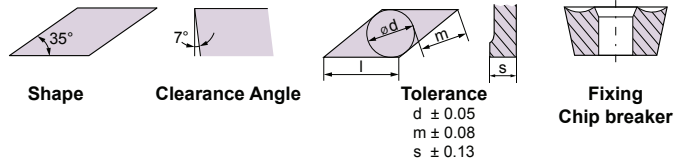




V C M T



Insert Designation	Grade	l	s	r	Catalog Nr.
VCMT 160404 NN	LT 1000	16	4.76	0.4	T0001945
VCMT 160408 NN	LT 1000	16	3.76	0.8	T0001946

NN All purpose Chipbreaker

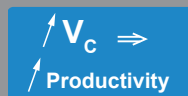
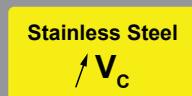
35° shape inserts with positive rake angle. Suitable for Internal and External Copying operations of complex geometries.

Application Guide

	Finishing	Medium	Roughing / Interrupted cut
VCMT 160404 NN	😊	😐	😞
VCMT 160408 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



Machine Recommendations Guide. Details on page 10

VCMT 160404 NN LT 10 & LT 1000

Material Group	Gr. N°	VDI Group	Material Examples*	Hardness	D.O.C. [mm]		Feed [mm/rev]		Amax [mm²]	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	0.2	3.0	0.11	0.23	0.60	180	330	2.0	0.18	300			
		2		190 HB		2.5		0.22	0.52		280			260			
		3		250 HB		2.5		0.20	0.48		250			240			
	Low alloyed	2	42CrMo4, S150, Ck60, 4140, 4340, 100Cr6	180 HB	0.2	2.5	0.10	0.20	0.50	120	280	2.0	0.15	260			
		4,6		230 HB		2.5		0.20	0.48		250			240			
		5,7		280 HB		2.0		0.18	0.40		210			200			
		8		350 HB		2.0		0.18	0.36		180			180			
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.2	2.5	0.09	0.18	0.40	70	190	2.0	0.12	180			
		10		280 HB		2.5		0.16	0.40		150			140			
		11		320 HB		2.0		0.14	0.32		130			120			
		11		350 HB		2.0		0.14	0.26		110			110			
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.2	2.5	0.10	0.18	0.32	170	270	2.0	0.12	260			
		14		240 HB		2.5		0.18	0.26		160			220	210		
	Duplex	5	X2CrNi23-4, S31500	290 HB	0.2	2.0	0.09	0.14	0.20	80	150	2.0	0.12	140			
		14		310 HB		2.0		0.14	0.20		70			140			
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.2	2.5	0.10	0.18	0.32	170	250	2.0	0.15	240			
		13		42 HRc		2.0		0.16	0.26		120			190	180		
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.2	3.0	0.08	0.20	0.64	170	250	2.0	0.18	240			
		15		200 HB		3.0		0.20	0.60		160			230	220		
		16		250 HB		3.0		0.20	0.60		150			210	200		
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.2	2.5	0.08	0.18	0.48	120	250	2.0	0.15	240			
		17,19		200 HB		2.5		0.18	0.40		230			220			
		18,20		250 HB		2.5		0.18	0.40		190			180			
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.2	2.0	0.09	0.15	0.26	25	50	2.0	0.12	40			
		33		250 HB		2.0		0.15	0.26		25			50	40		
		34		350 HB		2.0		0.15	0.26		23			45	35		
	Ti based	10	TiAl6V4, T40	-	0.2	2.0	0.09	0.16	0.32	45	65	2.0	0.15	60			
		37		-		2.0		0.14	0.26		35			60	50		
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.2	1.8	0.05	0.12	0.20	50	100	1.5	0.11	90			
		38		50 HRc		1.5		0.10	0.17		40			90	1.2	0.09	80
		38		55 HRc		1.4		0.09	0.13		40			80	1.0	0.07	70
	Chilled Cast Iron																
White Cast Iron	41	G-X300CrMo15	55 HRc	0.2	1.4	0.05	0.09	0.13	30	50	1.0	0.07	40				
NF	Al (>8%Si)	12	25	AlSi12	130 HB	0.2	4.0	0.10	0.30	0.70	200	400	2.0	0.20	350		

VCMT 160408 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	3.5	0.19	0.40	1.26	180	330	2.5	0.30	240	
		190 HB		3.5		0.40		220							
		250 HB		3.5		0.36		200							
	Low alloyed	2	42CrMo4, St50, Ck60, 4140, 4340, 100Cr6	180 HB	0.5	3.5	0.19	0.36	0.84	120	280	2.5	0.27	200	
				230 HB		2.8		0.36			180				
				280 HB		2.8		0.32			150				
				350 HB		2.5		0.32			130				
	High alloyed	3	X40CrMoV5, H13, M42, D3, S6-5-2, 12Ni19	220 HB	0.5	2.8	0.16	0.32	0.84	70	190	2.1	0.26	140	
				280 HB		2.8		0.32			120				
				320 HB		2.1		0.28			100				
				350 HB		2.1		0.28			90				
Stainless Steel	Austenitic	4	304, 316, X5CrNi18-9	180 HB	0.5	3.5	0.18	0.32	0.84	170	2.5	0.30	190		
				240 HB		3.5		0.32		170					
	Duplex	5	X2CrNiN23-4, S31500	290 HB	0.5	2.8	0.16	0.28	0.56	80	2.1	0.24	100		
				310 HB		2.8		0.28		90					
	Ferritic & Martensitic	6	410, X6Cr17, 17-4 PH, 430	200 HB	0.5	3.5	0.20	0.32	0.70	170	2.5	0.27	190		
				42 HRc		2.8		0.32		130					
Cast Iron	Grey	7	GG20, GG40, EN-GJL-250, No30B	150 HB	0.5	3.5	0.14	0.48	1.40	170	2.5	0.30	200		
				200 HB		3.5		0.48		230					
				250 HB		3.5		0.44		210					
	Malleable & Nodular	8	GGG40, GGG70, 50005	150 HB	0.5	3.5	0.14	0.40	1.05	250	2.5	0.26	180		
				200 HB		3.5		0.40		160					
250 HB	3.5	0.40	140												
High Temp. Alloys	Fe, Ni & Co based	9	Incoloy 800, Inconel 700, Stellite 21	240 HB	0.5	2.1	0.18	0.28	0.49	25	2.0	0.24	32		
				250 HB		2.1		0.28		45					
				350 HB		2.1		0.28		28					
	Ti based	10	TiAl6V4, T40	-	0.5	2.8	0.18	0.32	0.56	45	2.0	0.28	55		
				-		2.1		0.28		35					
Hardened Mat.	Steel	11	X100CrMo13, 440C, G-X260NiCr42	45 HRc	0.5	1.8	0.10	0.24	0.42	50	1.6	0.21	80		
				50 HRc		1.4		0.20		90					
				55 HRc		1.1		0.16		60					
	Chilled Cast Iron	40	0.5	1.4	0.10	0.20	0.28	40	60	1.2	0.15	50			
	White Cast Iron	41	0.5	1.1	0.10	0.16	0.21	30	50	1.0	0.13	40			
NF	Al (>8%Si)	12	25	AISi12	130 HB	0.5	4.2	0.18	0.48	1.40	200	400	2.5	0.34	280