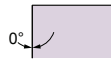




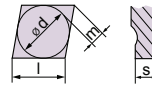
C N M P



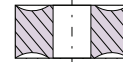
Shape



Clearance Angle



Tolerance
 $d \pm 0.08$
 $m \pm 0.13$
 $s \pm 0.13$



Fixing
Chip breaker

Insert Designation	Grade	l	s	r	Catalog Nr.
CNMP 120408 NN	LT 1000	12	4.76	0.8	T0001900
CNMP 120412 NN	LT 1000	12	4.76	1.2	T0001901

NN All purpose Chipbreaker

80° Diamond shape, double sided inserts with positive chipbreaker geometry.
 Generates low cutting forces, suitable for High Temperature Alloys.

Application Guide

	Finishing	Medium	Roughing / Interrupted cut
CNMP 120408 NN	😊	😊	😞
CNMP 120412 NN	😞	😊	😐

Finishing:	Medium:	Roughing
d.o.c. = 0.30 - 1.50 mm fn = 0.08 - 0.20 mm/rev	d.o.c. = 0.70 - 4.50 mm fn = 0.15 - 0.45 mm/rev	d.o.c. = 3.00 - 7.00 mm fn = 0.35 - 0.70 mm/rev

😊 = Good
 😐 = Acceptable
 😞 = Not recommended

**Stainless Steel
 Exotic Material**
 👍
CNMP - TNMP - WNMP

**CNMP
 TNMP
 WNMP**

Exotic Material
 Verify ⚠️
Cutting Conditions

Machine Recommendations
 Guide. Details on page 10

CNMP 120408 NN LT 10 & LT 1000

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/rev]		Amax [mm ²]	V _c [m/min]		Optimal cutting conditions				
					min	max	min	max		min	max	D.O.C.	Feed	V _c		
Steel	Non-alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.5	5.0	0.21	0.50	1.80	180	330	3.0	0.35	240		
		2		190 HB		5.0		0.50	1.80		280			220		
		3		250 HB		5.0		0.45	1.50		250			200		
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	5.0	0.21	0.45	1.20	120	280	3.0	0.32	200		
				230 HB		4.0	0.21	0.45	1.20		250			180		
				280 HB		4.0	0.18	0.40	1.20		210			150		
				350 HB		3.5	0.18	0.40	1.00		180			130		
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	4.0	0.18	0.40	1.20	70	190	2.5	0.30	140		
				280 HB		4.0		0.40	1.20		150			120		
				320 HB		3.0		0.35	0.80		130			100		
				350 HB		3.0		0.35	0.80		110			90		
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.5	5.0	0.20	0.40	1.20	170	270	3.0	0.25	190		
				240 HB		5.0		0.40	1.00	160	220			170		
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	4.0	0.18	0.35	0.80	80	150	2.5	0.28	100		
				310 HB		4.0		0.35	0.80	70	140			90		
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	5.0	0.22	0.40	1.00	170	250	3.0	0.32	190		
				42 HRC		4.0		0.40	1.00	120	190			130		
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	5.0	0.15	0.60	2.00	170	250	3.0	0.35	200		
				200 HB		5.0		0.60	1.80	160	230			180		
				250 HB		5.0		0.55	1.80	150	210			160		
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	5.0	0.15	0.50	1.50	120	250	3.0	0.30	180		
				200 HB		5.0		0.50	1.30	230	160					
				250 HB		5.0		0.50	1.20	190	140					
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800	240 HB	0.5	3.0	0.20	0.35	0.70	25	45	2.0	0.28	32		
				250 HB		3.0		0.35	0.70	25	45			30		
				350 HB		3.0		0.35	0.70	23	40			28		
	Ti based	10	TiAl6V4	-	0.5	4.0	0.20	0.40	0.80	45	65	2.0	0.33	55		
				-		3.0		0.35	0.70	35	55			45		
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRC	0.5	2.5	0.11	0.30	0.60	50	100	2.0	0.25	80		
				50 HRC		2.0		0.25	0.40	40	90			1.5	0.20	70
				55 HRC		1.5		0.20	0.30	40	80			1.0	0.18	60
	Chilled Cast Iron	40	0.5	2.0	0.11	0.25	0.40	40	60	1.5	0.18	50				
	White Cast Iron	41	G-X300CrMo15	55 HRC	0.5	1.5	0.11	0.20	0.30	30	50	1.0	0.15	40		
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.5	6.0	0.20	0.60	1.80	200	400	3.0	0.40	280	

CNMP 120412 NN LT 10 & LT 1000

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/rev]		Amax [mm ²]	V _c [m/min]		Optimal cutting conditions					
					min	max	min	max		min	max	D.O.C.	Feed	V _c			
Steel	Non-alloyed	1	C35, Ck45, 1020, 1045, 1060, 28Mn6	125 HB	0.7	6.0	0.26	0.68	3.06	180	330	4.0	0.46	240			
		190 HB		6.0		0.68		3.06			280			220			
		250 HB		6.0		0.61		2.55			250			200			
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.7	6.0	0.23	0.61	2.04	120	280	4.0	0.42	200			
				230 HB		4.8		0.61			2.04			250	180		
				280 HB		4.8		0.54			2.04			210	150		
				350 HB		4.2		0.54			1.70			180	130		
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.7	4.8	0.23	0.54	2.04	70	190	3.4	0.40	140			
				280 HB		4.8		0.54			2.04			150	120		
				320 HB		3.6		0.47			1.36			130	100		
				350 HB		3.6		0.47			1.36			110	90		
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.7	6.0	0.25	0.54	2.04	170	4.0	0.40	190				
				240 HB		6.0		0.54		1.70			160	220	0.38	170	
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.7	4.8	0.23	0.47	1.36	80	3.4	0.32	100				
				310 HB		4.8		0.47		70			140	90			
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.7	6.0	0.28	0.54	1.70	170	4.0	0.40	190				
				42 HRc		4.8		0.54		120			190	3.0	0.36	130	
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.7	6.0	0.20	0.81	3.40	170	4.0	0.46	200				
				200 HB		6.0		0.81		3.06			160	230	180		
				250 HB		6.0		0.74		3.06			150	210	160		
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.7	6.0	0.20	0.68	2.55	250	4.0	0.40	180				
				200 HB		6.0		0.68		2.21			120	230	160		
250 HB	6.0	0.68	2.04	190	140												
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.7	3.6	0.25	0.47	1.19	25	2.7	0.37	32				
				250 HB		3.6		0.47		23			40	30			
				350 HB		3.6		0.47		23			40	28			
	Ti based	10	TiAl6V4, T40	-	0.7	4.8	0.25	0.54	1.36	45	2.7	0.40	55				
				-		3.6		0.47		1.19			35	55	0.37	45	
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.7	3.0	0.14	0.41	1.02	50	2.7	0.33	80				
				50 HRc		2.4		0.34		0.68			40	90	2.0	0.26	70
				55 HRc		1.8		0.27		0.51			40	80	1.3	0.24	60
	Chilled Cast Iron	40	0.7	2.4	0.14	0.34	0.68	40	60	2.0	0.24	50					
	White Cast Iron	41	0.7	1.8	0.14	0.27	0.51	30	50	1.3	0.20	40					
NF	Al (>8%Si)	12	25	AISi12	130 HB	0.7	7.0	0.25	0.81	3.10	200	400	4.0	0.50	280		