°)	Chipbreaker on both sides		R		-	Chipbreaker on one side	
U			Chipbreaker on both sides		A		Round hole	Without chipbreaker		F		-	Chipbreaker on both sides	
B	without hole	Round hole / one countersink (70°~90°)	Without chipbreaker		M	-	-	-		X	-	-	-	On request

ISO TURNING INSERTS CODE KEY



ISO	5	6	7 7.1*	8	9	10	ANSI	5	6	7	8	9	10
	16	03	08 AN	E	N	NST		3	2	2	E	N	NST

5 - Insert size symbol									
R's	V's	D's	C's	S's	T's	W's	Ø CI		ANSI Symbol
							mm	inch	
-	06	04	-	03	06	02	3,97	5/32	1,20
-	08	05	04	04	08	L3	4,76	3/16	1,50
-	09	06	05	05	09	03	5,56	7/32	1,80
06**	-	-	-	-	-	-	6,00	0,236	-
06*	11	07	06	06	11	04	6,35	1/4	2,00
07*	13	09	08	07	13	05	7,94	5/16	2,50
08*	-	-	-	-	-	-	8,00	0,315	-
09*	16	11	09	09	16	06	9,525	3/8	3,00
10**	-	-	-	-	-	-	10,00	0,394	-
12**	-	-	-	-	-	-	12,00	0,472	-
12*	22	15	12	12	22	08	12,70	1/2	4,00
15*	27	19	16	15	27	10	15,875	5/8	5,00
16**	-	-	-	-	-	-	16,00	0,63	-
19*	33	23	19	19	33	13	19,05	3/4	6,00
20**	-	-	-	-	-	-	20,00	0,787	-
25**	-	-	-	-	-	-	25,00	0,984	-
25*	44	31	25	25	44	17	25,40	1,00	8,00
31*	54	38	32	31	54	21	31,75	1 1/4	10,00
32**	-	-	-	-	-	-	32,00	1,26	-

* ANSI designation only (Radius Designation is R0)

** Metric designation only (Radius Designation is M0)

According to International Standard ISO 1832 - 2012(E)

Indexable inserts for cutting tools - Designation

6 - Insert thickness symbol			
ISO	mm	ANSI	inch
01	1.59	1	0.062
T1	1.98	1.2	0.078
02	2.38	1.5	0.094
03	3.18	2	0.125
T3	3.97	2.5	0.156
04	4.76	3	0.188
05	5.56	3.5	0.219
06	6.35	4	0.250
07	7.94	5	0.312
09	9.52	6	0.375
12	12.70	8	0.500

7 - Insert corner symbol			
ISO	mm	inch	ANSI
00	Sharp nose		0
01	0.10	.004	0.2
02	0.20	.008	0.5
04	0.40	.015	1
08	0.80	.032	2
12	1.2	.047	3
16	1.6	.062	4
20	2.0	.078	5
24	2.4	.094	6
28	2.8	.109	7
32	3.2	.125	8
00 (inch or M0/metric)	Round insert		0

7.1* - Insert edges symbol			
For inserts having secondary edges two digits are used:			
1 st digit is secondary edge		2 nd digit is secondary edges relief angle	
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	special	F	25°
*only when required.		G	30°
		N	0°
		P	11°
		Z	special

8* - Cutting edge information		
Shape	Honing	Symbol
	No honing	F
	With honing	E
	Chamfered No honing	T
	Chamfered with honing	S
*only when required.		

9* - Cutting direction		
Shape	Hand	Symbol
	Right	R
	Left	L
	None	N
*only when required.		

10 - Chipbreaker geometries																	
NEGATIVE Chipbreakers	FLAT	NMF	NSF	NLC	NMS	NMR	NPM	POSITIVE Chipbreakers	NFLAT	NFP	NBO	NFM	NFK	NFW	NLM	NMP	NMM
	NST	NMW	NSS	NHR	NRP	NHY	NHZ		NMK	NMW	NFS	NLN	NCP	NST	NRF	NRM	NRR

NEGATIVE TURNING application range overview



P	Fine finishing	Finishing	Medium	Roughing	Heavy roughing		
		NMF	NLC	NMR	NHR		
			NPM	NRP	NHY		
			NMW		NHZ		
CVD Grades							
	NXG105 (P05-P10)	NX1515 (P10-P25)	NXG115 (P10-P25)	NX1525 (P20-P35)	NXG125 (P20-P35)	NX7540 (P25-P45)	NXG140 (P25-P45)
PVD Grades							
	NX9710 (P05-P10)						
Continuous cut ←			→ Interrupted cut				

M	Fine finishing	Finishing	Medium	Roughing	Heavy roughing
	NMF	NSF		NSS	
		NMS		NRP	NHY
CVD Grades					
	NXS215 (M10-M25)	NX1525 (M15-M30)	NXS225 (M15-M30)	NX7540 (M25-M45)	NXS240 (M25-M45)
PVD Grades					
	NX9710 (M05-M10)		NX9720 (M10-M25)		
Continuous cut ←			→ Interrupted cut		

NEGATIVE TURNING application range overview



K	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
			NST	FLAT	NHR	
			NMW		NHZ	
				wiper		
CVD Grades						
	NX7505 (K05-K15)	NX3520 (K10-K25)		NX7540 (K20-K40)		
Continuous cut ←			→ Interrupted cut			

N	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
			NMS			
	Uncoated Grades					
		NX0910 (N01-N20)				
Continuous cut ←			→ Interrupted cut			

S	Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
		NSF	NSS			
			NMS			
	PVD Grades					
		NX9710 (S05-S10)		NX9720 (S10-S25)		
	Continuous cut ←			→ Interrupted cut		

POSITIVE TURNING application range overview



		Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
P 5° & 7°		NFS 	NFP 	NMP 	NRF NRM 		
		NBO 	NFW wiper	NMW wiper	NST NRR 		
		CVD Grades					
		NX1515 (P10-P25)	NXG115 (P10-P25)	NX1525 (P20-P35)	NXG125 (P20-P35)	NXG140 (P25-P45)	NX7540 (P25-P45)
	PVD Grades						
	NX9710 (P05-P10)	NX9720 (P10-P35)					
		← Continuous cut				Interrupted cut →	

		Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
P 11°		N12 	N13 	FLAT 			
		CVD Grades					
		NX1515 (P15-P25)	NX1525 (P20-P35)	NX7540 (P25-P45)			
		PVD Grades					
	NX9720 (P10-P35)						
		← Continuous cut				Interrupted cut →	

POSITIVE TURNING application range overview



		Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
M 5° & 7°		NFS 	NFM 	NLM 	NMM 	NRF NRM 	
		NBO 	NFW wiper	NMW wiper	NRR 		
		CVD Grades					
		NXS215 (M10-M25)	NX1525 (M15-M30)	NXS225 (M15-M30)	NX7540 (M25-M45)	NXS240 (M25-M45)	
	PVD Grades						
	NX9710 (M05-M10)	NX9720 (M10-M25)					
		← Continuous cut				Interrupted cut →	

		Fine finishing	Finishing	Medium	Roughing	Heavy roughing	
K 5° & 7°		NFK 	NMK 	FLAT 	NRM 		
			NFW wiper	NMW wiper	NST 		
		CVD Grades					
		NX7505 (K05-K15)	NX3520 (K10-K25)				
	Uncoated Grades						
	NX0705 (K05-K15)						
		← Continuous cut				Interrupted cut →	



N	Fine finishing	Finishing	Medium	Roughing	Heavy roughing
			NLN 		
Uncoated Grades					
7°		NX0910 (N01-N20) 			
Continuous cut ← → Interrupted cut					

S	Fine finishing	Finishing	Medium	Roughing	Heavy roughing
		NFS 	NFM 	NLM 	NMM
		NBO 	NFW 	NMW 	
PVD Grades					
5° & 7°	NX9710 (S05-S10) 		NX9720 (S10-S25) 		
Continuous cut ← → Interrupted cut					



Shape angle		90°	80°	80°	60°	55°	35°	
Geometry shape code	R	S	C	W	T	D	V	
Geometry shape design								
Cutting edge strength	+	←————→					+	Accessibility
Vibration tendency	+	←————→					-	Less power consumption Pc (kW) →

Insert shape

The insert shape should be selected relative to the entering angle accessibility from tools requirements.

The largest possible nose angle should be selected to provide insert strength and reliability, however, this has to be balanced against the cut variation need to be performed.

A large nose angle is strong, but requires more machine power and has a higher tendency for vibration.























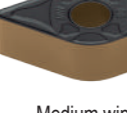

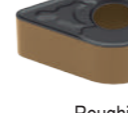





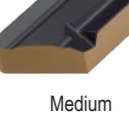

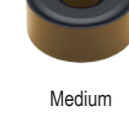
A small nose angle is weaker and has a small cutting edge engagement, both of which can make it more sensitive to the heat effects.

Scale 1: indicates the cutting edge strength. The inserts to the left have larger nose angles and are correspondingly stronger. The right hand inserts have better versatility and accessibility.

Scale 2: indicates that vibration tendencies increase to the left side, while power requirements decrease to the right.



















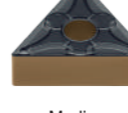






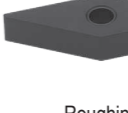
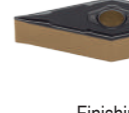
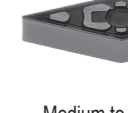


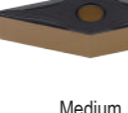

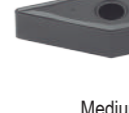












NEGATIVE TURNING INSERTS overview



CNMA  Roughing Rhombic 80°	CNMG-NMF  Finishing Rhombic 80°	CNMG-NSF  Medium to Finishing Rhombic 80°	CNMG-NLC  Medium to Finishing Rhombic 80°	CNMG-NMS  Medium Rhombic 80°	CNMG-NMR  Medium Rhombic 80°
CNMG-NPM  Medium Rhombic 80°	CNMG-NST  Medium Rhombic 80°	CNMG-NMW  Medium wiper Rhombic 80°	CNMG-NSS  Roughing to Medium Rhombic 80°	CNMG-NHR  Roughing Rhombic 80°	
CNMM-NRP  Roughing Rhombic 80°	CNMM-NHY  Heavy to Roughing Rhombic 80°	CNMM-NHZ  Heavy to Roughing Rhombic 80°			
DNMA  Roughing Rhombic 55°	DNMG-NMF  Finishing Rhombic 55°	DNMG-NSF  Medium to Finishing Rhombic 55°	DNMG-NLC  Medium to Finishing Rhombic 55°	DNMG-NMS  Medium Rhombic 55°	DNMG-NMR  Medium Rhombic 55°
DNMG-NPM  Medium Rhombic 55°	DNMG-NST  Medium Rhombic 55°	DNMG-NMW  Medium wiper Rhombic 55°	DNMG-NSS  Roughing to Medium Rhombic 55°	DNMG-NHR  Roughing Rhombic 55°	DNMM-NRP  Roughing Rhombic 55°
DNMX-N02  Medium to Finishing Rhombic 55°	DNMX-N03  Medium Rhombic 55°	DNMX-N01  Roughing to Medium Rhombic 55°			
KNUX-N01  Finishing Parallelogram 55°	KNUX-N02  Medium Parallelogram 55°				
RNMA  Roughing to medium Round R°	RNMG-NST  Medium Round R°				

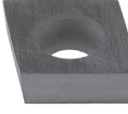







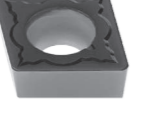

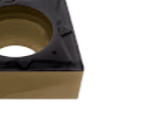


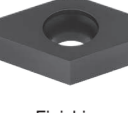









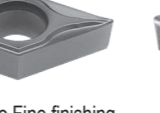











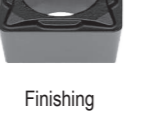
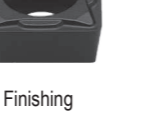


NEGATIVE TURNING INSERTS overview



SNMA  Roughing Square 90°	SNMG-NMF  Finishing Square 90°	SNMG-NSF  Medium to Finishing Square 90°	SNMG-NMR  Medium Square 90°	SNMG-NPM  Medium Square 90°	SNMG-NST  Medium Square 90°
SNMG-NSS  Roughing to Medium Square 90°	SNMG-NHR  Roughing Square 90°	SNMM-NRP  Roughing Square 90°	SNMM-NHY  Heavy to Roughing Square 90°	SNMM-NHZ  Heavy to Roughing Square 90°	SNGN  Medium to Finishing Square 90°
SNUN  Roughing to Medium Square 90°	TNMA  Roughing Triangular 60°	TNMG-NMF  Finishing Triangular 60°	TNMG-NSF  Medium to Finishing Triangular 60°	TNMG-NLC  Medium to Finishing Triangular 60°	
TNMG-NMS  Medium Triangular 60°	TNMG-NMR  Medium Triangular 60°	TNMG-NPM  Medium Triangular 60°	TNMG-NST  Medium Triangular 60°	TNMG-NMW  Medium wiper Triangular 60°	TNMG-NSS  Roughing to Medium Triangular 60°
TNMG-NHR  Roughing Triangular 60°	TNMX-N01  Medium to Finishing Triangular 60°	VNMA  Roughing Rhombic 35°	VNMG-NMF  Finishing Rhombic 35°	VNMG-NSF  Medium to Finishing Rhombic 35°	
VNMG-NLC  Medium to Finishing Rhombic 35°	VNMG-NMS  Medium Rhombic 35°	VNMG-NMR  Medium Rhombic 35°	VNMG-NPM  Medium Rhombic 35°	VNMG-NST  Medium Rhombic 35°	VNMG-NSS  Roughing to Medium Rhombic 35°
WNMA  Roughing Trigon 80°	WNMG-NMF  Finishing Trigon 80°	WNMG-NSF  Medium to Finishing Trigon 80°	WNMG-NLC  Medium to Finishing Trigon 80°	WNMG-NMS  Medium Trigon 80°	WNMG-NPM  Medium Trigon 80°
WNMG-NMR  Medium Trigon 80°	WNMG-NST  Medium Trigon 80°	WNMG-NMW  Medium wiper Trigon 80°	WNMG-NSS  Roughing to Medium Trigon 80°	WNMG-NHR  Roughing Trigon 80°	

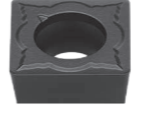




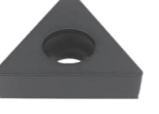

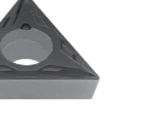
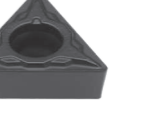
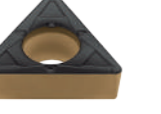


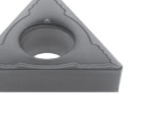






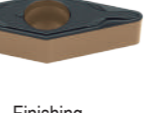
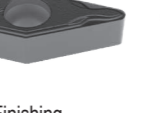

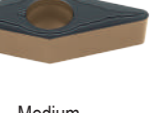
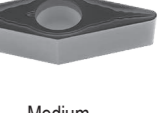
















POSITIVE TURNING INSERTS overview



CCMW  Finishing Rhombic 80°	CCMT-NFP  Finishing Rhombic 80°	CCMT-NBO  Finishing Rhombic 80°	CCMT-NFM  Finishing Rhombic 80°	CCMT-NFK  Finishing Rhombic 80°	CCMT-NFW  Finishing wiper Rhombic 80°
CCMT-NLM  Medium to Finishing Rhombic 80°	CCMT-NMP  Medium Rhombic 80°	CCMT-NMM  Medium Rhombic 80°	CCMT-NMK  Medium Rhombic 80°	CCMT-NMW  Medium to Finishing wiper Rhombic 80°	
CCGT-NFS  Finishing to Fine finishing Rhombic 80°	CCGT-NLN  Medium to Finishing Rhombic 80°				
DCMW  Finishing Rhombic 55°	DCMT-NFP  Finishing Rhombic 55°	DCMT-NFM  Finishing Rhombic 55°	DCMT-NFK  Finishing Rhombic 55°	DCMT-NFW  Finishing wiper Rhombic 55°	DCMT-NLM  Medium to Finishing Rhombic 55°
DCMT-NMP  Medium Rhombic 55°	DCMT-NMM  Medium Rhombic 55°	DCMT-NMK  Medium Rhombic 55°	DCMT-NMW  Medium to Finishing wiper Rhombic 55°	DCGT-NFS  Finishing to Fine finishing Rhombic 55°	DCGT-NLN  Medium to Finishing Rhombic 55°
RCMT-NCP  Medium Round R°	RCMT-NST  Roughing to Medium Round R°	RCMT-NRF  Roughing to Medium Round R°	RCMT-NRM  Roughing to Medium Round R°		
RCMX-NST  Roughing to Medium Round R°	RCMX-NRM  Roughing to Medium Round R°	RCMX-NRR  Roughing to Medium Round R°	RCGT-NLN  Finishing to Fine finishing Round R°		
SCMW  Finishing Square 90°	SCMT-NFP  Finishing Square 90°	SCMT-NFM  Finishing Square 90°	SCMT-NFK  Finishing Square 90°	SCMT-NMP  Medium Square 90°	SCMT-NMM  Medium Square 90°

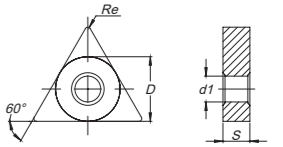
POSITIVE TURNING INSERTS overview



SCMT-NMK  Medium Square 90°	SCGT-NLN  Medium to Finishing Square 90°	SPUN  Medium to Finishing Square 90°	SPMR-N12  Finishing to Fine finishing Square 90°	SPMR-N13  Medium Square 90°	
TCMW  Finishing Triangular 60°	TCMT-NFP  Finishing Triangular 60°	TCMT-NFM  Finishing Triangular 60°	TCMT-NFK  Finishing Triangular 60°	TCMT-NFW  Finishing wiper Triangular 60°	TCMT-NMP  Medium Triangular 60°
TCMT-NMM  Medium Triangular 60°	TCMT-NMK  Medium Triangular 60°	TCMT-NMW  Medium to Finishing wiper Triangular 60°	TCGT-NFS  Finishing to Fine finishing Triangular 60°	TCGT-NLN  Medium to Finishing Triangular 60°	
TPUN  Medium to Finishing Triangular 60°	TPMR-N12  Finishing to Fine finishing Triangular 60°	TPMR-N13  Medium Triangular 60°			
VBMW  Finishing Rhombic 35°	VBMT-NFP  Finishing Rhombic 35°	VBMT-NFM  Finishing Rhombic 35°	VBMT-NFK  Finishing Rhombic 35°	VBMT-NMP  Medium Rhombic 35°	VBMT-NMM  Medium Rhombic 35°
VBMT-NMK  Medium Rhombic 35°					
VCMW  Finishing Rhombic 35°	VCMT-NFP  Finishing Rhombic 35°	VCMT-NFM  Finishing Rhombic 35°	VCMT-NFK  Finishing Rhombic 35°	VCMT-NMP  Medium Rhombic 35°	VCMT-NMM  Medium Rhombic 35°
VCMT-NMK  Medium Rhombic 35°	VCMT-NMK  Medium Rhombic 35°	VCMT-NMK  Medium Rhombic 35°	VCMT-NMK  Medium Rhombic 35°	VCMT-NMP  Medium Rhombic 35°	VCMT-NMM  Medium Rhombic 35°
			VCMT-NMK  Medium Rhombic 35°	VCMT-NMP  Medium Rhombic 35°	VCMT-NMM  Medium Rhombic 35°

W - TRIGON 80°

negative inserts



MAKE YOUR CHOICE		P					M					K		N		S		Dimensions (mm)				Cutting Conditions									
Inserts	ISO Reference	NXG106	NX1515	NXG115	NX1525	NXG125	NX9710	NX1515	NXS215	NX1525	NXS225	NX9710	NX9720	NX7505	NX3520	NX7540	NX9010	NX9710	NX9720	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max		
																														Content of the table body, including various insert types and their compatibility matrices	

● First choice ● Stock item △ Stock item - Until sold out ○ Stock available under request

TURNING - Tooling technology

MAKE YOUR CHOICE		P					M					K		S		Dimensions (mm)				Cutting Conditions											
Inserts	ISO Reference	NXG106	NX1515	NXG115	NX1525	NXG125	NX7540	NXG140	NXS215	NXS225	NX7540	NXS240	NX9710	NX9720	NX7505	NX3520	NX7540	NX9710	NX9720	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max		
																														Content of the table body, including various insert types and their compatibility matrices	

● First choice ● Stock item △ Stock item - Until sold out ○ Stock available under request

TURNING - Tooling technology

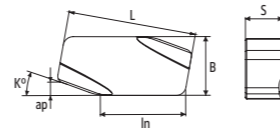
BAR PEELING INSERTS

negative inserts



INGR-NMP

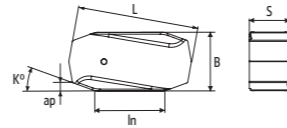
rectangular 90°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	INGR 221240-NMP	△	⊗	○				○				○	○	38,25	-	22,00	17,50	12,00	-	-	4,00	20	2,00	0,40	4,00	3,50	1,00	8,00

JNGF-NMP

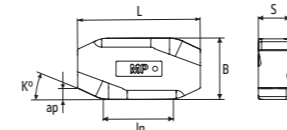
rectangular 90°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	JNGF 201220-NMP	○	△	⊗			△	⊗				○	○	36,90	-	20,00	18,00	12,35	-	-	2,00	20	1,50	1,00	2,00	3,50	1,50	6,00
	JNGF 201220-NMP SP1	○	○									○	○	36,30	-	20,00	18,00	12,45	-	-	2,00	20	1,50	1,00	2,00	3,50	1,50	6,00
	JNGF 201220-NMP SP2	△	⊗	△	⊗			△	⊗			○	○	36,50	-	20,00	18,00	12,45	-	-	2,00	20	1,50	1,00	2,00	3,50	1,50	6,00
	JNGF 271220-NMP	○	○				△	⊗				○	○	36,90	-	27,00	18,00	12,45	-	-	2,00	20	1,50	1,00	2,00	3,50	1,50	6,00

LNGF-NMP

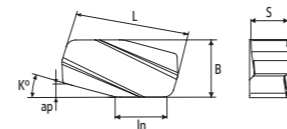
rectangular 90°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	LNGF 201035-NMP	△	⊗	○								○	○	40,00	-	20,00	20,00	10,00	-	-	3,50	25	2,00	0,80	3,50	2,50	1,00	6,50
	LNGF 201235-NMP	△	⊗	○								○	○	40,00	-	20,00	20,00	12,00	-	-	3,50	25	2,00	0,80	3,50	2,50	1,00	6,50

UNGF-NMP

rectangular 90°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	UNGF 171240-NMP	○	△	⊗			△	⊗				○	○	36,50	-	17,00	18,00	12,00	-	-	4,00	15	1,50	0,35	4,00	2,00	1,00	5,00

HEAVY TURNING - Tooling technology

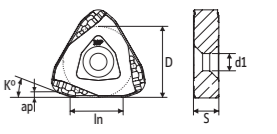
BAR PEELING INSERTS

negative inserts



TNMJ-NMP

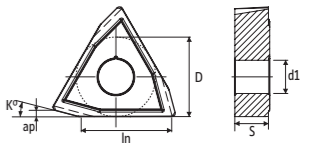
triangular 60°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	TNMJ 201025-NMP	○	△	⊗				△	⊗			○	○	-	28,60	20,00	-	10,00	7,00	-	2,50	20	1,00	0,70	2,50	3,00	1,00	5,50
	TNMJ 201425-NMP	○	△	⊗				△	⊗			○	○	-	28,60	20,00	-	14,00	7,00	-	2,50	20	1,00	0,70	2,50	3,00	1,00	5,50

TNGM-NMP

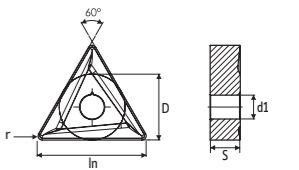
triangular 60°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	TNGM 220812-NMP	○	△	⊗				△	⊗			○	○	-	19,05	22,00	-	8,00	7,96	-	1,20	15	0,70	0,20	1,30	14,00	5,00	18,00

TNMM-NLH

triangular 60°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions														
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NX1535	NXS235	NXS228	NX3520	L	D	In	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
	TNMM 441116-NLH	○						△	⊗		△	⊗	○	○	-	25,40	44,00	-	25,40	44,00	1,60	-	-	12,00	2,00	25,00	0,80	0,50	1,60

● First choice ● Stock item △ Stock item - Until sold out ○ Stock available under request

HEAVY TURNING - Tooling technology

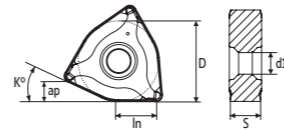
BAR PEELING INSERTS

negative inserts



XNMJ-NMP

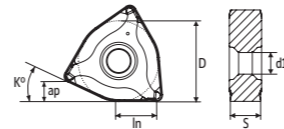
special 85°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	XNMJ 151380-NMP	○	△	△				△	△	△	△	○	-	31,75	15,00	-	13,00	9,00	-	8,00	25	3,00	1,00	6,50	6,00	4,00	12,00	

XNMJ-NMH

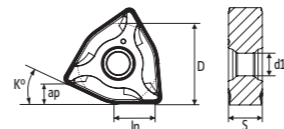
special 85°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	XNMJ 151380-NMH	○	△	△				△	△	△	△	○	-	31,75	15,00	-	13,00	9,00	-	8,00	25	3,00	1,00	6,50	6,00	4,00	12,00	

XNGJ-NRP

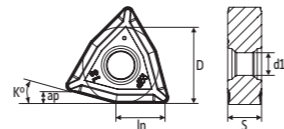
special 85°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	XNGJ 151380-NRP	○	○					○			△	△	○	-	31,75	15,00	-	13,00	9,00	-	8,00	25	3,00	1,00	6,50	6,00	4,00	12,00

WNGJ-NMP

special 75°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions													
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max
	WNGJ 130950-NMP	○	△	△				△	△	△	△	△		-	22,23	13,00	-	9,56	7,93	-	5,00	15	3,00	0,50	5,00	6,00	3,00	11,00

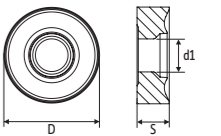
BAR PEELING INSERTS

negative inserts



RNMX-NMP

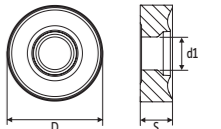
round R°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions														
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
	RNMX 381200-NMP	○		○				○			△	△	○	-	38,10	-	-	12,70	13,00	-	-	-	-	4,00	2,00	8,00	2,00	1,00	4,00
	RNMX 5018M0-NMP	○		○				○			△	△	○	-	50,00	-	-	18,00	12,70	-	-	-	-	6,00	2,00	12,00	3,50	2,50	6,50

RNMX-NRP

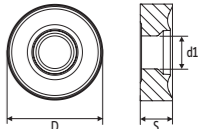
round R°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions														
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
	RNMX 5018M0-NRP	○		○				○			△	△	○	-	50,00	-	-	18,00	12,70	-	-	-	-	6,00	2,00	12,00	6,00	4,00	10,50

RNMG-NST

round R°



MAKE YOUR CHOICE		P	M	K	Dimensions (mm)										Cutting Conditions														
Inserts	ISO Reference	NX1515	NXG115	NX1525	NXG215	NX1535	NXG135	NX1525	NXS225	NXS235	NX2528	NXS228	NX3520	L	D	ln	B	S	d1	r	ap	K°	ap (mm)	Min	Max	fn (mm/r)	Min	Max	
	RNMG 250900-NST	△	△	△	△	△	△	△					△	-	25,40	-	-	9,52	9,12	-	-	-	-	5,00	2,50	10,00	1,00	0,25	2,50

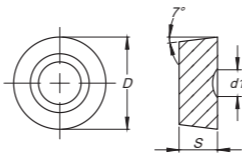
● First choice ● Stock item △ Stock item - Until sold out ○ Stock available under request

RAILWAY INSERTS

positive inserts

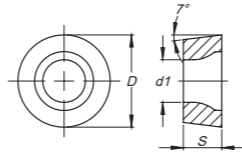


R - ROUND R°



MAKE YOUR CHOICE		P				M				K		S		Dimensions (mm)				Cutting Conditions											
Inserts	ISO Reference	NXG105	NX1515	NXG115	NX1525	NXG125	NX7540	NXG140	NX1515	NXS215	NX1525	NXS225	NX7540	NXS240	NX7505	NX3520	NX7540	NX9710	NX9720	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCMR-RR 	RCMR 2507M0-NRR	●		●															25,00	7,94	-	9,00	5,00	3,20	8,00	1,80	0,80	2,50	
	RCMR 3209M0-NRR	●		●															32,00	9,52	-	12,00	6,50	3,20	13,00	1,80	0,80	2,50	

R - ROUND R°



MAKE YOUR CHOICE		P				M				K		S		Dimensions (mm)				Cutting Conditions											
Inserts	ISO Reference	NXG105	NX1515	NXG115	NX1525	NXG125	NX7540	NXG140	NX1515	NXS215	NX1525	NXS225	NX7540	NXS240	NX7505	NX3520	NX7540	NX9710	NX9720	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
RCMX-ST 	RCMX 2006M0-NST																		20,00	6,35	-	6,50	5,00	2,00	8,00	0,63	0,20	2,00	
	RCMX 2507M0-NST																		25,00	7,94	-	7,20	6,30	2,50	10,00	0,79	0,25	2,50	
	RCMX 3009M0-NST																		30,00	9,55	-	10,00	7,00	3,00	11,00	0,85	0,30	2,80	
	RCMX 3209M0-NST																		32,00	9,52	-	9,50	8,00	3,20	12,80	1,01	0,32	3,20	
RCMX-RM 	RCMX 3209M0-NRM																		32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50	
RCMX-RR 	RCMX 2507M0-NRR																		25,00	7,94	-	7,20	5,00	3,20	8,00	1,80	0,80	2,50	
	RCMX 3209M0-NRR																		32,00	9,52	-	9,50	6,50	3,20	13,00	1,80	0,80	2,50	

● First choice ● Stock item △ Stock item - Until sold out ○ Stock available under request

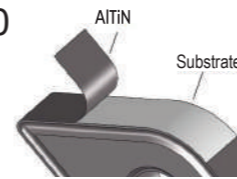
TURNING GRADES description



PVD GRADES

NX9710

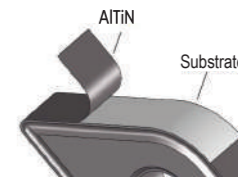
P05-P10
M05-M10
S05-S15



PVD (AITiN) coated carbide grade with a very hard micro grain substrate improves wear resistance, heat dissipation and avoid built-up edge. High performance on "gummy" materials. For light turning of steels, hardened steels, stainless steels and HRSA.

NX9720

P10-P35
M10-M25
S10-S30

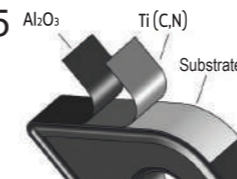


A micro grain size combined with the AITiN PVD coating make it suitable for Roughing to Finishing operations under good cutting conditions to light interrupted cuts at medium cutting speeds. Suitable for steels, stainless steel, HRSA.

CVD GRADES

NX1515

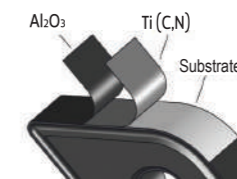
P10-P25
M10-M25



Medium temperature CVD coating with α -Al₂O₃. Carbide grade with a gradient layer close to the surface. Suitable for high to medium cutting speeds on steels & cast steels.

NX1525

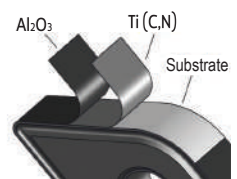
P20-P35
M15-M30



Carbide grade suitable for medium machining of steels & cast steels at medium cutting speeds. The substrate is suitable for the adhesion of the Alumina coating (α -Al₂O₃) medium temperature - CVD, improving the tool life.

NX7540

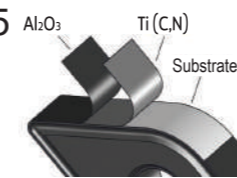
P25-P45
M25-M45
K20-K40



Substrate grade binary (Wc-Co) with medium grain size combined with the medium temperature CVD coating. Suitable for heavy roughing to roughing operations with interrupted cuts at medium to low cutting speeds.

NX7505

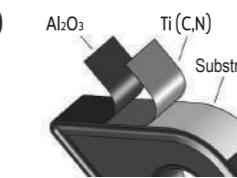
K05-K15



The substrate grade with a very good wear resistance combined with the MT-CVD coating allow to work at high to medium cutting speeds at stable conditions. Recommend for turning of grey cast irons (GCI) or hardened steels. Can also be a solution for high alloy steels.

NX3520

P01-P15
K10-K25



Medium temperature CVD coating (α -Al₂O₃) combined with a hard substrate make it capable of withstanding interrupted conditions. Recommended as general choice for roughing of all cast irons at low to medium cutting speeds. Can also be a solution for high alloy steels.

UNCOATED CARBIDE GRADE

NX9010

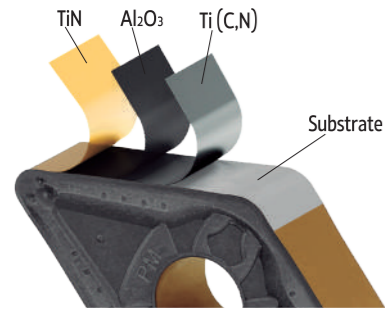
N01-N20



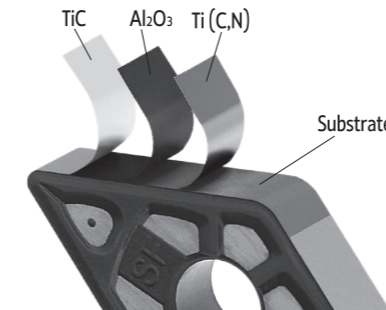
Uncoated carbide micrograin grade combining a good abrasive wear resistance and toughness. Suitable for rough to finish turning of HRSA, Titanium alloys, cast irons and Aluminium alloys.



CVD GRADES



New CVD coating with Al₂O₃+TiN.



New CVD coating with Al₂O₃+TiC.

NXG105
P05-P10

First choice for continuous cut with hardness higher than 38HRC

New CVD coating with Al₂O₃+TiN combined with a very hard substrate.

NXG115
P10-P25

Suitable for high to medium cutting speeds on steels

New CVD coating with Al₂O₃+TiN.

NXG125
P20-P35

Ideal for general application in all kind of steels

Carbide grade suitable for medium machining of steels at medium cutting speeds.

NXG140
P25-P45

First choice for roughing to heavy roughing operations with interrupted cut at medium to low cutting speeds

Binary substrate grade (Wc - Co) with medium grain size combined with a medium temperature CVD coating.

NXS215
M10-M25

Suitable for high to medium cutting speeds in stainless steel. Ideal for turning on good condition of cut (continuous cut)

New CVD coating with TiCN+Al₂O₃+TiC.

NXS225
M15-M30

First choice for general application on turning of stainless steels

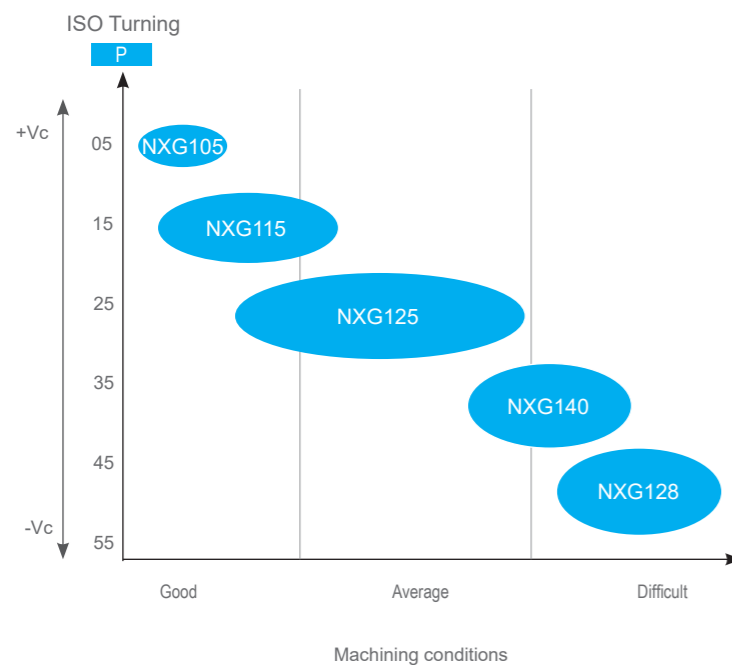
Carbide grade suitable for medium machining of stainless steels and super alloys at medium cutting speeds. New CVD coating with TiCN+Al₂O₃+TiC.

NXS240
M25-M45

First choice for roughing to heavy roughing operations with interrupted cut at medium to low cutting speeds on stainless steel

New CVD coating with TiCN+Al₂O₃+TiC.

GRADES CHART

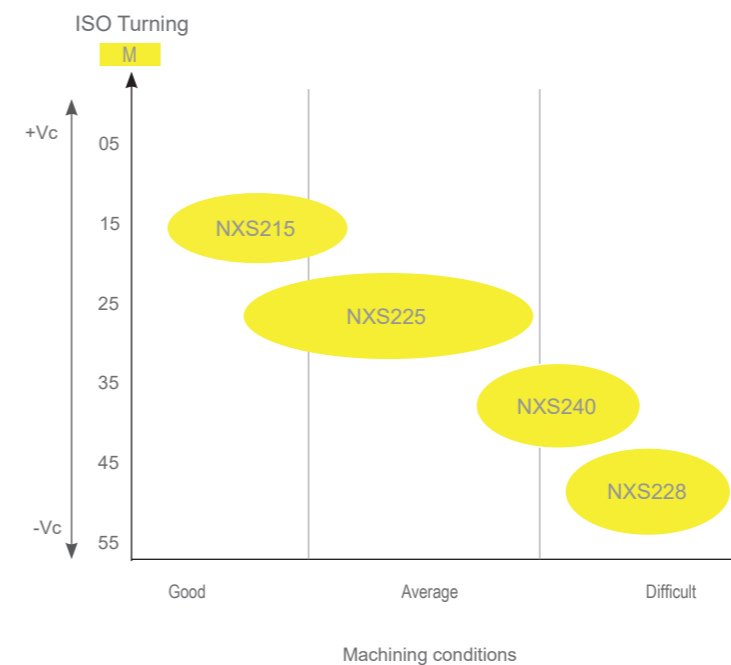


NXG128
P40-P50

A very high toughness grade ideal for heavy roughing applications while using on large I.C inserts

New CVD coating with Al₂O₃+TiN.

GRADES CHART



NXS228
M40-M50

A very high toughness grade ideal for heavy roughing applications while using on large I.C inserts

New CVD coating with TiCN+Al₂O₃+TiC.

TURNING GRADES comparative chart



PVD Coated Grades

ISO	Material												
	NexxTools	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit
P	P01	NX9710								PR915 PR1005	PV3030	PC8110	
	P10	NX9710	GC1525 GC1025	KC5010 KC5510 KU10T	IC250 IC350 IC507 IC570 IC807 IC907 IC908	CP200 TS2001	VP10MF	AH710		PR915 PR1005 PR930 PR1025 PR1115 PR1225 PR1425	PV3010 PV3030 TT7080 TT1040	PC230	
	P20	NX9720	GC1525 GC1025 GC1125	KC5025 KC5525 KC7215 KC7315 KU25T	IC228 IC250 IC308 IC328 IC350 IC354 IC507 IC528 IC570 IC807 IC808 IC907 IC908 IC928 IC1008 IC1028 IC3028	CP250 TS2500	VP10RT VP20RT VP15TF VP20MF	AC520U	AH710 AH725 AH120 SH730 GH730 GH130	PR930 PR1025 PR1115 PR1225	TT7220 TT9020 TT7080 TT9080 TT7070	PC5300 PC8115	SR226 GM127
	P30	NX9720	GC1025 GC1125	KC7015 KC7020 KU25T KC7235	IC228 IC250 IC328 IC330 IC354 IC528 IC1008 IC1028 IC3028	CP500	VP10RT VP20RT VP20MF	AC530U	AH725 AH120 SH730 GH730 GH130 AH740 J740		TT9030 TT7030 TT7080 TT9030 TT9080	PC8115	GM40 CTP1235 CTP2235 SR226 GM127
	P40	NX7740		KC7040 KV7140 KV7030	IC228 IC328 IC330 IC528 IC1008 IC1028 IC3028	CP500		AC530U	AH740 J740		TT7080 TT8030 TT7070	PC3545	CTP2440 GM40 CTP1235 CTP2235
M	M01	NX9710	GC1005		IC520	TS2000 CP200	VP10MF		WSM10	PR915	TT5080		
	M10	NX9710	GC1005 GC1025 GC1125 GC1105	KC5010 KC5510 KC6005 KC6015	IC330 IC354 IC507 IC520 IC570 IC807 IC907 IC3028	CP200 TS2000	VP10MF	AH710	WSM20	PR915 PR1025 PR1225 PR1425	TT5030 PV3010 PV3030 TT9030	PC8110 PC9030	
	M20	NX9720	GC1005 GC1025 GC1125 GC1105	KC5025 KC5525 KC7020 KC7025	IC250 IC330 IC354 IC808 IC908 IC1008 IC1028 IC3028	CP250 TS2500 CP500	VP10RT VP20RT VP15TF VP20MF	AC520U	AH710 AH725 AH120 SH730 GH730 GH130 GH330 AH60	PR1025 PR1125 PR1225 PR915 PR930	TT5030 PV3030 TT9020 TT9030	PC9030 PC8110 PC8115	CTP2120 CTP1235 SR226 GM127
	M30	NX9720	GC1125 GC2035	KC7030 KC7225	IC228 IC250 IC328 IC330 IC1008 IC1028 IC3028	CP500	VP10RT VP20RT VP15TF VP20MF MP7035	AC520U AC530U	GH330 AH725 AH120 AH730 GH730 GH130 J740 AH645	PR1125	TT9030 TT9080 TT8030	PC9030	CTP2240 CTP1235 CTP2235 SR226 GM127
M40	NX7740	GC2035		IC328 IC928 IC1008 IC1028 IC3028		MP7035	AC530U	J740		TT8010 TT8020 TT8030	PC5400	CM40 CM45 CTP2440	

NX9710 = Best available choice

TURNING GRADES comparative chart



ISO	Material													
	NexxTools	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit	
K	K10			KC5010 KC7210	IC350 IC1008	CP200 TS2000		AC510U	GH110 AH110 AH710		PR905	PV3010 PV3030	PC5300	SR216 SR226
	K20			KC7015 KC7215 KC7315	IC228 IC350 IC808 IC908 IC1008	CP200 CP250 TS2000 TS2500	VP10RT VP20RT VP15TF		GH110 AH110 AH710 AH725 AH120 GH730 GH130		PR905	TT6060 TT8020 TT8030	PC5300	CTP2120 CTP2440 SR216 SR226
	K30			KC7225	IC228 IC350 IC808 IC908 IC1008	CP500	VP10RT VP20RT VP15TF		AH725 AH120 GH730 GH130			TT9030 TT6290 TT9030 TT8030		CTP2440
S	S01	NX9710			IC507 IC907		MP9005 VP05RT		AH905 AH905 SH730	WDSM10	PR915		PC8110	
	S10	NX9710	GC1105 GC1005 GC1025	KC5010 KC5410 KC5510	IC507 IC903 IC300 IC808	CP200 CP250 TS2000 TS2500 CP250	MP9015 VP10RT MP9015	AC510U	AH110 AH120	WSM20	PR915	TT5030 TT5030	PC8110 PC8115 PC8105	CM40 SR226 CM45
	S20	NX9720	GC1025 GC1125	KC5025 KC5525	IC908 IC3028 IC806	TS2500 CP500	MT9015 VP20RT	AC510U AC520U	AH120 AH720	WSM30	PR1125	TT8020 TT8030	PC8815 PC5300	CTP2440 GM127
	S30	NX9720	GC1125				VP15TF	AC520U	AH725		PR1125	TT8020	PC5400	CTP2135

NX9710 = Best available choice

TURNING GRADES comparative chart



CVD Coated Grades

ISO	Material													
	NexxTools	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit	
P	P05	NXG105	GC4205 GC4005	KCP05 KC9105	IC9150 IC8150 IC428	TP0500 TP1500	UE6105	AC810P AC700G	T9105 T9005	WPP01	CA510 CA5505	TT1300	NC3010	
	P10	NXG105 NX1515 NXG115	GC4315 GC4215 GC4015 GC4325	KCP10B KCP10 KCP25 KC9110	IC9150 IC9015 IC8150 IC8250	TP1500 TP2500	UE6105 MC6015 UE6110 MY5015	AC810P AC700G AC820P AC2000	T9105 T9005 T9115	WPP01 WPP05	CAS510 CA5505 CA515 CA5515	TT1300 TT7310 TT7400	NC3215	CTC1110 CTC1115 CTC3110 TCC410
	P20	NX1515 NXG115 NX1525 NXG125	GC4315 GC4215 GC4015 GC4325 GC4225 GC4025	KCP25B KCP25 KC9125	IC9015 IC8250 IC9050 IC9250 IC8350	TP2500	MC6015 UE6110 MC6025 UE6020 MY5015	AC820P AC2000 AC830P	T9115 T9125	WPP10S WPP20S	CA515 CA5515 CA525 CA5525 CR9025	TT3500 TT5100 TT7400 KT7300 TT7800	NC3220 NC3220 NC3120	CTC1110 CTC1115 CTC1125 CTC1130 CTC1425
	P30	NX1525 NXG125	GC4325 GC4225 GC4025 GC4235 GC4035	KCP30 KCP40 KCP8050	IC8350 IC9250 IC9350	TP3500 TP3000	MC025 UE6020 UE6035 UH6400	AC830P AC630M	T9125 T9135 T9035	WPP30S	CA525 CA5525 CA530 CA5335 CR9025	TT3500 TT5100 TT7400 KT7300	NC3215 NC3225 NC3120	CTC1125 CTC1130 CTC1135 CTC1425
	P40	NXG140 NX7540	GC4235 GC4035	KCP30 KCP40 KC9140 KC9040 KC9240 KC9245	IC9350	TP3500 TP3000	UE6035 UH6400	AC630M	T9135 T9035		CA530 CA5535	TT5100 TT7100 KT7300 TT7800	NC500H NC5330	CTC1135 CTC1435 CTC2135
	P50	NXG128	GC4035	KC9245	IC9350									
	M	M10	NXS215 NX1515	GC2015	KCM15	IC9250 IC6015 IC8250	TM2000	MC7015 US7020	AC610M	T9115	WAM20	CA6515		NC9020
M20		NXS215 NX1515 NXS225 NX1525	GC2015	KCM15 KC9225	IC9250 IC6015 IC9025 IC656	TM2000	MC7015 US7020 MC7025	AC610M AC6030M AC630M	T6020 T9125		CA6515 CA6525	TT5100	NC9020	CTC1115 CTC1125 CTC1130 CTC1135
M30		NXS225 NX1525 NXS240 NX7540	GC2025	KCM25 KC9230	IC9350 IC6025 IC635	TM4000	MC7025 US735	AC6030M AC630M	T6030		CA6525	TT5100 TT7100	NC9025	CTC1125 CTC1135 CTC1425 CTC1435 CTC2135
M40		NXS240 NX7540	GC2025	KCM35 KC9240 KC9245	IC6025 IC9350	TM4000	US735	AC6030M AC630M				TT7100	NC9025	CTC2135
M50		NXS228	GC2035	KC9245	IC9350									NC9035
K	K05	NX7505	GC3205 GC3210	KCK05	IC5005 IC9007	TH1500 TK1001 TK1000	MC5005 UC5105	AC405K AC410K	T5105	WAK10	CA4505 CA4010			
	K10	NX7505 NX3520	GC3205 GC3210 GC3215	KCK15B KCK15B KC920 KC9315	IC5005 IC5010 IC9150 IC428 IC4028	TK1001 TK1000 TK2000 TK2001	MC5015 UC5115 MY5015	AC405K AC410K AC415K AC420K AC700G	T5115	WAK20	CA4515 CA4110 CA4115	TT3100 TT7310 TT8115	NC6205 NC6210 NC6215	CTC1110 CTC1115 CTC3110 TCC410 CTC3215
	K20	NX3520	GC3215	KCK20 KC9110 KC9325	IC5010 IC8150 IC9150 IC9015 IC418	TK2001 TK2000	MC5015 UC5115 UE6110 MY5015	AC415K AC420K AC700G AC820P	T5115 T5125	WAK30	CA4515 CA4115 CA4120	TT7310 TT8115	NC6215	CTC1115 CTC1125 CTC1130 CTC1425 CTC3215
	K30	NX7540		KC9125 KC9325	IC9015 IC418		UE6110	AC820P	T5125					TSC30
HEAT RESISTENT / TITANIUM ALLOYS	S01		S05F				US905				CA6515 CA6525 CA6535			

TURNING GRADES comparative chart



ISO	Material																
	NexxTools	Sandvik	Kennametal	Iscar	Seco	Mitsubishi	Sumitomo	Tungaloy	Walter	Kyocera	Taegutec	Korloy	Ceratizit				
N	N01		H10					IC20				KS05F	WK1	KW10	K10		
	N10		H10 H13A	KU10 K313 K68	IC20 IC08 IC28	890 HX KX	HTI10		TH10	WK1	KW10 KWK15	K10	H01				
	N20		H10 H13A	KU10 K313 K68	IC08 IC28	HX KX 883		H1	KS15F	WK1	KW10 KWK15		H01				
	N30				IC28												

NX9710 = Best available choice

NEGATIVE INSERTS CHIP-BREAKER comparative chart



Application		NexxTools	Sandvik	Kennametal	Iscar	Seco	Tungaloy	Mitsubishi	Sumitomo	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Mat.	Operations													
STEEL	Finishing	FM	QF	FS, LF	SF, PP TF		01 TF	PK FH	FA		DP	FA	VF, HU	
	Medium to Finishing	NMF, NLC	PF, QF, LC MF, R/L-K	FF, FN	F3P, NF, SF	FF2, FF1	TS, TSF, ZF 11, NS, AS, TQ, NM, CB, C	SA, FY, C, SH, MP	SU, FL, SE, SX	NF3, NS6	PQ, VFCJ PQ, GP, PP, HQ, GS, CQ	FG, VF, EA FC, MC, ML, MP	VL	CF, TF
	Medium Wiper	NMW*	WL, WF, WMX WM, WR	FW, MW, RW	WF, WG	W-MF2, W-MF3	AFW, FW, ASW, SW	SW	LUW, SEW, GUW	NF, NM	WP, WQ	WS, WT		TFQ, TMQ
	Medium to Roughing	NPM, NMR	PM, QM, XM, XRM	P, MN	M3P, M3M, PP, TF, GN	MR7, MR6, M5, M6	TM, AM, DM, ZM All-round	MA, MH, MP	GU GE, UX	NMT, NM4	HS, PT, GT, CS, PS	PC, MT MC, MG-	VM	TMF, TMM M50
	Roughing	NHR, NRP*	HM, PR MR	RN, RP MR	NR MR	MR6, R5	TH, THS	RP, GH HZ, HL	MU, ME HG	NM5, NM6 NM9	PH All-round	RT	GR, HR	TM, TRM
	Heavy Roughing	NRP*, NHY*, NHZ*	PR, MR, HR, QR	RM RH	R3P, NM	R4, RR6	TU, TRS, TUS	HM, HX HV	HG, HP HU, HW HF	NR6, NRF NRR	PX	HT, HD RX, RH HY, HZ	GH, VT	TRR, TR, R28, R58, R88
STAINLESS STEEL	Finishing	NMF, NSF	MF, XF, LC, R/L-K	FP	TF, VL	FF2, FF1, MF1	SF, SA, SS	GM, MS, SH, LM	EX, EG, SU, EF	NF4 NMS	GU, MQ	EA, SF, SU, FG	VP2	CF, F30 M34 F32, TF
	Medium	NMS, NSF	MM, QM, XM, XRM	MP, P	M3M, PP	MF2, FF2, MF5	SM S	MM, MA ES	GU HM	NM4	TK MU	EM, ET	VP3, HS	TMF, M42 M30, M52
	Roughing	NSS, NRP, NHZ*	MR HM, PR	UP, RP	MR, MH	M5, M6, R8, RS, R6	TH, SH, TU	GH, RM, HZ	EM, MU	NR4, NRT, NRS	MS		*GR, VM, VH, GH*	TM, M60, TRM, TMR, TRR R80
CAST IRON	Medium to Finishing	NST	KF, XF	FN	GN	M4, M5	CF	LK, MA	UZ		C	FG	B25	CF
	Medium	NST, NHR, FLAT	KM, QM, XM, XRM	RP, UN		FLAT	CM All-round	MK GK	GZ	NM5	ZS All-round	MT MG	FLAT	M50
	Roughing to Heavy Roughing	NHR, FLAT, NHZ*	KR Without chipbreaker	Without chipbreaker		MR7, M5	CH Without chip-breaker	RK Without chip-breaker	Without chip-breaker	Without chip-breaker	GC Without chip-breaker	RT	GR	TMR, TR R28, R58, R88
ALUMINIUM	Medium	NMS	MF, QM	MS, MP MG	PP	-	P		AX		AH, A3	ML	HA	F32
HRSA	Finishing	NSF, NMS	SF 01	FS, LS MS		MF1, M1	HRF	FJ, LS	EF EX	NFT NF4	MQ	SF	VP1	
	Medium	NSF, NSS	MM, QM SMR	UP, P, NGP RP	PP	MR3, MR4	HRM, HMM, SA	MS RS GJ	EG MU	NMS NM4, NRS, NR4	TK MS MU	SU	VP2, VP3	M34, M52

NMS = Best available choice

*=Wiper

"= Single face insert

POSITIVE INSERTS CHIP-BREAKER comparative chart



Application		NexxTools	Sandvik	Kennametal	Iscar	Seco	Tungaloy	Mitsubishi	Sumitomo	Walter	Kyocera	Taegutec	Korloy	Ceratizit
Mat.	Operations													
STEEL	Fine Finishing	NFS	UM	UF	SF	F1, MF2	01	FV, SMG	FC, FW	PF2	CF, CK	FA	HFP	F32
	Finishing	NFS, NFP	R/L-K, PF, XF, UF	11, GM, LF	PF, SM, 14 17, 19, XL	FF1, F2, M3, MF2	PSF, PF, SS PS, PSS, TS	FP, FV, SV, LP	FP, FZ, LU, FK, SS, SC SU, SK, SF	PF5, PF4, PS5	CQ, GK, GP HQ, XP, XQ	FG, GF	VF, VL, F	SF, SMF, SMQ
	Finishing Wiper	NFW*	WF	FW	WF	W-F1	TSW, W08	SW	LUW, SDW	PF				
	Finishing to Medium	NMP	PM	MF, MP, GM, MR	DT, HQ	MF2	PM, 23, 24 RS	MP, MV	SU, UM, UJ	PM5	VF, MF	MT, PC	HMP, C25, M .CMX	SM
	Finishing to Medium Wiper	NMW*	WM	MW	WG			MW		PM		WT		
	STAINLESS STEEL	Fine Finishing	NFS	UM	LF, GM	SM	F1, MF2, FF1	PSF	FJ	FC	PF2	GQ, GF	FG	HFP
Finishing		NFS, NFM, NLM	MF, UF, R/L-K	MF	PF, 14	F2, M3	SS, PSS	FM, FV, SV	SU	PF4	MQ	FA	VF, F	SF, SMF, SMQ
Finishing Wiper		NFW*	WF	FW	WF	W-F1		SW		PF				
Finishing to Medium		NMM, NLM	MM, XM	MF, MP	SM	MF2, M5	PM	MM, MV	UM	PM5	XQ, VF	MT, PC	HMP, C25, M	F23, F43, SM
Finishing to Medium Wiper		NMW*	WM	MW	WG			MW		PM		WT		
CAST IRON	Finishing	NFK	KF	11	PF	M3		FV	SK		GK	FA	HMP	SF
	Finishing Wiper	NFW*	WF	FW	PF	W-F1		SW	LUW	PF		MT, PC		
	Finishing to Medium	NMK, FLAT	KM, KR	MF, MP, FLAT	PM5, 19, FLAT	M5	CM, FLAT	MV, MK, FLAT	UM, FLAT	PM5, PS5	FLAT	FALT	C25, HMP, FLAT	25P, 27, 29
	Finishing to Medium Wiper	NMW*	WM	MW		W-F2		MW		PM		WT		
ALUMINIUM	Medium	NLN	AL	HP, GT	AF, AS	AL	AL, PP	AZ, R/L-F	AG, AX, AY	PF2, PM2	AH, A3	FL	AK, AR	23P, 25P, 27
HRSA	Fine Finishing	NFS	UM	LF	SM	F1, MF2	PSF, PF, SS PS, PSS, TS	FJ	FC	PF2	GQ		HFP	SF
	Finishing	NFM, NLM	MF, UF, R/L-K	GM	PF, 14	F1	PSS, PS	FV	FX, FY	PF4	MQ	FA	HFP	F23, F43, SM
	Finishing Wiper	NFW*	WF	FW	WF					PF				
	Finishing to Medium	NMM, NLM	MM, XM	MF	SM		PM	MV	SI	PM5	MQ	FG	HMP	SM, 25P 29
	Finishing to Medium Wiper	NMW*	WM	MW	WG					PM				

NEGATIVE INSERTS CHIP-BREAKER specifications



Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes									
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	KN	CN	DN	RN	SN	TN	VN	WN		
Knux's	Finishing	U	P M K	N01			0,20 to 0,35	1,00 to 6,00	●	●								
	Medium	U	P M K	N02			0,40 to 0,70	1,50 to 6,00	●									
NEGATIVES - double side	Medium Finishing	M	P M	N01			0,12 to 0,50	1,00 to 6,50			●		●					
	Roughing to Medium	M	P M	N02			0,14 to 0,50	0,70 to 5,00			●							
	Medium Finishing	M	P M	N03			0,15 to 0,50	0,80 to 6,00			●							
		M	P M	NMF			0,05 to 0,60	0,10 to 2,50		●	●		●	●	●	●		
	Medium Finishing	M	M N S	NMS			0,10 to 0,80	0,20 to 4,50		●	●			●	●	●		
	Medium Finishing	M	M S	NSF			0,10 to 0,55	0,60 to 3,00		●	●		●	●	●	●		
	Medium Finishing	M	P	NLC			0,07 to 0,50	0,60 to 3,00		●	●			●	●	●		
	Medium Finishing	M	K	NST			0,10 to 2,50	0,15 to 10,50		●	●	●	●	●	●	●		
	Medium Finishing	M	P	NMR			0,10 to 0,70	0,30 to 9,00		●	●		●	●	●	●		
	Medium Finishing	M	P	NPM			0,10 to 0,60	0,30 to 9,00		●	●			●		●		

* T-Land varies according to the IC (IC reference used: 12,7mm)
** Cutting Conditions varies according to the Insert shape, IC and Nose Radius

NEGATIVE INSERTS CHIP-BREAKER specifications



Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes								
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	KN	CN	DN	RN	SN	TN	VN	WN	
NEGATIVES - double side	Medium Finishing	M	K	Flat			0,08 to 2,50	0,10 to 15,00		●	●	●	●	●	●	●	
	Medium Wiper	M	P M K	NMW			0,15 to 0,90	0,30 to 6,00		●	●			●			●
	Roughing to Medium roughing	M	M S	NSS			0,10 to 1,00	0,30 to 8,50		●	●		●	●	●	●	
	Roughing	M	P M K	NHR			0,20 to 1,20	0,80 to 15,00		●	●		●	●		●	
NEGATIVES - Single side	Roughing	M	P M	NRP			0,30 to 1,50	2,00 to 12,00		●			●				
	Heavy Roughing to Roughing	M	P M	NHY			0,35 to 1,60	2,00 to 15,00		●			●				
	Heavy Roughing	M	P K	NHZ			0,35 to 1,60	2,40 to 17,00		●			●				

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** Cutting Conditions varies according to the Insert shape, IC and Nose Radius

POSITIVE INSERTS CHIP-BREAKER specifications



Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes							
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	CC	DC	RC	SC	TC	VC	VB	
									80°	55°		90°	60°	35°	35°	
POSITIVES - Clearance angle 5° and 7°	Fine Finishing	M	P	NFP			0,03 to 0,45	0,06 to 2,40	●	●		●	●	●	●	●
							0,05 to 0,30	0,30 to 1,50	●							
							0,03 to 0,45	0,06 to 2,40	●	●		●	●	●	●	
							0,03 to 0,30	0,06 to 2,40	●	●		●	●	●	●	
	Fine Finishing wiper	M	P	NFW			0,05 to 0,50	0,30 to 3,50	●	●		●				
							0,08 to 0,35	0,20 to 3,00	●	●						
	Finishing	M	P	NLM			0,01 to 0,25	0,10 to 3,00	●	●						
							0,05 to 1,60	0,05 to 7,00	●	●	●	●	●	●	●	
	Finishing to fine finishing	G	P	NFS			0,04 to 0,80	0,05 to 6,30	●	●		●	●	●	●	●
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	
	Finishing	M	K	NMP			0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	●
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	
							0,06 to 0,60	0,19 to 3,60	●	●		●	●	●	●	

* T-Land varies according to the IC (IC reference used: 12,7mm)
 ** Cutting Conditions varies according to the Insert shape, IC and Nose Radius

POSITIVE INSERTS CHIP-BREAKER specifications



Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes						
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	CC	DC	RC	SC	TC	VC	VB
									80°	55°		90°	60°	35°	35°
POSITIVES - Clearance angle 5° and 7°	Finishing Wiper	M	P	NMW			0,10 to 0,50	0,50 to 4,00	●	●			●		
							0,04 to 0,17	0,50 to 2,40			●				
							0,25 to 2,50	2,50 to 10,00			●				
	Medium to finishing	M	P	NRF			0,05 to 3,20	0,80 to 12,80			●				
							0,80 to 2,50	3,20 to 13,00			●				
	Roughing to Medium	M	P	NRM			0,80 to 2,50	3,20 to 13,00			●				
							0,80 to 2,50	3,20 to 13,00			●				
							0,80 to 2,50	3,20 to 13,00			●				

* T-Land varies according to the IC (IC reference used: 12,7mm)
 ** Cutting Conditions varies according to the Insert shape, IC and Nose Radius

Insert Type	Application	Tolerance Class	Major field of Application	Geometry	Cutting Edge*		Cutting Conditions**		Available Shapes	
					at the nose radius	at the flank	Feed Fn (mm/rev)	Depth of cut DOC (mm)	CC	DC
									80°	55°
POSITIVES - Clearance angle 11°	Medium to Finishing	U	P	Flat			0,05 to 2,20	1,00 to 10,00	●	●
							0,03 to 0,55	0,10 to 3,00	●	●
	Finishing to Fine Finishing	M	P	N12			0,03 to 0,55	0,10 to 3,00	●	●
Medium	M	P	N13			0,03 to 0,55	0,20 to 7,00	●	●	

* T-Land varies according to the IC (IC reference used: 12,7mm)
 ** Cutting Conditions varies according to the Insert shape, IC and Nose Radius

ISO	Material	Grade f _n (mm/r)	CVD Coating														
			Wear Resistance										Toughness				
			NXG105			NX1515			NXG115			NX1525			NXG125		
HB (brinell)	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8	0.2	0.4	0.8		
P	Unalloyed steel	125-170	280-380	210-300	200-250	250-350	180-270	170-220	250-350	180-270	170-220	200-295	170-240	150-215	200-295	170-240	150-215
	Low-alloy steel	180-350	220-280	200-260	170-210	190-250	170-230	140-180	190-250	170-230	140-180	170-230	140-210	120-190	170-230	140-210	120-190
	High-alloy steel	200-325	165-250	150-235	140-230	135-220	120-205	110-200	135-220	120-205	110-200	125-215	110-185	100-170	125-215	110-185	100-170

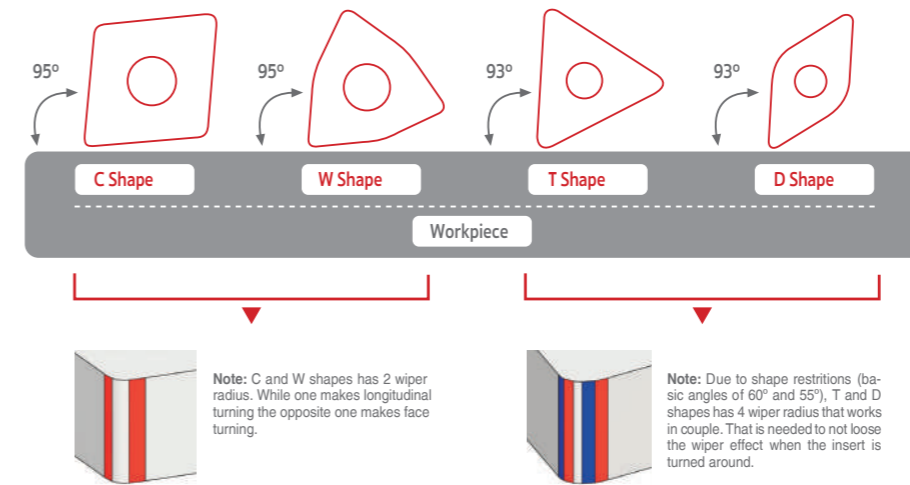
ISO	Material	Grade f _n (mm/r)	CVD Coating											
			Wear Resistance						Toughness					
			NXS215			NX1525			NXS225			NX7540		
HB (brinell)	0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6		
M	SS - Ferritic/martensitic	200-330	125-260	100-220	80-200	110-230	70-175	50-135	110-230	70-175	50-135	85-180	65-160	45-135
	SS - Austenitic	180-330	130-290	100-240	80-190	100-240	70-175	55-130	100-240	70-175	55-130	85-170	65-145	45-125
	SS - Austenitic-ferritic (Duplex)	230-260	190-220	150-185	120-145	150-190	120-150	90-110	150-190	120-150	90-110	130-160	110-135	85-105

ISO	Material	Grade f _n (mm/r)	CVD Coating								
			Wear Resistance						Toughness		
			NX7505			NX3520			NX7540		
HB (brinell)	0.2	0.4	0.6	0.2	0.4	0.6	0.2	0.4	0.6		
K	Marble cast iron	130-230	160-360	140-280	120-235	150-330	130-240	110-220	110-230	100-215	100-190
	Grey cast iron	180-220	220-380	190-330	150-290	200-330	170-280	150-230	150-230	140-220	110-210
	Nodular cast iron	160-380	150-280	135-265	120-220	140-250	125-230	110-220	125-220	115-205	105-185

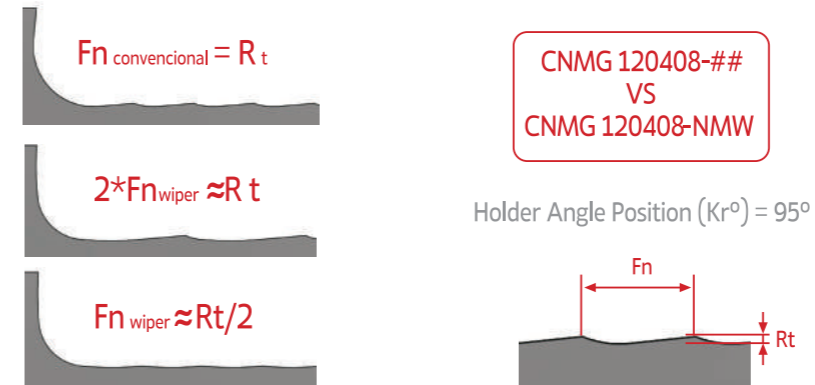
ISO	Material	Grade f _n (mm/r)	Uncoated	
			NX9010	
			0.15	0.8
N	Aluminium alloys	60-130	375-2400	40-240
	Cooper and cooper alloys	90-110	375-630	35-65

ISO	Material	Grade f _n (mm/r)	PVD Coating					
			Wear Resistance			Toughness		
			NX9710			NX9720		
HB (brinell)	0.1	0.3	0.5	0.1	0.3	0.5		
S	Heat resistant super alloys (Iron base)	200-280	75-130	62-127	55-115	70-120	55-115	50-110
	Heat resistant super alloys (Nickel base)	250-320	55-95	40-90	33-85	35-80	27-75	23-70
	Heat resistant super alloys (Cobalt base)	200-320	55-95	40-90	33-85	35-80	27-75	23-70
	Titanium alloys (400<or<1050[MPa])	-	80-172	70-162	65-155	65-152	50-145	45-135

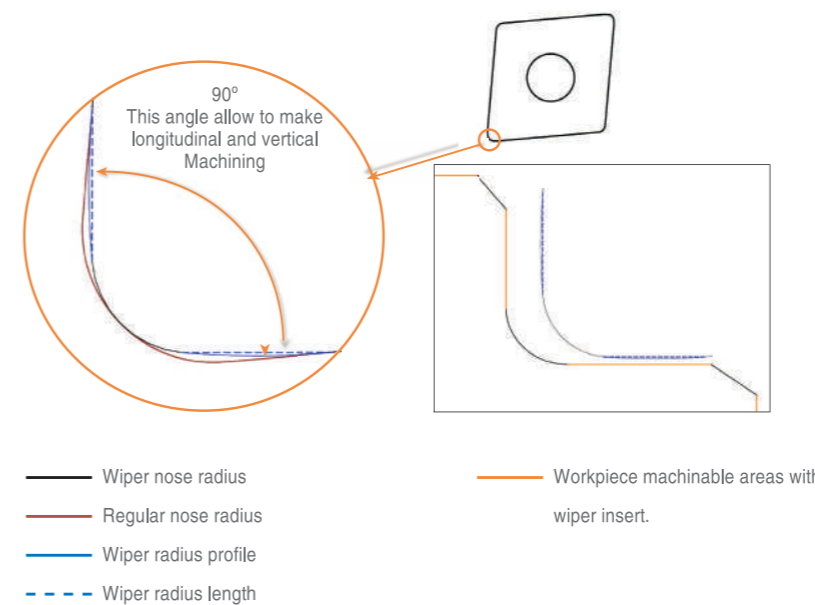
THE ANGLE POSITION (Kr°)



THE WIPER PURPOSE IS BASED ON PRODUCTIVITY:

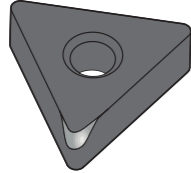
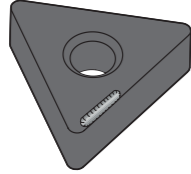
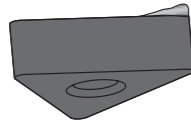
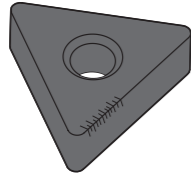


Example CNMG 120404-NMW with angle position of 95°

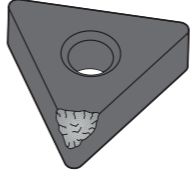
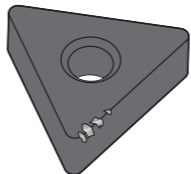
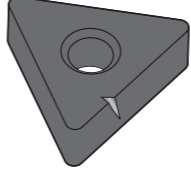
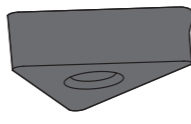


Note: wiper radius length must be parallel to machinable workpiece areas.



Problem	Possible Solution
<ul style="list-style-type: none"> • Flank wear 	<ul style="list-style-type: none"> • Reduce the cutting speed (Vc). • Select a more wear-resistant grade (ex: P40 -> ... -> P10). • Select a toolholder or chipbreaker which allow a bigger relief angle. • Increase the rake angle. • Increase nose radius (Re). • Reduce honing edges.
<ul style="list-style-type: none"> • Crater wear 	<ul style="list-style-type: none"> • Reduce the cutting speed (Vc). • Reduce the feed rate (Fn). • Select a more wear-resistant grade (ex: P40 -> ... -> P10). • Use coolant. • Increase the rake angle. • Increase nose radius (Re).
<ul style="list-style-type: none"> • Built-up edge 	<ul style="list-style-type: none"> • Increase the cutting speed (Vc). • Reduce the feed rate (Fn). • Use water-insoluble coolant fluid. • Select a more easy-cutting chipbreaker. • Increase the rake angle. • Reduce honing edges. • Select grade with low tendency to adhesion.
<ul style="list-style-type: none"> • Thermal cracks 	<ul style="list-style-type: none"> • Reduce the cutting speed (Vc). • Increase the feed rate (Fn). • Use more coolant and correct it volume/accuracy. • Reduce honing edges. • Select a tougher grade (ex: P10 -> ... -> P40). • Increase the rake angle.



Problem	Possible Solution
<ul style="list-style-type: none"> • Breakage or too short tool life 	<ul style="list-style-type: none"> • Step 1. Reduce the cutting conditions (first feed rate, then cutting depth). • Step 2. Look at the wear pattern on the insert and use the table below as a guideline for improvement.
<ul style="list-style-type: none"> • Insert fracture 	<ul style="list-style-type: none"> • Reduce the feed rate (Fn). • Reduce the depth of cut (Ap). • Select a tougher grade (ex: P10 -> ... -> P40). • Use a more rigid toolholder. • Increase nose radius (Re). • Select a stronger chipbreaker. • Reduce the toolholder length. • Select larger shank size.
<ul style="list-style-type: none"> • Edge chipping 	<ul style="list-style-type: none"> • Increase the cutting speed (Vc). • Reduce the feed rate (Fn). • Select a stronger chipbreaker. • Select a tougher grade (ex: P10 -> ... -> P40). • Reduce the rake angle. • Increase honing edges. • Reduce the toolholder length. • Select larger shank size.
<ul style="list-style-type: none"> • Notch wear 	<ul style="list-style-type: none"> • Reduce the cutting speed (Vc). • Reduce the feed rate (Fn). • Select a tool with a smaller setting angle (Kr°). • Select a more wear-resistant grade (ex: P40 -> ... -> P10).
<ul style="list-style-type: none"> • Plastic deformation 	<ul style="list-style-type: none"> • Reduce the cutting speed (Vc). • Reduce the feed rate (Fn). • Select a more wear-resistant grade (ex: P40 -> ... -> P10). • Use more coolant and correct it volume/accuracy. • Choose grade with better heat conductivity. • Increase the rake angle. • Increase nose radius (Re). • Increase relief angle.





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