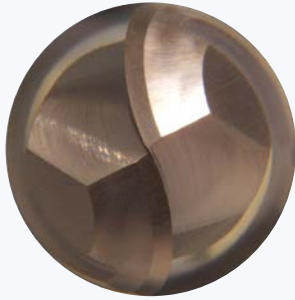


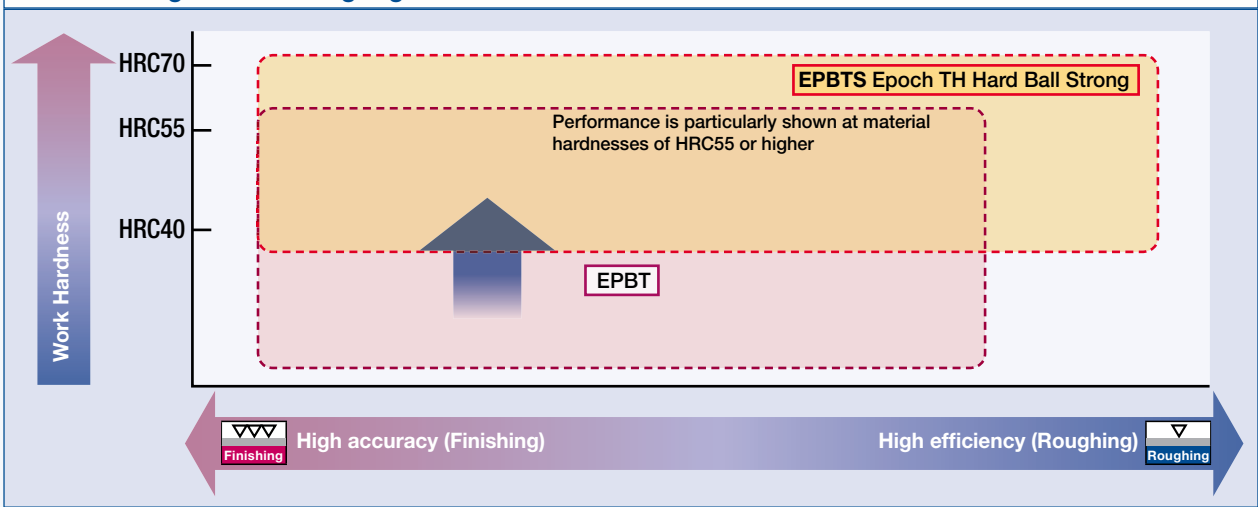
EPBTS | Epoch TH Hard Ball Strong

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)

 Calculo de altura de la cresta teórica en fresado (μm)

 Cresta teórica de fresado (μm)

 Hauteur de crête théorique en fraisage (μm)

 Altura teórica da crista, em fresagem de acabamento (μm)

Feed pitch and cusp height
 a_e (mm) Zeilensprung

Paso y altura de cresta

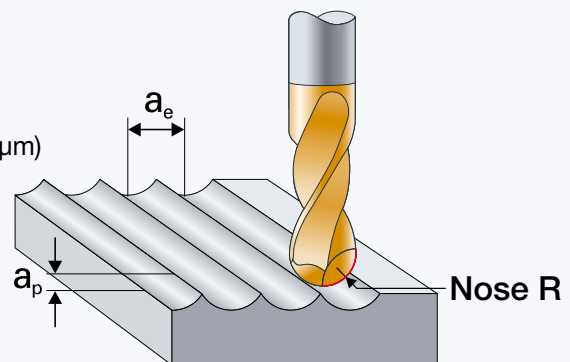
Relación Paso / Cresta

Pas et hauteur de crête

Passo e altura da crista

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

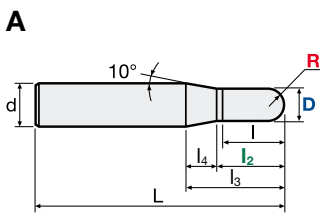
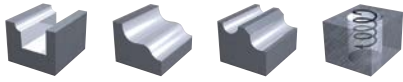
$$h = \frac{a_e^2}{8 \cdot R}$$



		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	

EPBTS | Epoch TH Hard Ball Strong

V max High Speed	Q max High Efficient	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 70	No. of Teeth 2
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Carbide Micro Grain	TH60+ Nano-PVD Coating	Rake Angle Negative
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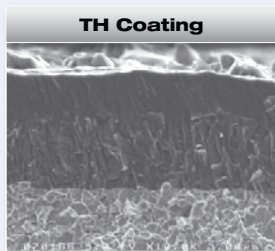
Helix Angle	R Tol. [mm]	d Tol.
30°	+/- 0.005	h5

ID Code	Item Code	Z	D	R	l	l ₂	l ₃	l ₄	L	d	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			
EP860	EPBTS-2060-TH		6	3	9	-	-	-	90		
EP861	EPBTS-2080-TH		8	4	12	-	-	-	100		8
EP862	EPBTS-2100-TH		10	5	15	-	-	-	100	10	
EP863	EPBTS-2120-TH		12	6	18	-	-	-	110	12	

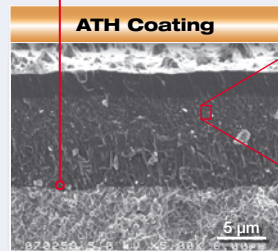
Cutting Conditions | Schnittwerte | Condizioni di taglio | Condiciones de Corte | Conditions de coupe | Valores de corte: Page 4-7

ATH (Advanced TH) Coating – Characteristics

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



TH Coating (Conventional)



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

High hardness coating
High heat resistant coating

Nano size composite with atomic structure level

