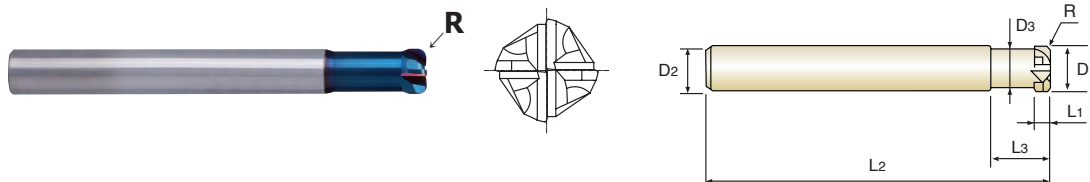



**X5070
END MILLS**
G8B59 SERIES
**PLAIN SHANK
GLATTER ZYLINDERSCHAFT**

CARBIDE, 4 FLUTE STUB LENGTH CORNER RADIUS HIGH FEED VOLLHARTMETALL, 4 SCHNEIDEN EXTER KURZ ECKENRADIUS HOCHVORSCHUB

- ▶ Excellent wear resistance at heavy feed rates on high hardened material.
- ▶ Designed with reduced clearance angles and short flutes for strength.
- ▶ High hardness & heat resistance coating for long life in dry applications.

- ▶ Hervorragende Verschleißigenschaften bei hohen Schnittwerten in gehärteten Materialien
- ▶ Mit reduzierten Freiwinkeln und kurzen Spannuten für hohe Festigkeiten konstruiert.
- ▶ Große Härte u. hitzebeständige Beschichtung für lange Lebensdauer bei Trockenbearbeitung


**NG
HM**
4
BLUE
0°
**R
±0.005**
PLAIN

P.685, 686

Unit : mm

EDP No.	Corner Radius R (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8B5902005	R0.5	2.0	6	1	6	50	1.8
G8B5903005	R0.5	3.0	6	1.2	8	50	2.8
G8B5904005	R0.5	4.0	6	1.5	10	50	3.8
G8B5906005	R0.5	6.0	6	2.5	12	60	5.4
G8B5906010	R1.0	6.0	6	2.5	12	60	5.4
G8B5908010	R1.0	8.0	8	3.5	16	60	7.2
G8B5908020	R2.0	8.0	8	3.5	16	60	7.2
G8B5910010	R1.0	10.0	10	4	20	70	9
G8B5910020	R2.0	10.0	10	4	20	70	9
G8B5912020	R2.0	12.0	12	5	25	80	11
G8B5912030	R3.0	12.0	12	5	25	80	11

Mill Dia. Tolerance (mm)	Corner Radius Tolerance (mm)	Shank Dia. Tolerance
0~-0.02	±0.005	h6



Due to the characteristics of blue decoration layer which might be erased during short term using, the color layer might not be uniform moreover.

However, it doesn't effect on performance of tool.

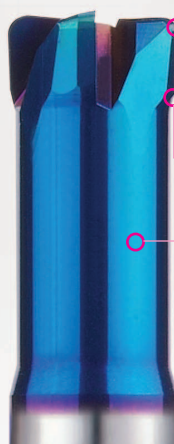
Comparison of the endteeth shape



High Feed End Mill



Normal End Mill



Reduced clearance angles and short flutes strengthens corner radius and reduces chattering

Extra-short flute length for high rigidity

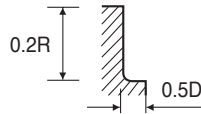
Heavy core with reduced diameter allows greater depths and maximum rigidity

◎ : Excellent ○ : Good

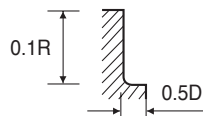
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
		○	○	◎	◎									

CARBIDE, 4FLUTE CORNER RADIUS HIGH FEED
VOLLHARTMETALL, 4 SCHNEIDEN ECKENRADIUS
G8B59, G8B54 SERIES
■ NORMAL SPEED

MATERIAL	HARDENED STEELS											
HARDNESS	~ HRc 40				HRc 40 ~ HRc 50				HRc 50 ~ HRc 55			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0 × R0.5	13500	6500	85	0.120	9550	3800	60	0.099	5500	2200	35	0.100
3.0 × R0.5	9550	6500	90	0.170	6900	4150	65	0.150	4550	2750	45	0.151
4.0 × R0.5	7950	7000	100	0.220	5750	4600	70	0.200	4000	3200	50	0.200
5.0 × R0.5	6500	7300	100	0.281	4800	4800	75	0.250	3400	3200	55	0.235
6.0 × R0.5	5800	7650	110	0.330	4100	4900	75	0.299	2900	3500	55	0.302
6.0 × R1.0	5800	7650	110	0.330	4100	4900	75	0.299	2900	3500	55	0.302
8.0 × R1.0	4350	7650	110	0.440	3050	4900	75	0.402	2200	3500	55	0.398
8.0 × R2.0	4350	7650	110	0.440	3050	4900	75	0.402	2200	3500	55	0.398
10.0 × R1.0	3500	7650	110	0.546	2450	4900	75	0.500	1750	3500	55	0.500
10.0 × R2.0	3500	7650	110	0.546	2450	4900	75	0.500	1750	3500	55	0.500
12.0 × R2.0	2900	7650	110	0.659	2050	4900	75	0.598	1450	3500	55	0.603
12.0 × R3.0	2900	7650	110	0.659	2050	4900	75	0.598	1450	3500	55	0.603
16.0 × R3.0	2200	7650	110	0.869	1550	4900	80	0.790	1100	3500	55	0.795



MATERIAL	HARDENED STEELS							
HARDNESS	HRc 55 ~ HRc 60				HRc 60 ~ HRc 65			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0 × R0.5	3200	1000	20	0.078	2200	550	15	0.063
3.0 × R0.5	2850	1150	25	0.101	1900	610	20	0.080
4.0 × R0.5	2550	1350	30	0.132	1750	700	20	0.100
5.0 × R0.5	2200	1600	35	0.182	1500	700	25	0.117
6.0 × R0.5	1850	1850	35	0.250	1350	795	25	0.147
6.0 × R1.0	1850	1850	35	0.250	1350	795	25	0.147
8.0 × R1.0	1400	1850	35	0.330	995	795	25	0.200
8.0 × R2.0	1400	1850	35	0.330	995	795	25	0.200
10.0 × R1.0	1100	1850	35	0.420	795	795	25	0.250
10.0 × R2.0	1100	1850	35	0.420	795	795	25	0.250
12.0 × R2.0	925	1850	35	0.500	665	795	25	0.299
12.0 × R3.0	925	1850	35	0.500	665	795	25	0.299
16.0 × R3.0	700	1850	35	0.661	500	795	25	0.398



RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t



X5070 END MILLS

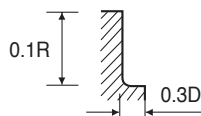
RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 4FLUTE CORNER RADIUS HIGH FEED VOLLHARTMETALL, 4 SCHNEIDEN ECKENRADIUS

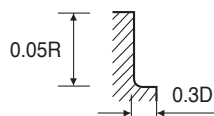
G8B59, G8B54 SERIES

■ HIGH SPEED

MATERIAL	HARDENED STEELS											
HARDNESS	~ HRc 40				HRc 40 ~ HRc 50				HRc 50 ~ HRc 55			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0 × R0.5	29000	15000	180	0.129	22000	9800	140	0.111	15000	7850	95	0.131
3.0 × R0.5	22000	16000	205	0.182	17000	10000	160	0.147	12500	8000	200	0.160
4.0 × R0.5	17000	17500	215	0.257	13000	12000	165	0.231	11000	9200	140	0.209
5.0 × R0.5	15000	18000	235	0.300	11000	12500	175	0.284	10000	10000	155	0.250
6.0 × R0.5	13500	18500	255	0.343	10500	13800	200	0.329	9000	11000	170	0.306
6.0 × R1.0	13500	18500	255	0.343	10500	13800	200	0.329	9000	11000	170	0.306
8.0 × R1.0	10000	18500	250	0.463	8000	14000	200	0.438	6800	11000	170	0.404
8.0 × R2.0	10000	18500	250	0.463	8000	14000	200	0.438	6800	11000	170	0.404
10.0 × R1.0	8000	18500	250	0.578	6400	14000	200	0.547	5400	11000	170	0.509
10.0 × R2.0	8000	18500	250	0.578	6400	14000	200	0.547	5400	11000	170	0.509
12.0 × R2.0	6600	18500	250	0.701	5300	14000	200	0.660	4500	11000	170	0.611
12.0 × R3.0	6600	18500	250	0.701	5300	14000	200	0.660	4500	11000	170	0.611
16.0 × R3.0	5000	18500	250	0.925	3900	14000	195	0.897	3300	11000	165	0.833



MATERIAL	HARDENED STEELS							
HARDNESS	HRc 55 ~ HRc 60				HRc 60 ~ HRc 65			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0 × R0.5	11000	4450	70	0.101	8700	2450	55	0.070
3.0 × R0.5	9500	4600	90	0.121	6900	2500	65	0.091
4.0 × R0.5	8000	5500	100	0.172	5600	2900	70	0.129
5.0 × R0.5	7000	6000	110	0.214	4900	3100	75	0.158
6.0 × R0.5	6400	6400	120	0.250	4500	3600	85	0.200
6.0 × R1.0	6400	6400	120	0.250	4500	3600	85	0.200
8.0 × R1.0	4800	6700	120	0.349	3400	4100	85	0.301
8.0 × R2.0	4800	6700	120	0.349	3400	4100	85	0.301
10.0 × R1.0	3800	6800	120	0.447	2700	3800	85	0.352
10.0 × R2.0	3800	6800	120	0.447	2700	3800	85	0.352
12.0 × R2.0	3200	7000	120	0.547	2250	3600	85	0.400
12.0 × R3.0	3200	7000	120	0.547	2250	3600	85	0.400
16.0 × R3.0	2400	7000	120	0.729	1650	3300	85	0.500



RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t