

Advanced Engineering

Epoch21 **PN** Coating

MMC Hitachi Tool

No. 439

EPISM-W-PN Epoch Stainless Multi Series

For Stainless Steels and Heat resistant Alloys
Micro Grain Solid Carbide End Mill

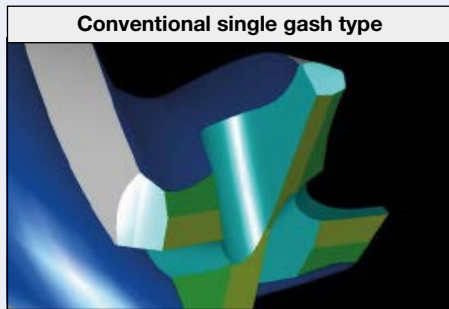


MMC Hitachi Tool Engineering Europe GmbH
www.high-speed-cutting.com

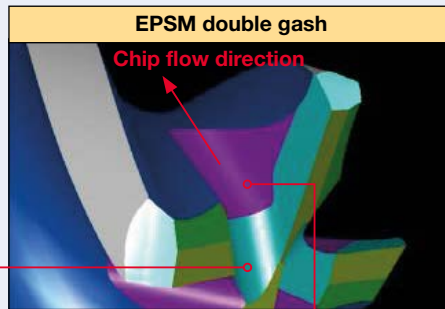
Micro Grain Solid Carbide End Mill

EPISM-W-PN | Epoch Stainless Multi

Double Gash achieves perfect balance with rigidity and chip evacuation. It guarantees high performance in vertical and horizontal milling.



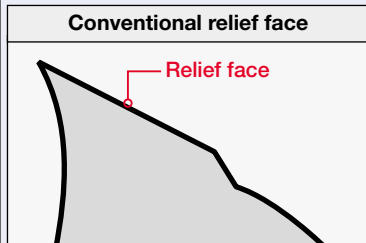
Conventional single gash type



EPISM double gash

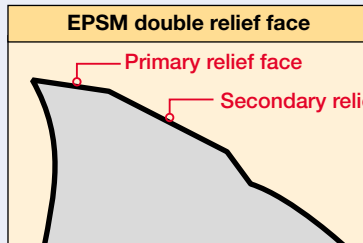
1st gash for high rigidity 2nd gash for stable chip evacuation

Double relief face avoids chipping even in aggressive cutting parameter
Strengthens cutting edge and avoids excessive contact between cutter and workpiece.
For higher efficiency and longer tool life



Conventional relief face

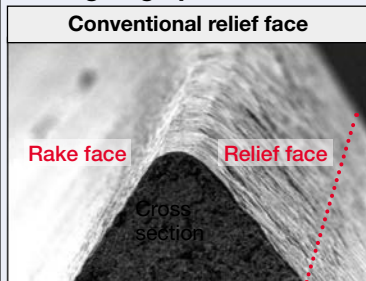
Cutting edge cross section



EPISM double relief face

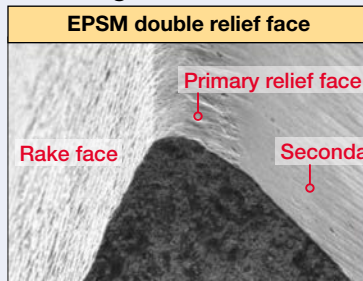
Cutting edge cross section

Cutting edge picture after stainless steel cutting



Conventional relief face

Flank wear extended to the dotted line



EPISM double relief face

Wear is restricted by first eccentric relief face

Rubbing only primary relief face

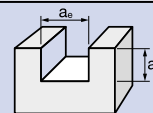
Optimized unequal pitch: Dramatically suppressing vibration by irregular frequency

For longer tool life and better surface quality, especially in thin wall machining

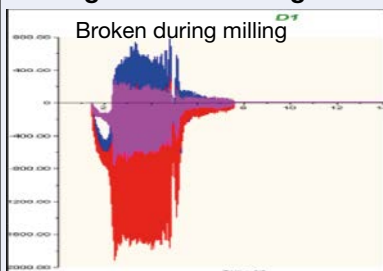
Testing tool size: $D = 8\text{mm}$, Workpiece material: 1.4301

$n = 2,100\text{ min}^{-1}$, Feed rate $V_f = 230\text{mm/min}$, $a_p = 6.4\text{mm}$, $a_e = 8\text{mm}$, Machine: Makino V33 (HSK63A)

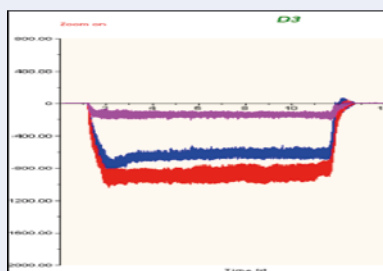
OH=24 mm, Coolant: Wet, Work size: $100 \times 50 \times 50\text{mm}$



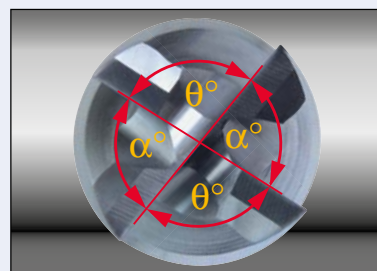
Cutting force in slotting



Conventional Equal pitch



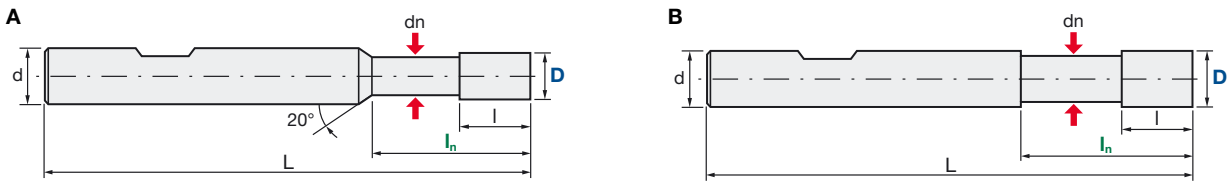
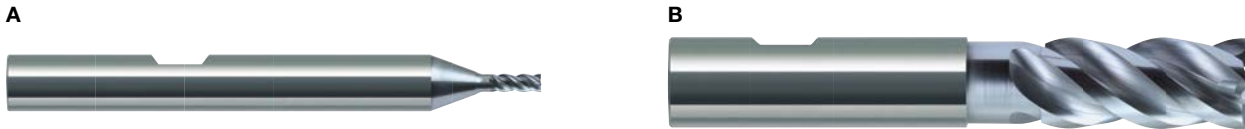
EPISM Unequal pitch



Micro Grain Solid Carbide End Mill

EPISM-W-PN | Epoch Stainless Multi

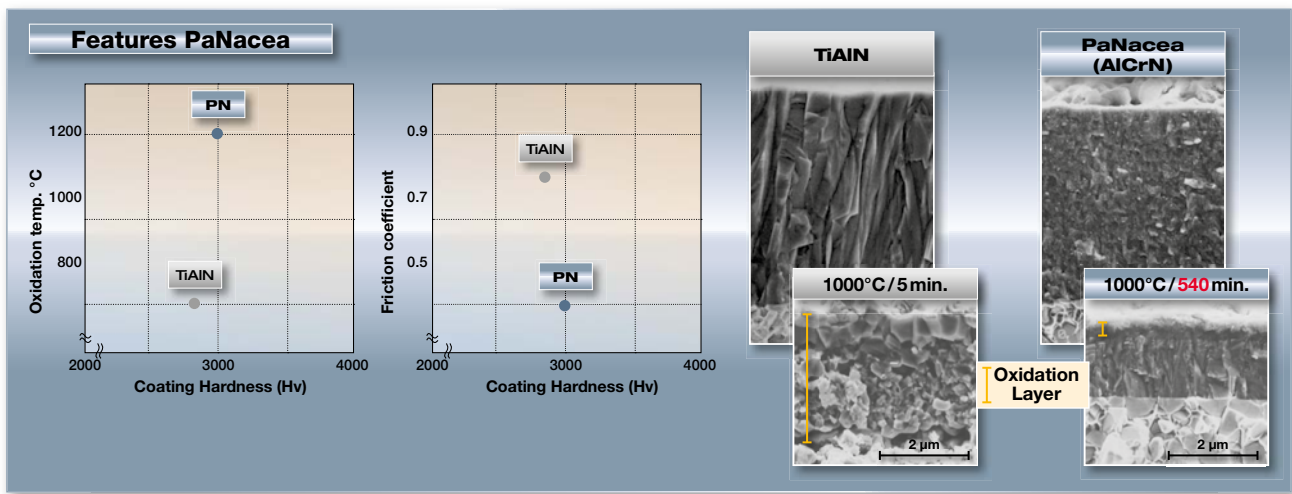
V max High Speed	▽ Roughing	▽▽ Semi Finishing	▽▽▽ Finishing	HRC 52	No. of Teeth 4
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D	0 / -0.015 mm (D1-D6)
	0 / -0.020 mm (D8-D20)
d	D 1-16: h5
	D 16-20: h6
Helix angle	40°

Carbide Micro Grain	PN PaNacea Coating	Rake Angle Positive
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ID Code	Item Code	Z	D	ln	l	dn	L	d	Type
EP1215	EPISM-4010-3-W-PN	4	1	3	2.2	0.96	56	6	A
EP1216	EPISM-4020-6-W-PN		2	6	4.4	1.92			
EP1217	EPISM-4030-9-W-PN		3	9	6.6	2.88			
EP1218	EPISM-4040-12-W-PN		4	12	8.8	3.7			
EP1219	EPISM-4050-15-W-PN		5	15	11.0	4.6			
EP1220	EPISM-4060-18-W-PN		6	18	13.2	5.5			
EP1221	EPISM-4080-24-W-PN		8	24	17.6	7.3	63	8	B
EP1222	EPISM-4100-30-W-PN		10	30	22.0	9.1	74	10	
EP1223	EPISM-4120-36-W-PN		12	36	26.4	11	86	12	
EP1224	EPISM-4160-48-W-PN		16	48	35.2	14.5	110	16	
EP1225	EPISM-4200-60-W-PN	20	60	44.0	18.2	125	20		



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Product Range

Solid Carbide End Mills



Indexable Milling Tools



WHNSB Drills



Milling Chucks



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