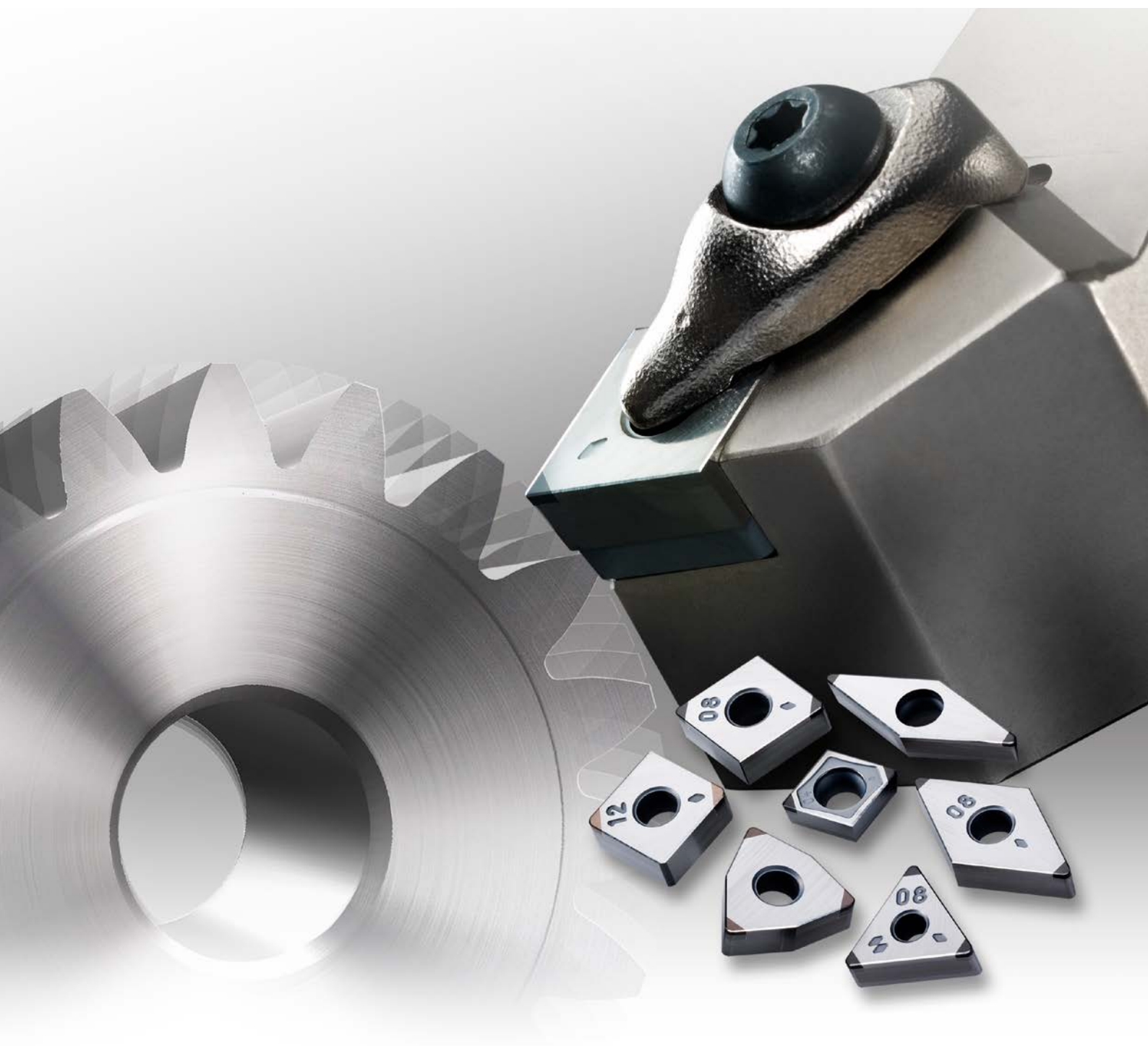


MB4120

CBN GRADE FOR SINTERED ALLOY AND CAST IRON



MB4120

EXCELLENT FRACTURE RESISTANCE AND STABILITY FOR
IMPROVED PRODUCTIVITY



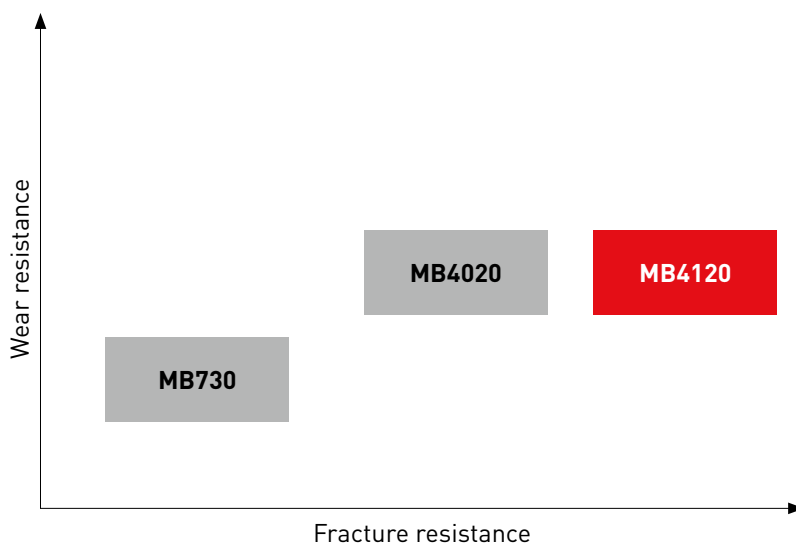
Increasing the CBN particle content and bonding strength makes it suitable for machining a wide range of sintered materials.

HIGH FRACTURE RESISTANCE

Fine CBN particles increase cutting edge toughness. The high fracture resistance allows a stable performance even during interrupted machining.

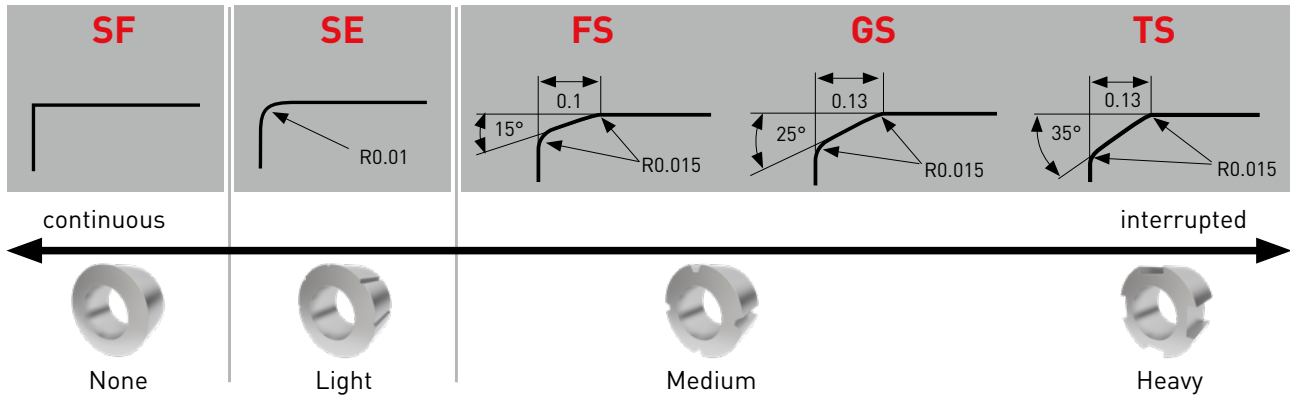
HIGH ADHESION STRENGTH OF FINE CBN PARTICLES

Optimisation of the sintering conditions strengthens adhesion between the fine CBN particles. This increases both fracture and wear resistance.



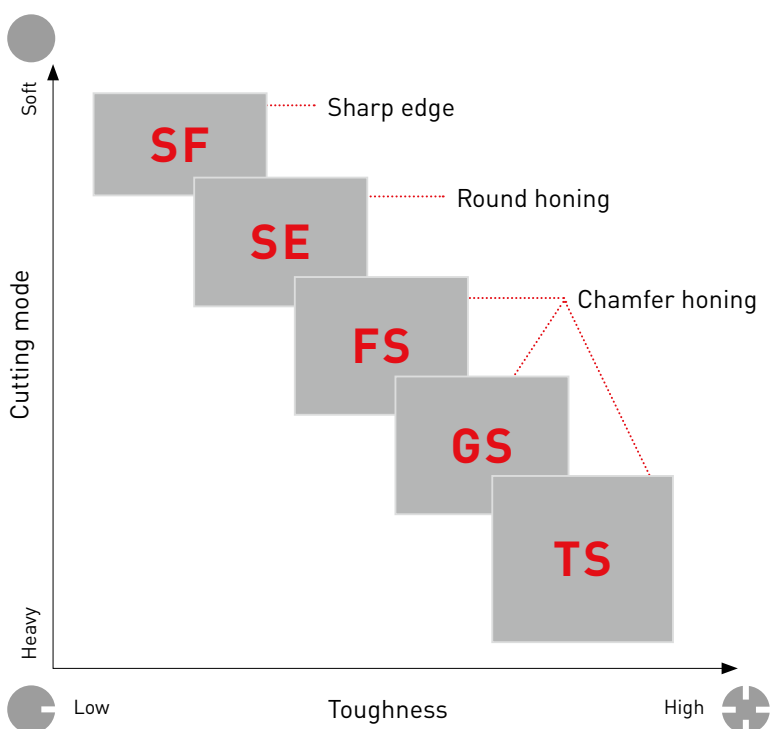
GEOMETRY

CUTTING EDGE PREPARATION



WIDE RANGE OF EDGE PREPARATION (HONING)

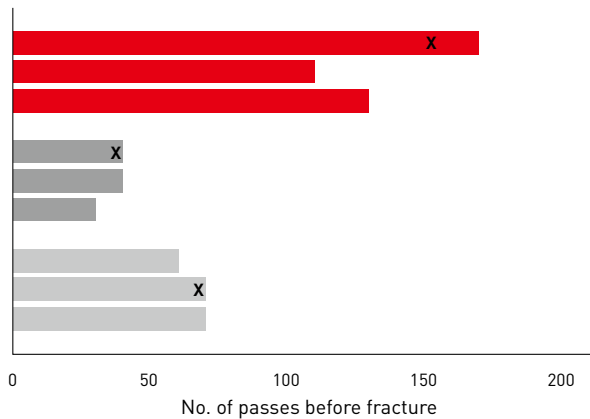
The SF honing type offers a sharper cutting edge, leading to the reduction in cutting resistance and burr development, plus also enabling an improvement in component surface finishes. The SF type is the first general recommendation, but for an increase in cutting edge strength and chipping resistance there are the SE, FS, GS and TS honing types.



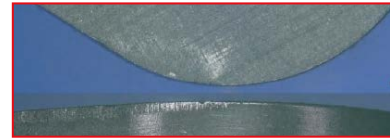
INCREASED FRACTURE RESISTANCE DURING HEAVY INTERRUPTED MACHINING

Fracture resistance comparison during interrupted facing of a high strength sintered alloy.

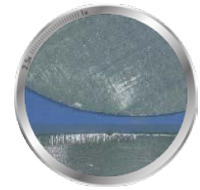
Material	High strength sintered alloy
Insert	NP-TNGA160408SE3
Vc (m/min)	150
f (mm/rev)	0.15
ap (mm)	0.1
Cutting Mode	Wet cutting



MB4120



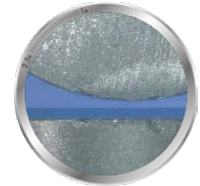
Chipping 150 pass



Conventional A



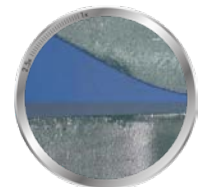
Chipping 40 pass



Conventional B



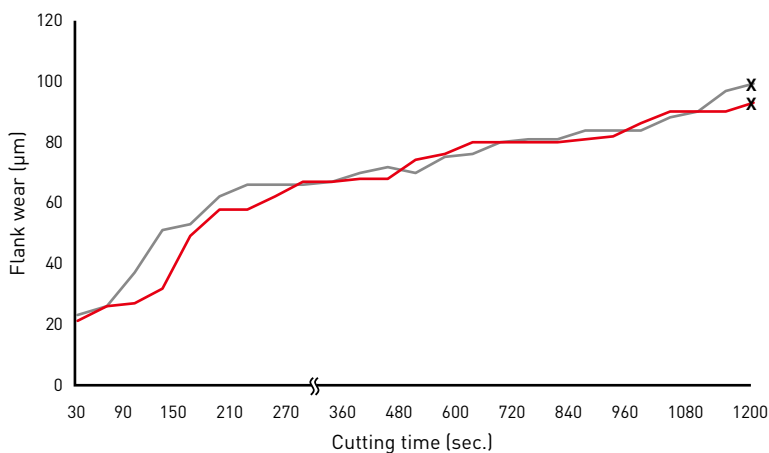
Chipping 70 pass



COMPARISON OF CONTINUOUS MACHINING OF DIN GG25

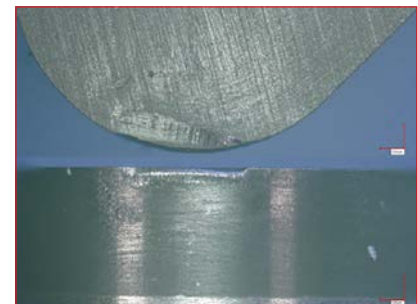
Excellent fracture resistance compared to conventional products.

Material	DIN GG25 (Perlite)
Insert	NP-TNGA160408SF3
Vc (m/min)	800
f (mm/rev)	0.1
ap (mm)	0.2
Cutting Mode	Dry cutting



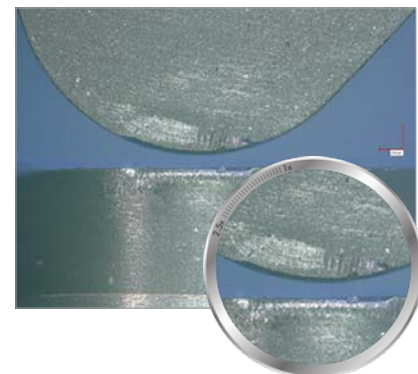
MB4120

1200 sec



Conventional

1200 sec



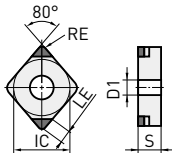
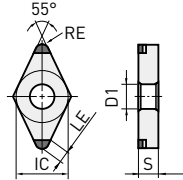
MB4120

NEGATIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-CNGA120404SF2	▲	★	2	12.7	4.76	0.4	5.16	1.9	 	NEW PETIT CUT
NP-CNGA120408SF2	▲	●	2	12.7	4.76	0.8	5.16	2.1		
NP-CNGA120412SF2	▲	★	2	12.7	4.76	1.2	5.16	2.3		
NP-CNGA120404SE2	▲	★	2	12.7	4.76	0.4	5.16	1.9		
NP-CNGA120408SE2	▲	●	2	12.7	4.76	0.8	5.16	2.1		
NP-CNGA120412SE2	▲	★	2	12.7	4.76	1.2	5.16	2.3		
NP-CNGA120404FS2	▲	●	2	12.7	4.76	0.4	5.16	1.9		
NP-CNGA120408FS2	▲	●	2	12.7	4.76	0.8	5.16	2.1		
NP-CNGA120412FS2	▲	●	2	12.7	4.76	1.2	5.16	2.3		
NP-CNGA120404GS2	▲	●	2	12.7	4.76	0.4	5.16	1.9		
NP-CNGA120408GS2	▲	●	2	12.7	4.76	0.8	5.16	2.1		
NP-CNGA120412GS2	▲	★	2	12.7	4.76	1.2	5.16	2.3		
NP-CNGA120404TS2	▲	★	2	12.7	4.76	0.4	5.16	1.9		
NP-CNGA120408TS2	▲	●	2	12.7	4.76	0.8	5.16	2.1		
NP-CNGA120412TS2	▲	★	2	12.7	4.76	1.2	5.16	2.3		
NP-DNGA150404SF2	▲	★	2	12.7	4.76	0.4	5.16	2.1	 	NEW PETIT CUT
NP-DNGA150408SF2	▲	★	2	12.7	4.76	0.8	5.16	2.0		
NP-DNGA150412SF2	▲	★	2	12.7	4.76	1.2	5.16	1.9		
NP-DNGA150604SF2	▲	★	2	12.7	6.35	0.4	5.16	2.1		
NP-DNGA150608SF2	▲	★	2	12.7	6.35	0.8	5.16	2.0		
NP-DNGA150612SF2	▲	★	2	12.7	6.35	1.2	5.16	1.9		
NP-DNGA150404SE2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-DNGA150408SE2	▲	★	2	12.7	4.76	0.8	5.16	2.0		
NP-DNGA150412SE2	▲	★	2	12.7	4.76	1.2	5.16	1.9		
NP-DNGA150604SE2	▲	★	2	12.7	6.35	0.4	5.16	2.1		
NP-DNGA150608SE2	▲	★	2	12.7	6.35	0.8	5.16	2.0		
NP-DNGA150612SE2	▲	★	2	12.7	6.35	1.2	5.16	1.9		
NP-DNGA150404FS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-DNGA150408FS2	▲	★	2	12.7	4.76	0.8	5.16	2.0		
NP-DNGA150412FS2	▲	★	2	12.7	4.76	1.2	5.16	1.9		
NP-DNGA150604FS2	▲	●	2	12.7	6.35	0.4	5.16	2.1		
NP-DNGA150608FS2	▲	●	2	12.7	6.35	0.8	5.16	2.0		
NP-DNGA150612FS2	▲	●	2	12.7	6.35	1.2	5.16	1.9		
NP-DNGA150404GS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-DNGA150408GS2	▲	★	2	12.7	4.76	0.8	5.16	2.0		
NP-DNGA150412GS2	▲	★	2	12.7	4.76	1.2	5.16	1.9		
NP-DNGA150604GS2	▲	★	2	12.7	6.35	0.4	5.16	2.1		
NP-DNGA150608GS2	▲	●	2	12.7	6.35	0.8	5.16	2.0		
NP-DNGA150612GS2	▲	★	2	12.7	6.35	1.2	5.16	1.9		
NP-DNGA150404TS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-DNGA150408TS2	▲	★	2	12.7	4.76	0.8	5.16	2.0		
NP-DNGA150412TS2	▲	★	2	12.7	4.76	1.2	5.16	1.9		
NP-DNGA150604TS2	▲	★	2	12.7	6.35	0.4	5.16	2.1		
NP-DNGA150608TS2	▲	★	2	12.7	6.35	0.8	5.16	2.0		
NP-DNGA150612TS2	▲	★	2	12.7	6.35	1.2	5.16	1.9		

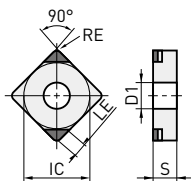
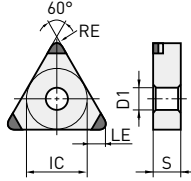
MB4120

NEGATIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-SNGA120404SF2	▲	★	2	12.7	4.76	0.4	5.16	2.1	 	NEW PETIT CUT
NP-SNGA120408SF2	▲	★	2	12.7	4.76	0.8	5.16	2.3		
NP-SNGA120412SF2	▲	★	2	12.7	4.76	1.2	5.16	2.5		
NP-SNGA120404SE2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-SNGA120408SE2	▲	★	2	12.7	4.76	0.8	5.16	2.3		
NP-SNGA120412SE2	▲	★	2	12.7	4.76	1.2	5.16	2.5		
NP-SNGA120404FS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-SNGA120408FS2	▲	●	2	12.7	4.76	0.8	5.16	2.3		
NP-SNGA120412FS2	▲	●	2	12.7	4.76	1.2	5.16	2.5		
NP-SNGA120404GS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-SNGA120408GS2	▲	●	2	12.7	4.76	0.8	5.16	2.3		
NP-SNGA120412GS2	▲	★	2	12.7	4.76	1.2	5.16	2.5		
NP-SNGA120404TS2	▲	★	2	12.7	4.76	0.4	5.16	2.1		
NP-SNGA120408TS2	▲	★	2	12.7	4.76	0.8	5.16	2.3		
NP-SNGA120412TS2	▲	★	2	12.7	4.76	1.2	5.16	2.5		
NP-TNGA160404SF3	▲	★	3	9.525	4.76	0.4	3.81	1.6	 	NEW PETIT CUT
NP-TNGA160408SF3	▲	★	3	9.525	4.76	0.8	3.81	1.8		
NP-TNGA160412SF3	▲	★	3	9.525	4.76	1.2	3.81	1.9		
NP-TNGA160404SE3	▲	★	3	9.525	4.76	0.4	3.81	1.6		
NP-TNGA160408SE3	▲	★	3	9.525	4.76	0.8	3.81	1.8		
NP-TNGA160412SE3	▲	★	3	9.525	4.76	1.2	3.81	1.9		
NP-TNGA160404FS3	▲	●	3	9.525	4.76	0.4	3.81	1.6		
NP-TNGA160408FS3	▲	★	3	9.525	4.76	0.8	3.81	1.8		
NP-TNGA160412FS3	▲	★	3	9.525	4.76	1.2	3.81	1.9		
NP-TNGA160404GS3	▲	★	3	9.525	4.76	0.4	3.81	1.6		
NP-TNGA160408GS3	▲	●	3	9.525	4.76	0.8	3.81	1.8		
NP-TNGA160412GS3	▲	★	3	9.525	4.76	1.2	3.81	1.9		
NP-TNGA160404TS3	▲	★	3	9.525	4.76	0.4	3.81	1.6		
NP-TNGA160408TS3	▲	★	3	9.525	4.76	0.8	3.81	1.8		
NP-TNGA160412TS3	▲	★	3	9.525	4.76	1.2	3.81	1.9		

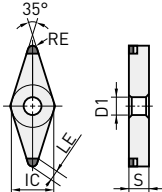
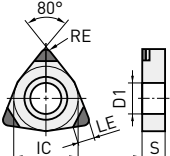
MB4120

NEGATIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-VNGA160404SF2	▲	★	2	9.525	4.76	0.4	3.81	2.5		
NP-VNGA160408SF2	▲	★	2	9.525	4.76	0.8	3.81	2.0		
NP-VNGA160404SE2	▲	★	2	9.525	4.76	0.4	3.81	2.5		
NP-VNGA160408SE2	▲	★	2	9.525	4.76	0.8	3.81	2.0		
NP-VNGA160404FS2	▲	★	2	9.525	4.76	0.4	3.81	2.5		
NP-VNGA160408FS2	▲	●	2	9.525	4.76	0.8	3.81	2.0		
NP-VNGA160404GS2	▲	★	2	9.525	4.76	0.4	3.81	2.5		
NP-VNGA160408GS2	▲	★	2	9.525	4.76	0.8	3.81	2.0		
NP-VNGA160404TS2	▲	★	2	9.525	4.76	0.4	3.81	2.5		
NP-VNGA160408TS2	▲	★	2	9.525	4.76	0.8	3.81	2.0		
NP-WNGA080408SF3	▲	★	3	12.7	4.76	0.8	5.16	2.1		
NP-WNGA080408SE3	▲	★	3	12.7	4.76	0.8	5.16	2.1		
NP-WNGA080408FS3	▲	★	3	12.7	4.76	0.8	5.16	2.1		
NP-WNGA080408GS3	▲	★	3	12.7	4.76	0.8	5.16	2.1		
NP-WNGA080408TS3	▲	★	3	12.7	4.76	0.8	5.16	2.1		

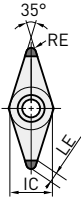
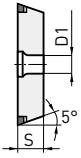
MB4120

POSITIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-VBGW110304SF2	▲	★	2	6.35	3.18	0.4	2.85	2.5	  	NEW PETIT CUT
NP-VBGW110308SF2	▲	★	2	6.35	3.18	0.8	2.85	2.0		
NP-VBGW160404SF2	▲	●	2	9.525	4.76	0.4	4.43	2.5		
NP-VBGW160408SF2	▲	★	2	9.525	4.76	0.8	4.43	2.0		
NP-VBGW110304SE2	▲	★	2	6.35	3.18	0.4	2.85	2.5		
NP-VBGW110308SE2	▲	★	2	6.35	3.18	0.8	2.85	2.0		
NP-VBGW160404SE2	▲	●	2	9.525	4.76	0.4	4.43	2.5		
NP-VBGW160408SE2	▲	★	2	9.525	4.76	0.8	4.43	2.0		
NP-VBGW110304FS2	▲	★	2	6.35	3.18	0.4	2.85	2.5		
NP-VBGW110308FS2	▲	★	2	6.35	3.18	0.8	2.85	2.0		
NP-VBGW160404FS2	▲	●	2	9.525	4.76	0.4	4.43	2.5		
NP-VBGW160408FS2	▲	●	2	9.525	4.76	0.8	4.43	2.0		
NP-VBGW110304GS2	▲	★	2	6.35	3.18	0.4	2.85	2.5		
NP-VBGW110308GS2	▲	★	2	6.35	3.18	0.8	2.85	2.0		
NP-VBGW160404GS2	▲	●	2	9.525	4.76	0.4	4.43	2.5		
NP-VBGW160408GS2	▲	●	2	9.525	4.76	0.8	4.43	2.0		

MB4120

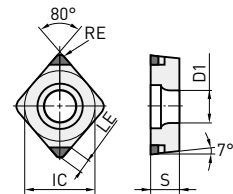
POSITIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-CCGW060202SF2	▲	★	2	6.35	2.38	0.2	2.8	1.8	NEW PETIT CUT	
NP-CCGW060204SF2	▲	●	2	6.35	2.38	0.4	2.8	1.9		
NP-CCGW060208SF2	▲	★	2	6.35	2.38	0.8	2.8	2.1		
NP-CCGW09T302SF2	▲	★	2	9.525	3.97	0.2	4.4	1.8		
NP-CCGW09T304SF2	▲	●	2	9.525	3.97	0.4	4.4	1.9		
NP-CCGW09T308SF2	▲	●	2	9.525	3.97	0.8	4.4	2.1		
NP-CCGW060202SE2	▲	★	2	6.35	2.38	0.2	2.8	1.8		
NP-CCGW060204SE2	▲	●	2	6.35	2.38	0.4	2.8	1.9		
NP-CCGW060208SE2	▲	★	2	6.35	2.38	0.8	2.8	2.1		
NP-CCGW09T302SE2	▲	★	2	9.525	3.97	0.2	4.4	1.8		
NP-CCGW09T304SE2	▲	★	2	9.525	3.97	0.4	4.4	1.9		
NP-CCGW09T308SE2	▲	●	2	9.525	3.97	0.8	4.4	2.1		
NP-CCGW060202FS2	▲	●	2	6.35	2.38	0.2	2.8	1.8		
NP-CCGW060204FS2	▲	●	2	6.35	2.38	0.4	2.8	1.9		
NP-CCGW060208FS2	▲	●	2	6.35	2.38	0.8	2.8	2.1		
NP-CCGW09T302FS2	▲	★	2	9.525	3.97	0.2	4.4	1.8		
NP-CCGW09T304FS2	▲	●	2	9.525	3.97	0.4	4.4	1.9		
NP-CCGW09T308FS2	▲	●	2	9.525	3.97	0.8	4.4	2.1		
NP-CCGW060202GS2	▲	★	2	6.35	2.38	0.2	2.8	1.8		
NP-CCGW060204GS2	▲	●	2	6.35	2.38	0.4	2.8	1.9		
NP-CCGW060208GS2	▲	★	2	6.35	2.38	0.8	2.8	2.1		
NP-CCGW09T302GS2	▲	★	2	9.525	3.97	0.2	4.4	1.8		
NP-CCGW09T304GS2	▲	★	2	9.525	3.97	0.4	4.4	1.9		
NP-CCGW09T308GS2	▲	★	2	9.525	3.97	0.8	4.4	2.1		
NP-CCGW060208TS2	▲	★	2	6.35	2.38	0.8	2.8	2.1		
NP-CCGW09T308TS2	▲	★	2	9.525	3.97	0.8	4.4	2.1		



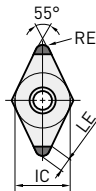
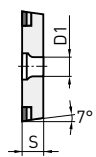
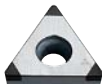
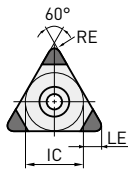
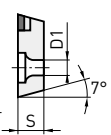
MB4120

POSITIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-DCGW070204SF2	▲	●	2	6.35	2.38	0.4	2.8	2.1	  	NEW PETIT CUT
NP-DCGW070208SF2	▲	●	2	6.35	2.38	0.8	2.8	2.0		
NP-DCGW11T302SF2	▲	★	2	9.525	3.97	0.2	4.4	1.5		
NP-DCGW11T304SF2	▲	●	2	9.525	3.97	0.4	4.4	2.1		
NP-DCGW11T308SF2	▲	●	2	9.525	3.97	0.8	4.4	2.0		
NP-DCGW070204SE2	▲	●	2	6.35	2.38	0.4	2.8	2.1		
NP-DCGW070208SE2	▲	★	2	6.35	2.38	0.8	2.8	2.0		
NP-DCGW11T302SE2	▲	●	2	9.525	3.97	0.2	4.4	1.5		
NP-DCGW11T304SE2	▲	●	2	9.525	3.97	0.4	4.4	2.1		
NP-DCGW11T308SE2	▲	●	2	9.525	3.97	0.8	4.4	2.0		
NP-DCGW070204FS2	▲	●	2	6.35	2.38	0.4	2.8	2.1		
NP-DCGW070208FS2	▲	●	2	6.35	2.38	0.8	2.8	2.0		
NP-DCGW11T302FS2	▲	●	2	9.525	3.97	0.2	4.4	1.5		
NP-DCGW11T304FS2	▲	●	2	9.525	3.97	0.4	4.4	2.1		
NP-DCGW11T308FS2	▲	●	2	9.525	3.97	0.8	4.4	2.0		
NP-DCGW070204GS2	▲	●	2	6.35	2.38	0.4	2.8	2.1		
NP-DCGW070208GS2	▲	★	2	6.35	2.38	0.8	2.8	2.0		
NP-DCGW11T302GS2	▲	★	2	9.525	3.97	0.2	4.4	1.5		
NP-DCGW11T304GS2	▲	●	2	9.525	3.97	0.4	4.4	2.1		
NP-DCGW11T308GS2	▲	●	2	9.525	3.97	0.8	4.4	2.0		
NP-TCGW110204SF3	▲	★	3	6.35	2.38	0.4	2.8	1.6	  	NEW PETIT CUT
NP-TCGW110208SF3	▲	★	3	6.35	2.38	0.8	2.8	1.8		
NP-TCGW110204SE3	▲	★	3	6.35	2.38	0.4	2.8	1.6		
NP-TCGW110208SE3	▲	★	3	6.35	2.38	0.8	2.8	1.8		
NP-TCGW110204FS3	▲	●	3	6.35	2.38	0.4	2.8	1.6		
NP-TCGW110208FS3	▲	●	3	6.35	2.38	0.8	2.8	1.8		
NP-TCGW110204GS3	▲	★	3	6.35	2.38	0.4	2.8	1.6		

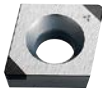
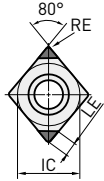
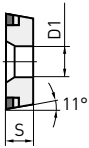
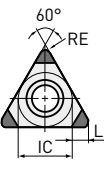
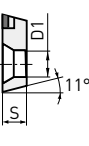
MB4120

POSITIVE INSERTS (WITH HOLE)

K

H

G CLASS

Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	LE	Shape	Geometry
NP-CPGB080202SE2	▲	★	2	7.94	2.38	0.2	3.5	1.8		 
NP-CPGB080204SE2	▲	★	2	7.94	2.38	0.4	3.5	1.9		
NP-CPGB090302SE2	▲	★	2	9.525	3.18	0.2	4.5	1.8		
NP-CPGB090304SE2	▲	★	2	9.525	3.18	0.4	4.5	1.9		
NP-CPGB090308SE2	▲	★	2	9.525	3.18	0.8	4.5	2.1		
NP-CPGB080202FS2	▲	★	2	7.94	2.38	0.2	3.5	1.8		
NP-CPGB080204FS2	▲	●	2	7.94	2.38	0.4	3.5	1.9		
NP-CPGB090302FS2	▲	★	2	9.525	3.18	0.2	4.5	1.8		
NP-CPGB090304FS2	▲	★	2	9.525	3.18	0.4	4.5	1.9		
NP-CPGB090308FS2	▲	★	2	9.525	3.18	0.8	4.5	2.1		
NP-TPGB090202SF3	▲	★	3	5.56	2.38	0.2	2.9	1.5		 
NP-TPGB090204SF3	▲	★	3	5.56	2.38	0.4	2.9	1.6		
NP-TPGB110302SF3	▲	★	3	6.35	3.18	0.2	3.4	1.5		
NP-TPGB110304SF3	▲	★	3	6.35	3.18	0.4	3.4	1.6		
NP-TPGB110308SF3	▲	★	3	6.35	3.18	0.8	3.4	1.8		
NP-TPGB090202SE3	▲	★	3	5.56	2.38	0.2	2.9	1.5		
NP-TPGB090204SE3	▲	★	3	5.56	2.38	0.4	2.9	1.6		
NP-TPGB110302SE3	▲	★	3	6.35	3.18	0.2	3.4	1.5		
NP-TPGB110304SE3	▲	★	3	6.35	3.18	0.4	3.4	1.6		
NP-TPGB110308SE3	▲	★	3	6.35	3.18	0.8	3.4	1.8		
NP-TPGB090202FS3	▲	★	3	5.56	2.38	0.2	2.9	1.5		
NP-TPGB090204FS3	▲	★	3	5.56	2.38	0.4	2.9	1.6		
NP-TPGB110302FS3	▲	★	3	6.35	3.18	0.2	3.4	1.5		
NP-TPGB110304FS3	▲	★	3	6.35	3.18	0.4	3.4	1.6		
NP-TPGB110308FS3	▲	★	3	6.35	3.18	0.8	3.4	1.8		
NP-TPGB090202GS3	▲	★	3	5.56	2.38	0.2	2.9	1.5		
NP-TPGB090204GS3	▲	★	3	5.56	2.38	0.4	2.9	1.6		
NP-TPGB110302GS3	▲	★	3	6.35	3.18	0.2	3.4	1.5		
NP-TPGB110304GS3	▲	★	3	6.35	3.18	0.4	3.4	1.6		
NP-TPGB110308GS3	▲	★	3	6.35	3.18	0.8	3.4	1.8		

MB4120

RECOMMENDED CUTTING CONDITIONS

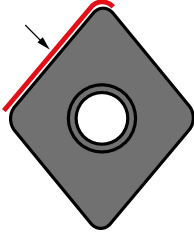
	Material	Cutting mode	Grade	f	ap	Vc
H	General sintered alloys	Dry, wet	MB4120	≤0.2	≤0.3	80—320
	High Strength sintered alloys	Dry, wet		≤0.2	≤0.3	80—230
	Hardened sintered alloys	Dry, wet		≤0.2	≤0.3	80—180
K	Gray cast iron	Dry, wet	MB4120	≤0.2	≤0.3	210—320

MB4020

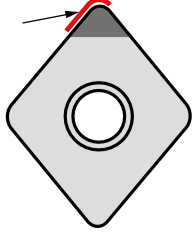
FULL FACE CBN

Full face and solid CBN can be used for higher depths of cut and chamfering when conventional brazed tip CBN inserts are not suitable.

Cutting area



Cutting area



Order number	MB4020	MB4120	Cutting edges	IC	S	RE	D1	Shape	Geometry
CCGW060202FS	★	—	2	6.35	2.38	0.2	2.8		
CCGW060204FS	★	—	2	6.35	2.38	0.4	2.8		
CCGW060208FS	★	—	2	6.35	2.38	0.8	2.8		
CCGW09T304FS	★	—	2	9.525	3.97	0.4	4.4		
CCGW09T308FS	★	—	2	9.525	3.97	0.8	4.4		
DCGW070204FS	★	—	2	6.35	2.38	0.4	2.8		
DCGW070208FS	★	—	2	6.35	2.38	0.8	2.8		
TCGW090204FS	★	—	3	5.56	2.38	0.4	2.5		
TCGW090208FS	★	—	3	5.56	2.38	0.8	2.5		
TCGW110204FS	★	—	3	6.35	2.38	0.4	2.8		
TCGW110208FS	★	—	3	6.35	2.38	0.8	2.8		

RECOMMENDED CUTTING CONDITIONS

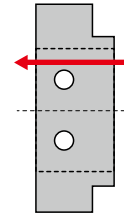
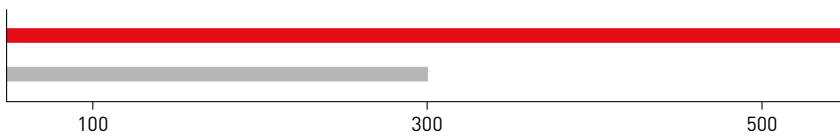
CUTTING CONDITIONS FOR FULL FACE

Material	Cutting mode	Grade	f	ap	Vc
H General sintered alloys	Dry, wet	MB4020	-0.2	-0.3 (-2.0)	80—250
	Dry, wet		-0.2	-0.3 (-2.0)	80—200
	Dry, wet		-0.2	-0.3 (-2.0)	80—150
K Gray cast iron	Dry, wet	MB4020	-0.4	-0.5 (-2.0)	230—760
	Dry		-0.15	-0.5 (-2.0)	510—1000

APPLICATION EXAMPLES

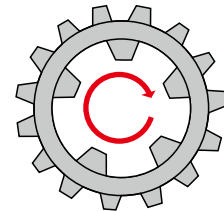
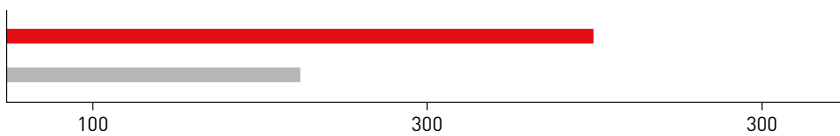
Insert	NP-DCGW11T308SF2
Workpiece material	General sintered alloy
Component	Housing (Interrupted boring)
Vc (m/min)	200
f (mm/rev)	0.07
ap (mm)	0.2
Cutting mode	Wet cutting

Results Double the tool life of the conventional product.



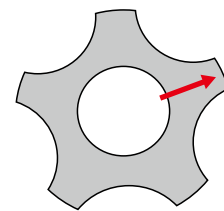
Insert	NP-DCGW11T308SF2
Workpiece material	General sintered alloy
Component	Casing (Interrupted boring)
Vc (m/min)	180
f (mm/rev)	0.25
ap (mm)	0.2 – 0.3
Cutting mode	Wet cutting

Results Double the tool life of the conventional product.



Insert	NP-DCGW11T308SF2
Workpiece material	Iron-based sintered alloy (60HRB) Ra<1.0 μm
Component	Pinion (Interrupted facing)
Vc (m/min)	200
f (mm/rev)	0.04 – 0.05
ap (mm)	0.4
Cutting mode	Wet cutting

Results Compared to a conventional product, a good surface finish was maintained and 2.5 times longer tool life was achieved.

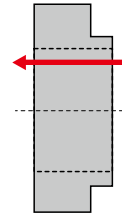
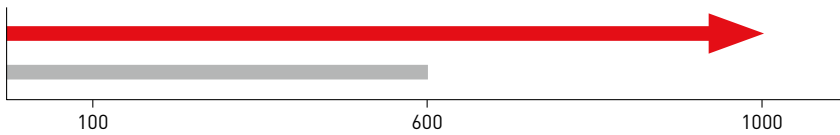


The above application examples are customer's applications, therefore can differ from the recommended conditions.

APPLICATION EXAMPLES

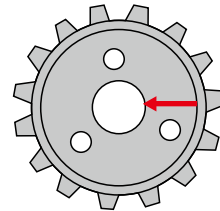
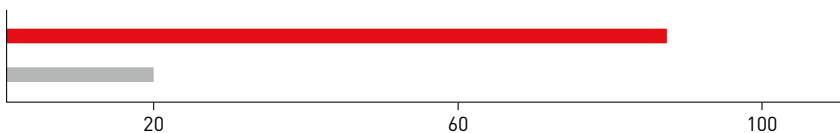
Insert	NP-TNGA160408SF3
Workpiece material	High strength sintered alloy
Component	Sprocket (Continuous boring)
Vc (m/min)	250
f (mm/rev)	0.1
ap (mm)	0.1
Cutting mode	Wet cutting

Results When compared to a conventional product the flank wear was smaller and the insert could continues to be used.



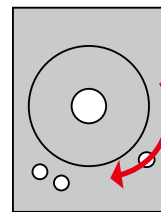
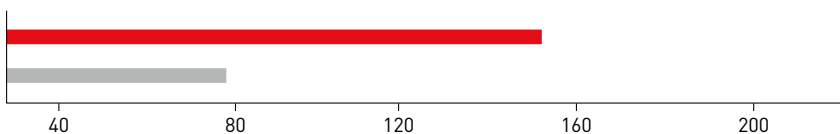
Insert	NP-TNGA160408SE3
Workpiece material	General sintered alloy
Component	Sprocket (Interrupted facing)
Vc (m/min)	240
f (mm/rev)	0.12
ap (mm)	0.05
Cutting mode	Wet cutting

Results Compared with a conventional cermet product, higher surface finish quality and more than 4 times longer tool life was achieved.



Insert	NP-CNGA120408SF2
Workpiece material	Cast iron
Component	Mechanical parts (Interrupted facing)
Vc (m/min)	600
f (mm/rev)	0.175 – 0.25
ap (mm)	0.15 – 0.2
Cutting mode	Dry cutting

Results There is no abnormal damage and more than 1.5 times longer tool life was achieved.



The above application examples are customer's applications, therefore can differ from the recommended conditions.

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