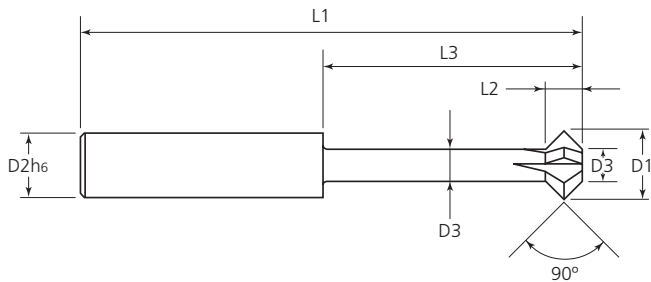
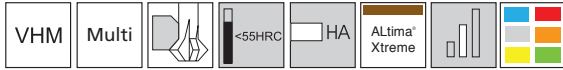


# TuffCut® GP Series FBCM Front & Back Chamfer Mills



### Features

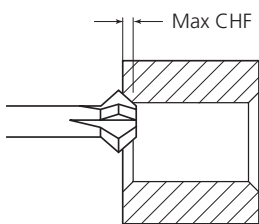
- Multi flutes
- Dual angled cutting edges

### Benefits

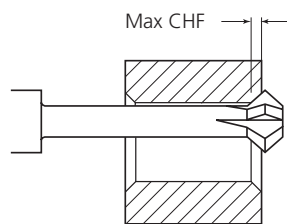
- Increased feed and improved surface finish
- Deburrs and chamfers front and back of surfaces

Tool Number	D1	D2	D3	L1	L2	L3	Z	Max CHF	EUR
FBCM 03N3H	3.0	4.0	1.5	50.0	1.5	11.5	3	0.6	€ 38.70
FBCM 04N3H	4.0	4.0	2.0	50.0	2.0	15.0	3	0.9	€ 43.07
FBCM 05N3H	5.0	6.0	2.5	57.0	2.5	18.5	3	1.1	€ 50.30
FBCM 06N3H	6.0	6.0	3.0	64.0	3.0	22.0	3	1.4	€ 54.63
FBCM 08N3H	8.0	8.0	4.0	63.0	4.0	29.0	4	1.8	€ 59.79
FBCM 10N3H	10.0	10.0	5.0	72.0	5.0	36.0	5	2.3	€ 73.36
FBCM 12N3H	12.0	12.0	6.0	83.0	6.0	43.0	5	2.8	€ 87.40

Front chamfer



Back chamfer



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## Recommended Speeds by Material Group

Workpiece Material Group		Material Type	Coolant			Deburr	Chamfer
			Max	Air	MMS	Vc-m/min	
Steels	P	Low Carbon Steels	●	●	●	230	220
		Medium Carbon Steels	●	●	●	200	185
		Alloy Tool Steels	●	●	●	175	165
		Die/Tool Steels	●	●	●	145	130
Stainless Steels	M	Free Machining Stainless	●	X	○	120	110
		Austenitic Stainless	●	X	○	110	100
		Difficult Stainless	●	X	○	75	65
		PH Stainless	●	X	○	110	100
		Cobalt Chrome Alloys	●	X	○	75	65
		Duplex (22%)	●	X	○	75	65
		Super Duplex (25%)	●	X	○	55	45
Special Alloys	S	High Temp Alloys	●	X	X	35	28
		Titanium Alloys	●	X	X	75	66
Cast Irons	K	Grey Cast Iron	●	○	○	200	175
		Ductile Cast Iron	●	○	○	185	165
Hardened Steels	H	Hardened Steels 45 - 50HRC	○	●	○	60	50
		Hardened Steels 50 - 55HRC	○	●	○	50	45
Non Ferrous	N	Aluminium Alloys	●	X	○	300	250
		Brass / Bronze / Copper	●	X	○	180	170

Please note:

● Preferred ○ Possible X Not Possible

Use the following formula to calculate the effective cutting diameter:  
(Major diameter D1 + minor diameter D3) / 2.

Alternatively, estimate the actual diameter that is in contact with the workpiece.

## Recommended Feed per Tooth by Material Group

Workpiece Material Group		Type of Machining	Tool Diameter						
			3mm	4mm	5mm	6mm	8mm	10mm	12mm
			fz-mm/tooth						
Steels	P	Deburr	0.015	0.020	0.025	0.030	0.040	0.050	0.060
		Chamfer	0.008	0.010	0.013	0.015	0.020	0.025	0.030
Stainless Steels	M	Deburr	0.015	0.020	0.025	0.030	0.040	0.050	0.060
		Chamfer	0.008	0.010	0.013	0.015	0.020	0.025	0.030
High Temp Alloys	S	Deburr	0.004	0.006	0.007	0.016	0.019	0.022	0.026
		Chamfer	0.002	0.003	0.004	0.008	0.010	0.011	0.013
Titanium	S	Deburr	0.015	0.020	0.025	0.030	0.040	0.050	0.060
		Chamfer	0.008	0.010	0.013	0.015	0.020	0.025	0.030
Cast Irons	K	Deburr	0.015	0.020	0.025	0.030	0.040	0.050	0.060
		Chamfer	0.008	0.010	0.013	0.015	0.020	0.025	0.030
Hardened Steels 45 - 50HRC	H	Deburr	0.010	0.013	0.015	0.025	0.035	0.045	0.054
		Chamfer	0.005	0.007	0.008	0.013	0.018	0.023	0.027
Hardened Steels 50 - 55HRC	H	Deburr	0.008	0.010	0.011	0.020	0.030	0.040	0.050
		Chamfer	0.004	0.005	0.006	0.010	0.015	0.020	0.025
Non Ferrous	N	Deburr	0.015	0.020	0.025	0.030	0.040	0.050	0.050
		Chamfer	0.008	0.010	0.013	0.015	0.020	0.025	0.025

Please note: These are recommended starting conditions. However, please adjust the feed to suit the surface finish requirements.