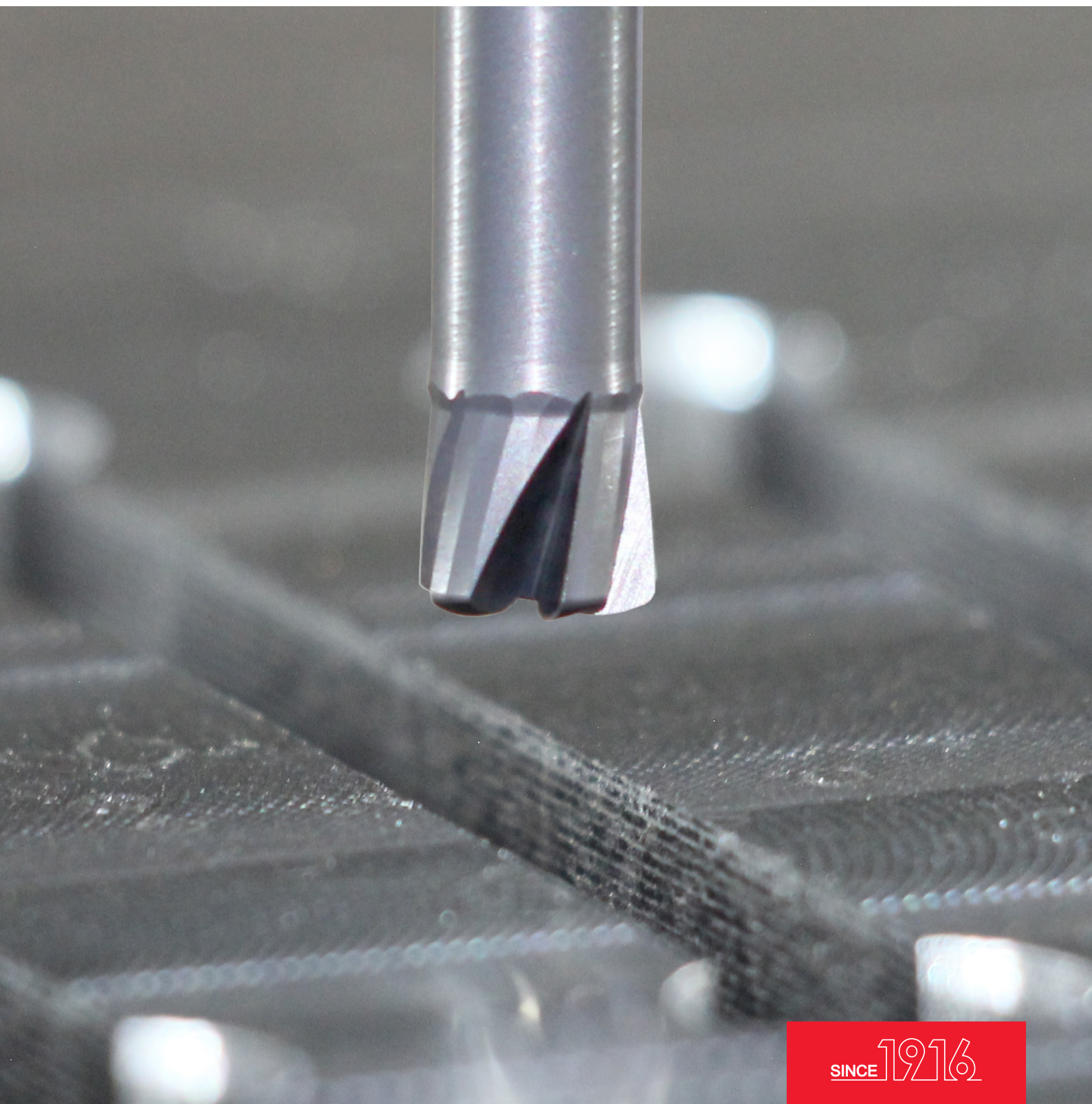


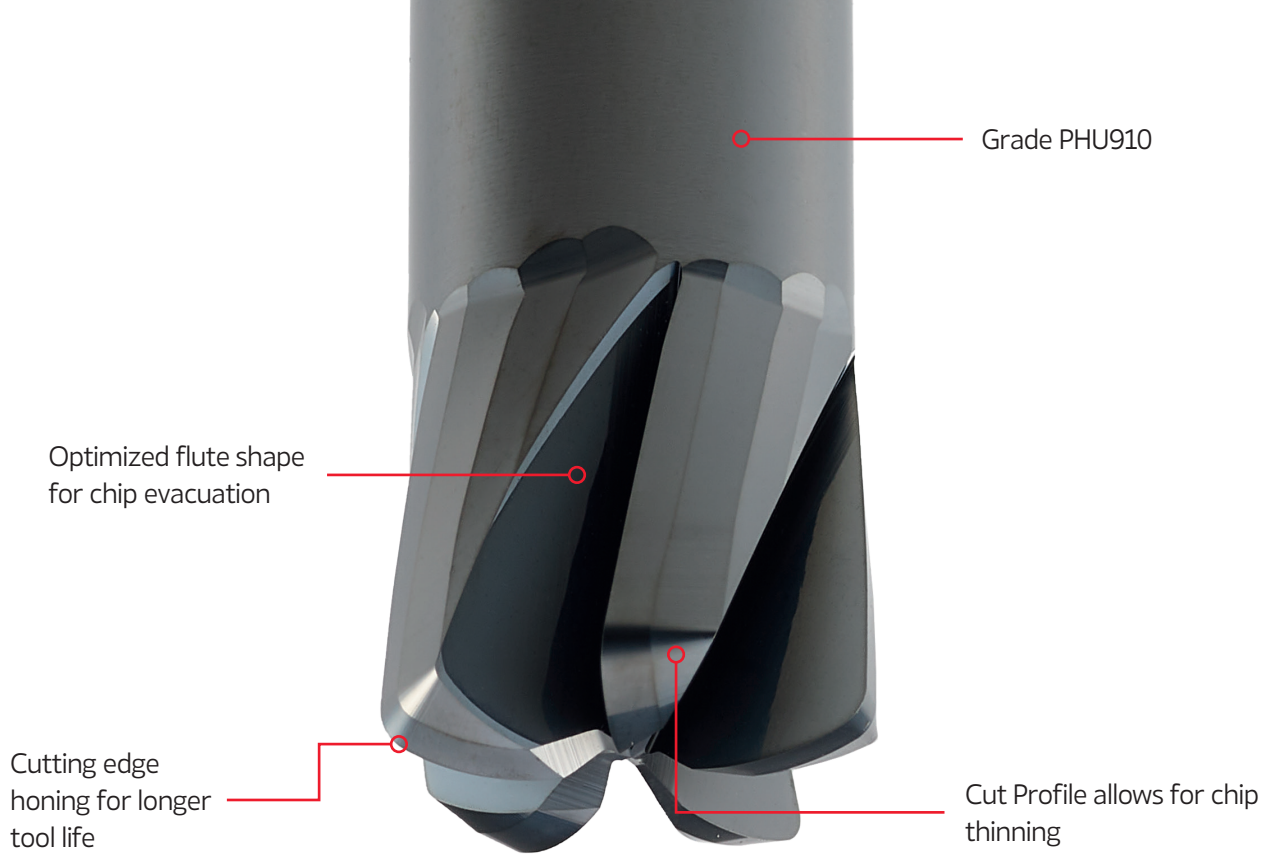
HIFEED-INTEG

HXR30HFGS

Better productivity and longer tool life

MILLING
Solid Carbide





Achieve better productivity and longer tool life with our new line of high feed solid carbide endmills!

This innovative curved profile of the cutting edge along with low lead angle allow to:

- Cause a chip thinning effect and thus to achieve aggressive feed rates.
- Reduce the axial loads on the endmill and consequently tool deflection and vibration, leading to more stability.



These combined improvements allow to achieve tool life up to **30% higher** when compared to typical solid carbide endmills when processing hardened materials.

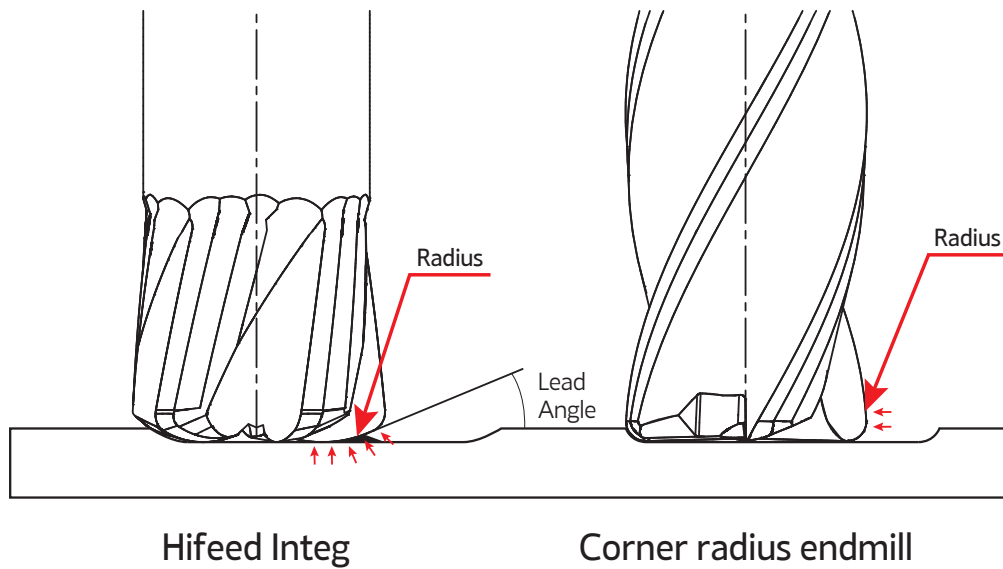
High feed endmills are the first choice for:

1. High material removal rate
2. Machining in unstable conditions
3. Versatility to machine deep or shallow parts
4. Plunge milling machine methods

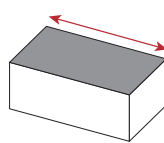
HIFEED INTEG High Feed End mills

HXR30HFGS Special radius roughing

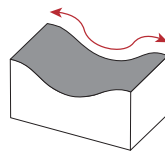
Thanks to the small lead angle and large part radius of the high feed endmill it is possible to minimise tool deflection, once the cutting force is transferred axially against the spindle, minimising radial forces. Benefiting the machining of thin walls or contouring deep pockets.



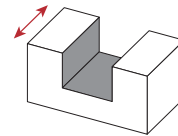
OPERATIONS



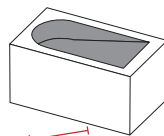
Facing



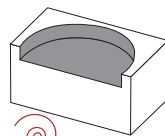
Profiling



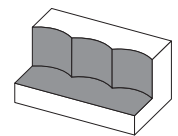
Slotting



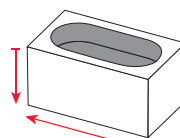
Ramp down



Helical Interpolation



Plunging



Pocket milling

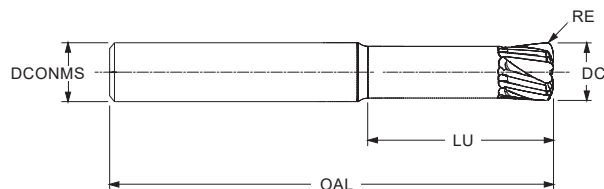
HIFEED INTEG High Feed End mills

HXR30HFGS Special radius roughing



All order codes are cylindrical shank,
Weldon shank available under request.

P M K S H



	(2) Grade code		2A	Dimensions Dimensões Dimensiones (mm)						
(1) Geometry code	Reference Referência Referencia	NOF	PHU910							
				DC	DCONMS	APMX	RE	PR*	LU	OAL
1181449	HXR30HFGS 4 030 002 XR020	4	⊗	3	6	0,20	0,20	0,40	9	63
1181450	HXR30HFGS 4 040 003 XR030	4	⊗	4	6	0,30	0,30	0,50	12	63
1181451	HXR30HFGS 4 050 003 XR040	4	⊗	5	6	0,30	0,40	0,60	15	63
1181452	HXR30HFGS 4 060 004 XR050	4	⊗	6	6	0,40	0,50	0,80	24	63
1181453	HXR30HFGS 5 080 004 XR060	5	⊗	8	8	0,40	0,60	0,90	32	75
1181430	HXR30HFGS 5 100 005 XR080	5	⊗	10	10	0,50	0,80	1,20	32	75
1181454	HXR30HFGS 5 120 005 XR100	5	⊗	12	12	0,50	1,00	1,40	36	83

⊗ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta | Disponible bajo consulta

End mill order code = (1) Geometry Code + (2) Grade Code

*Programming radius

HIFEED INTEG High Feed End mills

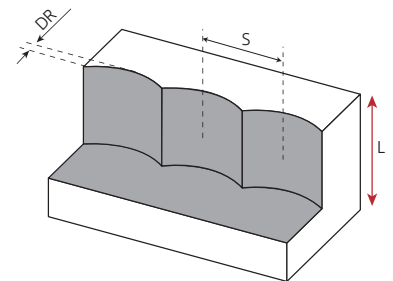
RECOMMENDED CUTTING CONDITIONS Condições de corte recomendadas | Condiciones de corte recomendables

ISO	Workpiece Material	f _z (mm/t)			v _c (m/min)			Plunging	
		a _e = 25%	a _e = 50%	a _e = 100%	a _e = 25%	a _e = 50%	a _e = 100%	f _z (mm/t)	v _c (m/min)
P	Unalloyed Steel	0,044 x DC	0,038 x DC	0,023 x DC	300	280	270	0,004 x DC	160
	Low-Alloyed Steel	0,044 x DC	0,038 x DC	0,023 x DC	280	250	230	0,004 x DC	140
	High-Alloyed Steel	0,040 x DC	0,036 x DC	0,020 x DC	200	180	150	0,004 x DC	120
M	Stainless Steel (Ferritic / Martensitic)	0,035 x DC	0,035 x DC	0,018 x DC	180	160	150	0,003 x DC	110
	Stainless Steel (Austenitic)	0,035 x DC	0,033 x DC	0,018 x DC	120	110	100	0,003 x DC	100
	Stainless Steel (Austenitic/Ferritic/Duplex)	0,033 x DC	0,031 x DC	0,018 x DC	80	70	60	0,003 x DC	60
K	Malleable Cast Iron	0,034 x DC	0,032 x DC	0,021 x DC	170	150	130	0,003 x DC	110
	Grey Cast Iron	0,035 x DC	0,035 x DC	0,021 x DC	220	200	180	0,003 x DC	120
	Nodular Cast Iron	0,034 x DC	0,032 x DC	0,021 x DC	160	140	120	0,003 x DC	110
S	Heat Resistant Super Alloys	0,022 x DC	0,017 x DC	0,014 x DC	40	35	30	0,002 x DC	30
H	Hardened Steels	0,026 x DC	0,021 x DC	0,014 x DC	90	85	70	0,002 x DC	70

Note: Plunge Depth = 2 x DC
Ae Stepover = 0,2 x DC

PLUNGING Mergulho | Plunge

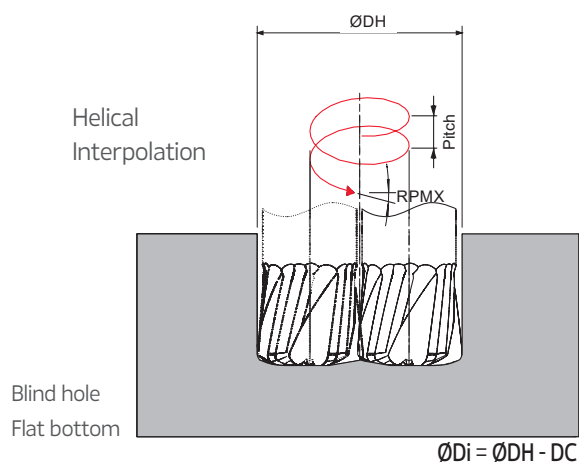
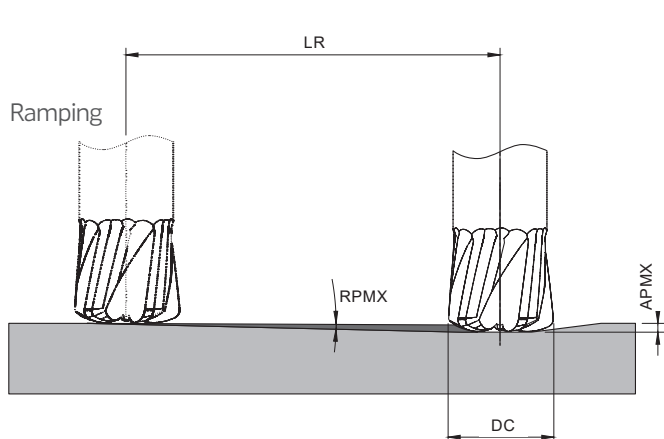
Cutting Conditions	
V _c (m/min)	f _z (mm/t)
70%	35%



S max and DR corresponding cutting diameter DC (mm)							
DR (mm)	DC (mm)						
	3	4	5	6	8	10	12
0,5	1,1	1,3	1,5	1,7	1,9	2,2	2,4
1,0	1,4	1,7	2,0	2,2	2,6	3,0	3,3
1,5	-	-	2,3	2,6	3,1	3,6	4,0
2,0	-	-	-	-	3,5	4,0	4,5
3,0	-	-	-	-	-	4,6	5,2

RAMPING AND HELICAL INTERPOLATION

Descida em rampa e interpolação helicoidal | Bajada en rampa e interpolación circular



DC	Ramping			Helical Interpolation			Max Angle (°)
	RPMX	APMX	Min LR	ØDHmin	ØDHmax	Max Pitch/Rev.	
3	1,5	0,2	7,6	4,0	-	0,07	1,5
				-	6,0	0,20	1,5
4	1,5	0,3	11,5	5,3	-	0,10	1,5
				-	8,0	0,30	1,3
5	1,5	0,3	11,5	6,7	-	0,10	1,5
				-	10,0	0,30	1,0
6	1,5	0,4	15,3	8,0	-	0,15	1,5
				-	12,0	0,40	1,2
8	1,5	0,4	15,3	10,7	-	0,20	1,5
				-	16,0	0,40	0,9
10	1,5	0,5	19,1	13,3	-	0,25	1,5
				-	20,0	0,50	0,9
12	1,5	0,5	19,1	16,0	-	0,30	1,5
				-	24,0	0,50	0,7

Note: During helical interpolation do not exceed APMX.

HIFEED INTEG High Feed End mills

TEST REPORT Relatório de Teste | Informe de Prueba

Operation: Helical Interpolation | Slotting | Pocket Milling

Material: 1.2738 | 34-36 HRC

Tool: HXR30HFGS 5 080 004 XR060

Diameter: Ø8 mm

Grade: PHU910

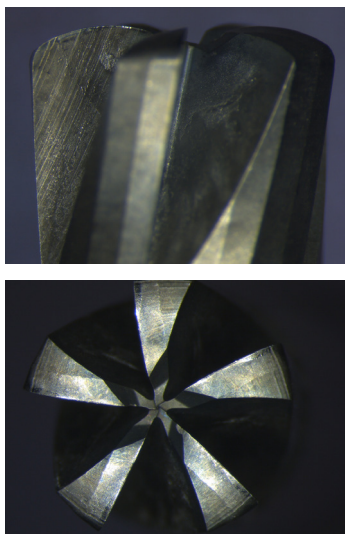


+15%
Metal Removal
Rate

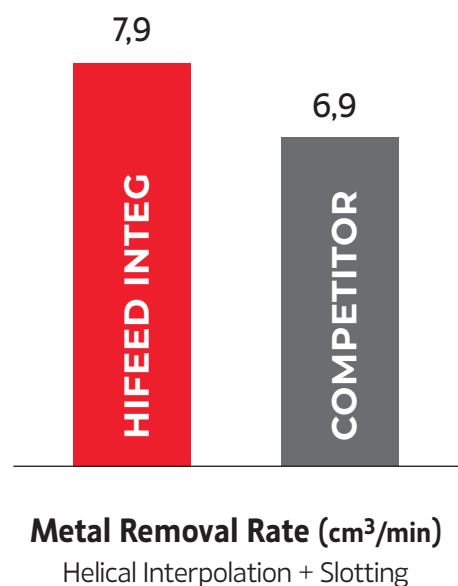
Workpiece Material: Mould Steel

Operations	Helical Interpolation	Slotting	Pocket Milling
Cutting speed: v_c	150 m/min	130 m/min	150 m/min
Feed per tooth: f_z	0,3 mm/t	0,3 mm/t	0,3 mm/t
Depth of cut: a_p	0,3 mm	0,3 mm	0,3 mm
Width of Cut : a_e	-	100%	60%
Coolant	Air	Air	Air

Operations were performed with a single HIFEED endmill and compared with a competitor's endmill of the same diameter and under the same cutting conditions. The HXR endmill has 5 flutes while the competitor's endmill has 4.



HXR endmill wear after 35min of helical interpolation and slotting + 70min of interrupted cutting in pocket milling



The competitor's endmill broke during slotting after 39 minutes of machining

HIFEED-INTEG

HXR30HFGS

Better productivity and longer tool life



Check the QrCode for more information



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