



# CrazyMill Cool Ball - Type B - Finishing

RECOMMENDATION FOR USE

● Excellent | ● Good | ○ Acceptable | ⊗ Not recommended

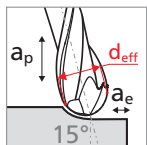
P	N	S <sub>3</sub>
M	S <sub>1</sub>	H <sub>1</sub>
K	S <sub>2</sub>	H <sub>2</sub>

V<sub>c</sub> [m/min] | [SFM]  
f<sub>z</sub> [mm] | [IPT]  
d<sub>eff</sub> [mm] | [inch]

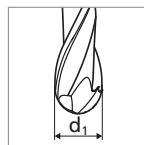
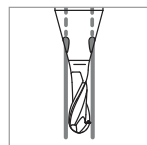
## MILLING WITH INTEGRATED COOLING | CUTTING DATA OVERVIEW

Materials group	Material	AISI/ASTM/UNS	Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1		Ød1																							
			v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>	v <sub>c</sub>	d <sub>eff</sub>	f <sub>z</sub>																			
N	Aluminium alloy wrought	ASTM 6351	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.019	140	0.79	0.022	140	0.94	0.024	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072	
		ASTM 7075	148	.009	.00028	194	.012	.00038	243	.015	.00057	292	.019	.00066	328	.025	.00076	459	.031	.00085	459	.037	.00094	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283	
	Aluminium alloy cast	ASTM A380	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.019	140	0.79	0.022	140	0.94	0.024	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072	
		UNS A03590	148	.009	.00028	194	.012	.00038	243	.015	.00057	292	.019	.00066	328	.025	.00076	459	.031	.00085	459	.037	.00094	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283	
	Copper	UNS C10100	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.022	140	0.79	0.024	140	0.94	0.026	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072	
		UNS C11000	148	.009	.00028	194	.012	.00038	243	.015	.00066	292	.019	.00076	328	.025	.00085	459	.031	.00094	459	.037	.00104	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283	
	Brass lead free	UNS C27400	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.022	140	0.79	0.024	140	0.94	0.026	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072	
		UNS C28000	148	.009	.00028	194	.012	.00038	243	.015	.00066	292	.019	.00076	328	.025	.00085	459	.031	.00094	459	.037	.00104	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283	
	Brass, Bronze Rm<400N/mm²	UNS C38500	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.022	140	0.79	0.024	140	0.94	0.026	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072	
		UNS C51900	148	.009	.00028	194	.012	.00038	243	.015	.00066	292	.019	.00076	328	.025	.00085	459	.031	.00094	459	.037	.00104	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283	
Bronze Rm<600N/mm²	UNS C63000	45	0.24	0.007	59	0.31	0.010	74	0.39	0.014	89	0.47	0.017	100	0.63	0.019	140	0.79	0.022	140	0.94	0.024	200	1.18	0.031	200	1.42	0.034	220	1.57	0.043	220	1.97	0.048	240	2.36	0.070	260	3.15	0.072	260	4.72	0.072	260	6.29	0.072		
	UNS C63200	148	.009	.00028	194	.012	.00038	243	.015	.00057	292	.019	.00066	328	.025	.00076	459	.031	.00085	459	.037	.00094	656	.046	.00123	656	.056	.00132	722	.062	.00170	722	.077	.00189	787	.093	.00274	853	.124	.00283	853	.186	.00283	853	.248	.00283		
S <sub>1</sub>	Super alloys	Inconel 625																																														
		Inconel 718	45	0.24	0.004	59	0.31	0.005	74	0.39	0.005	89	0.47	0.006	100	0.63	0.007	120	0.79	0.008	120	0.94	0.010	130	1.18	0.011	130	1.42	0.012	140	1.57	0.012	140	1.97	0.014	150	2.36	0.018	170	3.15	0.024	170	4.72	0.024	170	6.29	0.024	
		Hastelloy B-2	148	.009	.00014	194	.012	.00020	243	.015	.00020	292	.019	.00024	328	.025	.00028	394	.031	.00033	394	.037	.00038	427	.046	.00043	427	.056	.00047	459	.062	.00047	459	.077	.00057	492	.093	.00071	558	.124	.00094	558	.186	.00094	558	.248	.00094	
		Hastelloy X																																														
S <sub>2</sub>	Titanium pure	ASTM B348	45	0.24	0.005	59	0.31	0.005	74	0.39	0.010	100	0.47	0.011	100	0.63	0.013	120	0.79	0.019	120	0.94	0.022	130	1.18	0.024	130	1.42	0.026	140	1.57	0.034	140	1.97	0.036	150	2.36	0.048	170	3.15	0.053	170	4.72	0.053	170	6.29	0.053	
		ASTM B348	148	.009	.00019	194	.012	.00020	243	.015	.00038	328	.019	.00043	328	.025	.00052	394	.031	.00076	394	.037	.00085	427	.046	.00094	427	.056	.00104	459	.062	.00132	459	.077	.00142	492	.093	.00189	558	.124	.00208	558	.186	.00208	558	.248	.00208	
S <sub>3</sub>	Titanium alloys	ASTM B348	45	0.24	0.005	59	0.31	0.005	74	0.39	0.010	89	0.47	0.011	100	0.63	0.013	120	0.79	0.019	120	0.94	0.022	130	1.18	0.024	130	1.42	0.026	140	1.57	0.034	140	1.97	0.036	150	2.36	0.048	170	3.15	0.053	170	4.72	0.053	170	6.29	0.053	
		ASTM F1295	148	.009	.00019	194	.012	.00020	243	.015	.00038	292	.019	.00043	328	.025	.00052	394	.031	.00076	394	.037	.00085	427	.046	.00094	427	.056	.00104	459	.062	.00132	459	.077	.00142	492	.093	.00189	558	.124	.00208	558	.186	.00208	558	.248	.00208	
H <sub>1</sub>	Hardened steel < 55 HRC	AISI O1	45	0.24	0.005	59	0.31	0.007	74	0.39	0.008	80	0.47	0.010	80	0.63	0.011	100	0.79	0.012	100	0.94	0.014	140	1.18	0.017	140	1.42	0.022	180	1.57	0.024	180	1.97	0.031	200	2.36	0.040	240	3.15	0.048	240	4.72	0.048	240	6.29	0.048	
			148	.009	.00019	194	.012	.00028	243	.015	.00033	262	.019	.00038	262	.025	.00043	328	.031	.00047	328	.037	.00057	459	.046	.00066	459	.056	.00085	591	.062	.00094	591	.077	.00123	656	.093	.00156	787	.124	.00189	787	.186	.00189	787	.248	.00189	
H <sub>2</sub>	Hardened steel ≥ 55 HRC	AISI D2																																														

### Finishing



- a<sub>p</sub> = 0.1 x d<sub>1</sub>
- a<sub>e</sub> = 0.05 x d<sub>1</sub>
- Machining angle = 15°
- n<sub>max</sub> = 60'000 rpm



Headquarter and Production  
**MIKRON TOOL SA AGNO**  
Phone +41 91 610 40 00  
Fax. +41 91 610 40 10  
mto@mikron.com

Production and Regrinding  
**MIKRON GMBH ROTTWEIL**  
Phone +49 741 5380 450  
Fax. +49 741 5380 480  
info.mtr@mikron.com

North and South America Sales  
**MIKRON CORP. MONROE**  
Phone +1 203 261 3100  
Fax. +1 203 268 4752  
mmo@mikron.com

China Sales  
**MIKRON TOOL SHANGHAI**  
Phone +86 21 2076 5671  
Fax. +86 21 2076 5562