

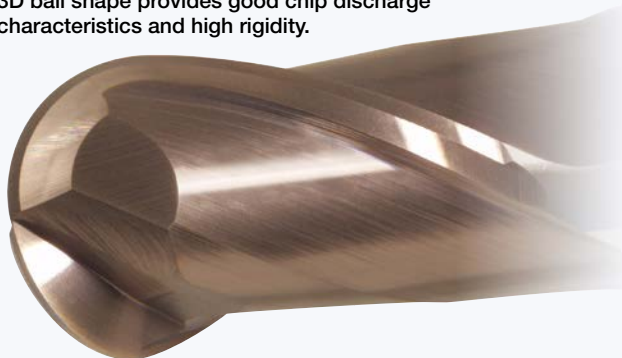
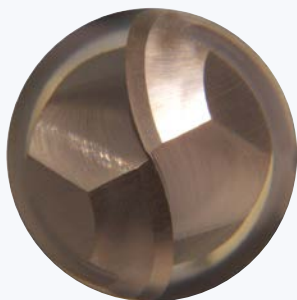
Micro Grain Solid Carbide End Mill

EPBTS | Epoch TH Hard Ball Strong

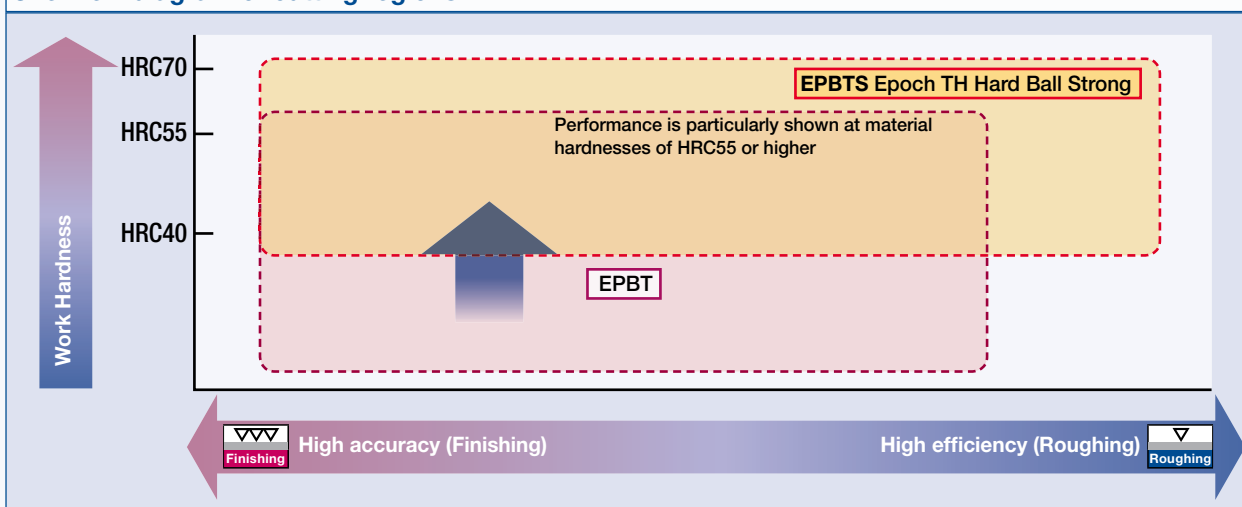
Features

Flute tip shape provides both rigidity and good cutting performance.

3D ball shape provides good chip discharge characteristics and high rigidity.



Overview diagram of cutting regions



Theoretical cusp height in end milling (μm)

Die theoretische Rautiefe in der Fräsbearbeitung (μm)

Calcolo de altura de la cresta teórica en fresado (mm)

Cresta teórica de fresado (μm)

Hauteur de crête théorique en fraisage (μm)

Feed pitch and cusp height

a_e (mm) Zeilensprung

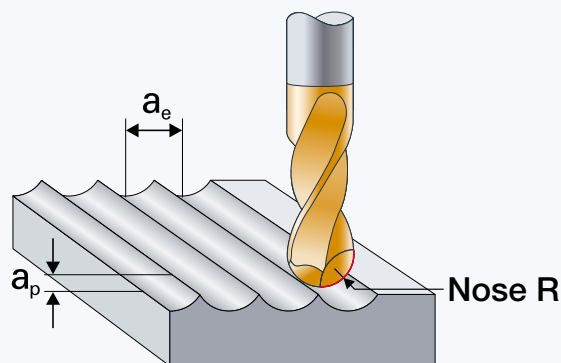
Paso y altura de cresta

Relación Paso / Cresta

Pas et hauteur de crête

$$h = R - \sqrt{\frac{(2 \cdot R)^2 - a_{p,e}^2}{4}}$$

$$h = \frac{a_e^2}{8 \cdot R}$$

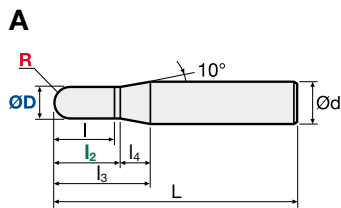
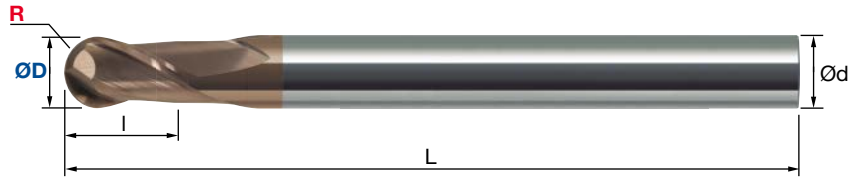
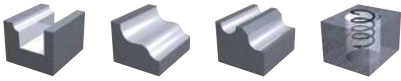


		a _e (Pick feed) mm										
		0.02	0.03	0.04	0.05	0.075	0.1	0.15	0.2	0.3	0.4	0.5
Nose R (mm)	0.5	0.10	0.23	0.40	0.63	1.41	2.51	5.66	10.10	23.03	41.74	66.99
	1	0.05	0.11	0.20	0.31	0.70	1.25	2.82	5.01	11.31	20.20	31.75
	1.5	0.03	0.08	0.13	0.21	0.47	0.83	1.88	3.34	7.52	13.39	20.98
	2	0.03	0.06	0.10	0.16	0.35	0.63	1.41	2.50	5.63	10.03	15.69
	2.5	0.02	0.05	0.08	0.13	0.28	0.50	1.13	2.00	4.50	8.01	12.53
	3	0.017	0.04	0.07	0.10	0.23	0.42	0.94	1.67	3.75	6.67	10.43
	4	0.013	0.03	0.05	0.08	0.18	0.31	0.70	1.25	2.81	5.00	7.82
	5	0.010	0.02	0.04	0.06	0.14	0.25	0.56	1.00	2.25	4.00	6.25
	6	0.008	0.02	0.03	0.05	0.12	0.21	0.47	0.83	1.88	3.33	5.21

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V max High Speed	Q max High Efficient	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 72	No. of Teeth 2
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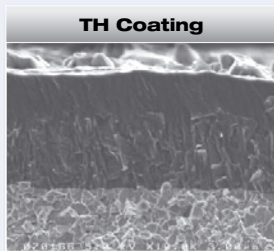
Carbide Micro Grain	TH60+ Nano-PVD Coating	Rake Angle Negative
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D	(0 / -0.01 mm)
R	± 0.005 mm
Ød	h5
Helix angle	30°

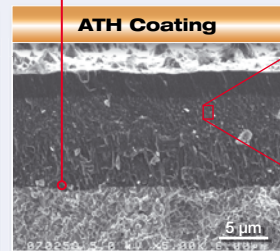
ID Code	Item Code	Z	ØD	R	l	l ₂	l ₃	l ₄	L	Ød	Type
EP855	EPBTS-2010-TH	2	1	0.5	1.5	2.5	11.0	8.5	50	4	A
EP856	EPBTS-2020-TH		2	1	3	4.0	15.3	11.3	50	6	
EP857	EPBTS-2030-TH		3	1.5	4.5	5.5	14.0	8.5	70		
EP858	EPBTS-2040-TH		4	2	6	7.0	12.7	5.7	80		
EP859	EPBTS-2050-TH		5	2.5	7.5	8.5	11.3	2.8	90		
EP860	EPBTS-2060-TH		6	3	9	-	-	-	100	8	B
EP861	EPBTS-2080-TH		8	4	12				10		
EP862	EPBTS-2100-TH		10	5	15				110		
EP863	EPBTS-2120-TH		12	6	18				12		

New ATH (Advanced TH) Coating – Characteristics

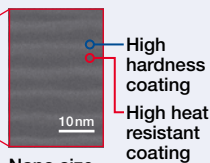
- Excellent adhesion strength
- Oxidation temperature: 1200°C
- Coating Hardness: 3800Hv
- Higher temperature resistance and wear resistance



TH Coating (Conventional)



New ATH Coating for hardened steel (45HRC-65HRC)



Nano size composite with atomic structure level

