



UNT PRECISION CUTTING TOOLS CO., LTD

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EMB
EMC

EMB Pre-Hardened End Mills to HRC65
EMC Super-Hardened End Mills to HRC70



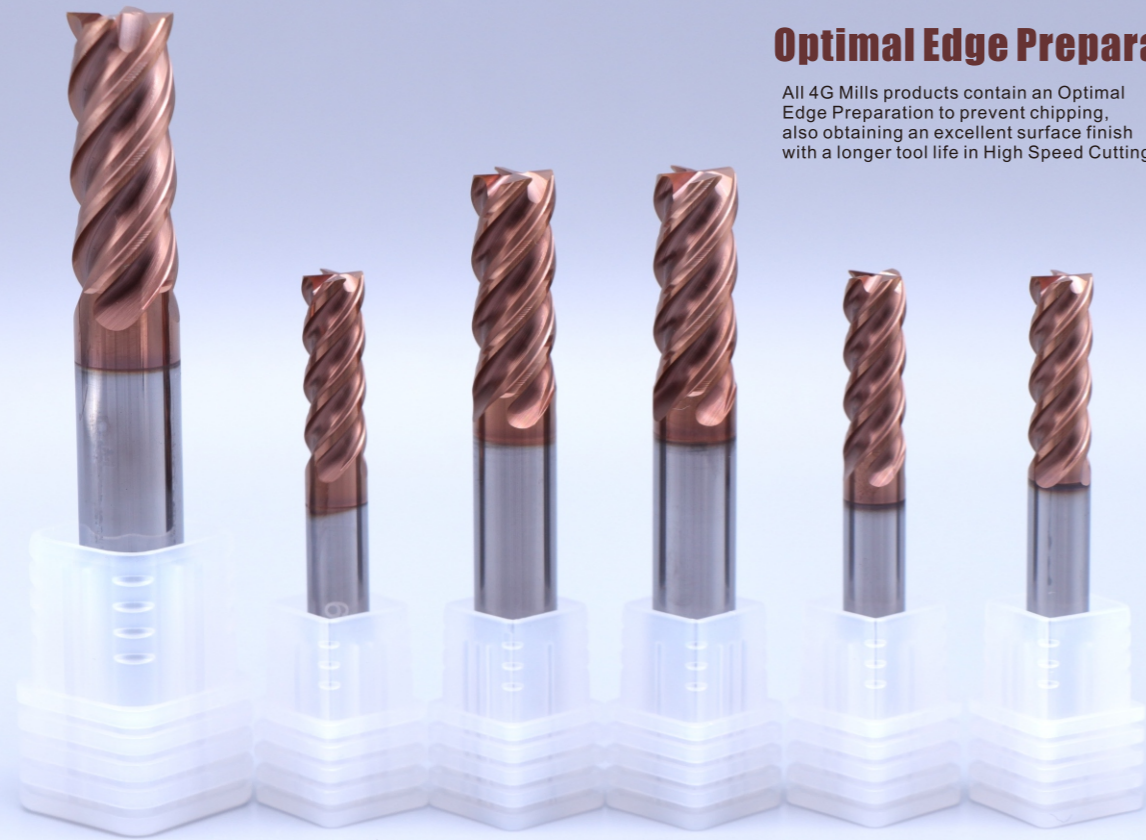
UNT PRECISION CUTTING TOOLS CO., LTD



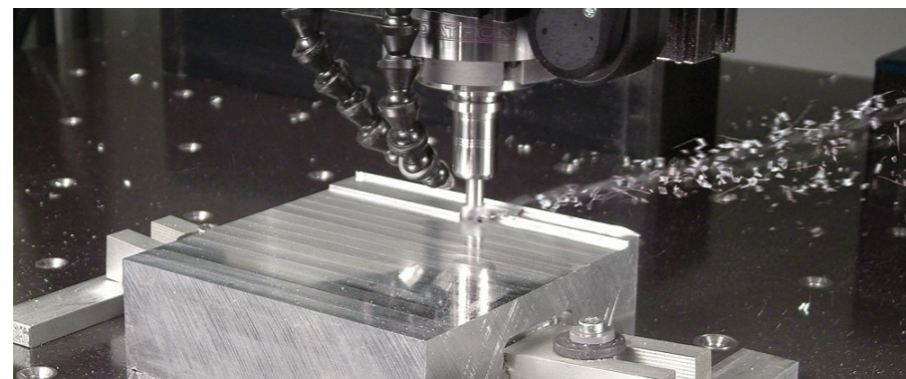
EMB + **EMC**

Optimal Edge Preparation

All 4G Mills products contain an Optimal Edge Preparation to prevent chipping, also obtaining an excellent surface finish with a longer tool life in High Speed Cutting.



4 FLUTE CORNER RADIUS END MILLS, HRC 65 FOR MOLD & DIE INDUSTRIES

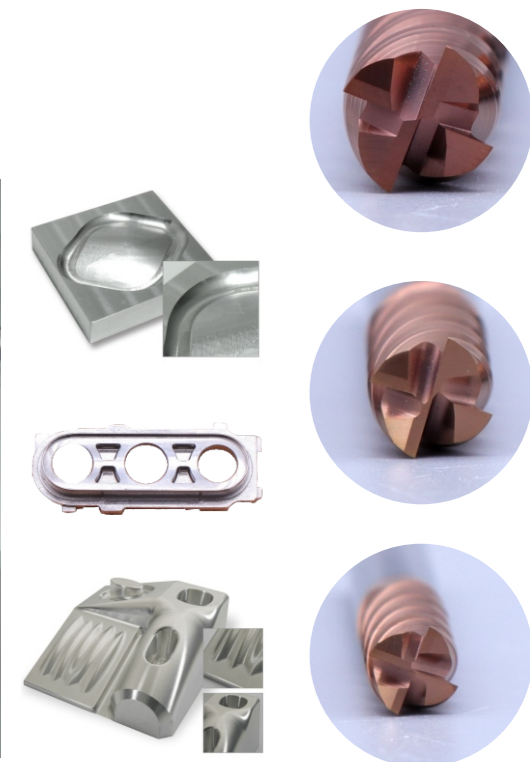
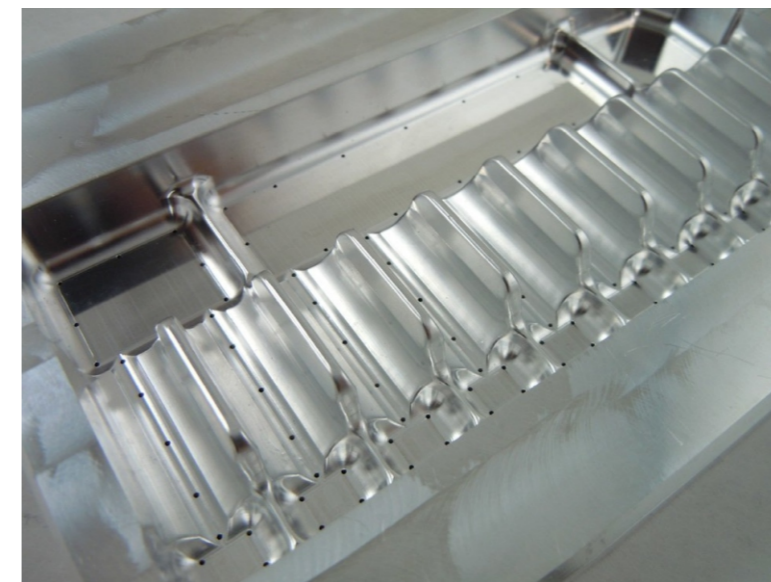


Application	Radius Milling		Copy Milling		Pocket Milling	
	Roughing	Finishing	Roughing	Finishing	Roughing	Finishing
Ballnose type	⊙	⊙	⊙	⊙	⊙	⊙



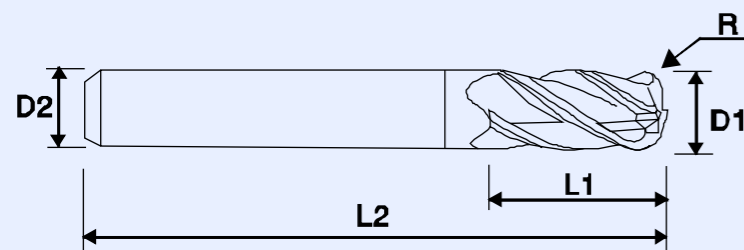
BALZERS-COATED SOLID CARBIDE END MILL
Super-Hardened Steel up to HRC65-70 for High Precision
Cutting for Excellent Surface Finish
Dry & Wet Cutting for Mold & Die

- ▶ 2 FLUTE SHARP EDGE & CORNER RADIUS
- ▶ 2 FLUTE BALL NOSE
- ▶ 2 FLUTE DEEP REACH/LONG NECK
- ▶ 4 FLUTE SHARP EDGE & CORNER RADIUS
- ▶ 4 FLUTE CORNER PROTECTION





EMB09 PRE-HARDENED HRC65 CARBIDE END MILLS, 4 FLUTE CORNER RADIUS



Product Parameters	
Coating	Balzers TiAlSiN
Helix Angle	35/36/37
Material	IMC Carbide Rod
HRC	HRC60/65°
Shank	Cylindrical
Mill Dia Tolerance	0-0.030
Shank Dia Tolerance	H6

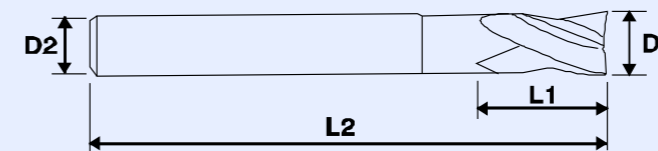
- Ultra- Micro Grain & Nano Grain Carbide for High Precision Machining
- High Technology by Balzers-Coating (TiAlSiN) for maximum tool life and high performance.
- Excellent for cutting prehardened steels, carbon steels, alloy steels of molds and dies, up to HRC65 and machine parts.
- Available short, regular and long shank end mills.
- Available various corner radius end mills, from 0.02 mm to 5.0mm corner radius.

EDP #	Mill Diameter	Corner radius	Shank Dia	Flute length	O.A.L		Flutes
	D1	R	D2	L1	L2		
EMB090101	1.0	R0.1	4	3	50		4
EMB090202	2.0	R0.2	4	6	50		4
EMB090203	2.0	R0.3	4	6	50		4
EMB090305	3.0	R0.5	4	8	50		4
EMB090310	3.0	R1.0	4	8	50		4
EMB090410	4.0	R1.0	4	11	50		4
EMB090505	5.0	R0.5	6	13	50		4
EMB090510	5.0	R1.0	6	13	50		4
EMB090615	6.0	R1.5	6	16	50		4
EMB090620	6.0	R2.0	6	16	50		4
EMB090810	8.0	R1.0	8	20	60		4
EMB090820	8.0	R2.0	8	20	60		4
EMB091030	10.0	R3.0	10	30	75		4
EMB091205	12.0	R0.5	12	30	75		4
EMB091230	12.0	R3.0	12	30	75		4

* Non-standard size or product parameters not listed above, can be customized according to customer needs.



EMB03 PRE-HARDENED HRC65 CARBIDE END MILLS, 4 FLUTE SHARP EDGE (SHORT, REGULAR, LONG SHANK)



- Designed to machine tool steel, alloy steel, mold steel and other high hardened materials.
- Superior workpiece finishes.
- **Balzers** - Coated and new tool geometry, outstanding cutting ability and wear resistance.
- Available various length products like short, regular and long length end mills etc.
- Sharper edge S type and fracture resistant C type added to the 2D size series

Product Parameters	
Coating	Balzers TiAlSiN
Helix Angle	35/36/37
Material	IMC Carbide Rod
HRC	HRC60/65°
Shank	Cylindrical
Mill Dia Tolerance	0-0.030
Shank Dia Tolerance	H6

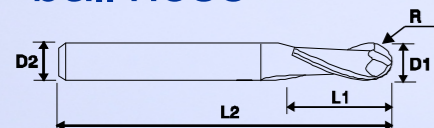
EDP #	Mill Diameter	Shank Dia	Flute length	O.A.L		Flutes
	D1	D2	L1	L2		
EMB030104	1.0	4	3	50		4
EMB030154	1.5	4	4	50		4
EMB030204	2.0	4	6	50		4
EMB030254	2.5	4	6	50		4
EMB030303	3.0	3	8	50		4
EMB030304	3.0	4	8	50		4
EMB030354	3.5	4	10	50		4
EMB030404	4.0	4	11	50		4
EMB030500	5.0	6	13	50		4
EMB030600	6.0	6	16	50		4
EMB030700	7.0	8	20	60		4
EMB030800	8.0	8	20	60		4

* Non-standard size or product parameters not listed above, can be customized according to customer needs.



EMC05 HRC70 SUPER-HARDENED

2 Flute end mills,
ball nose



2 Flute end mills, Ball Nose Milling

Product Parameters

Coating	Balzars TiAlSiN
Helix Angle	35/36/37
Material	IMC Carbide Rod
HRC	HRC 70°
Shank	Cylindrical
Mill Dia Tolerance	0-0.030
Shank Dia Tolerance	H6

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finishes.
- **Balzars** Coating provides improved reliability and longer tool life.
- Deep slotting is possible by reduced neck.
- Corner radius against chipping in high speed machining.
- Higher wear-resistance.

EDP #	Mill Diameter D1	Radius R	Shank Dia D2	Flute length L1	Effective length L3	O.A.L L2	Flutes
EMC050034	0.3	R0.15	4	0.4	0.6	50	2
EMC050044	0.4	R0.2	4	0.5	0.8	50	2
EMC050054	0.5	R0.25	4	0.6	1	50	2
EMC050064	0.6	R0.3	4	0.7	1.2	50	2
EMC050074	0.7	R0.35	4	0.8	1.4	50	2
EMC050084	0.8	R0.4	4	1	1.6	50	2
EMC050094	0.9	R0.45	4	1.2	1.8	50	2
EMC050104	1.0	R0.5	4	1.5	2	50	2
EMC050153	1.5	R0.75	4	2	3	50	2
EMC050204	2.0	R1.0	4	2.5	4	50	2
EMC050304	3.0	R1.5	4	4	6	50	2
EMC050404	4.0	R2.0	4	5	8	50	2
EMC050106	1.0	R0.5	6	1.5	2	60	2
EMC050156	1.5	R0.75	6	2	3	60	2
EMC050206	2.0	R1.0	6	2.5	4	60	2
EMC050306	3.0	R1.5	6	4	6	60	2
EMC050406	4.0	R2.0	6	5	8	60	2
EMC050500	5.0	R2.5	6	6	10	60	2
EMC050600	6.0	R3.0	6	7	12	60	2
EMC050700	7.0	R3.5	8	8	14	60	2
EMC050800	8.0	R4.0	8	9	16	60	2
EMC051000	10.0	R5.0	10	11	20	75	2
EMC051200	12.0	R6.0	12	14	24	75	2
EMC051600	16.0	R8.0	16	18	32	100	2

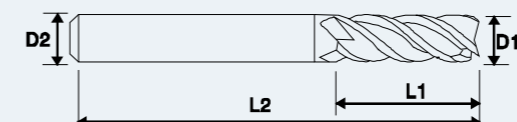
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EMC03 SUPER-HARDENED HRC70

2/4 Flute Carbide End Mills, Square Finishing

Design for Mold Making Milling Tools



Product Parameters

Coating	Balzars TiAlSiN
Helix Angle	35/36/37
Material	IMC Carbide Rod
HRC	HRC 70°
Shank	Cylindrical
Mill Dia Tolerance	0-0.030
Shank Dia Tolerance	H6

EDP #	Mill Diameter	Shank Dia	Flute length	Effective length	O.A.L	Flutes
	D1	D2	L1	L3	L2	
EMC030104	1.0	4	2	3	50	4
EMC030154	1.5	4	3	4	50	4
EMC030204	2.0	4	4	6	50	4
EMC030254	2.5	4	5	6	50	4
EMC030304	3.0	4	6	9	50	4
EMC030354	3.5	4	7	10	50	4
EMC030404	4.0	4	8	12	50	4
EMC030106	1.0	6	2	3	60	4
EMC030156	1.5	6	3	4	60	4
EMC030206	2.0	6	4	6	60	4
EMC030256	2.5	6	5	6	60	4
EMC030306	3.0	6	6	9	60	4
EMC030356	3.5	6	7	10	60	4
EMC030406	4.0	6	8	12	60	4
EMC030450	4.5	6	9	13	60	4
EMC030500	5.0	6	10	13	60	4
EMC030600	6.0	6	12	16	60	4
EMC030700	7.0	8	14	20	60	4
EMC030800	8.0	8	16	20	60	4
EMC030900	9.0	10	18	25	75	4
EMC031000	10.0	10	20	25	75	4
EMC031100	11.0	12	22	30	75	4
EMC031200	12.0	12	24	30	72	4
EMC031400	14.0	14	28	35	100	4
EMC031600	16.0	16	32	40	100	4
EMC031800	18.0	18	36	40	100	4
EMC032000	20.0	20	40	45	100	4

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