

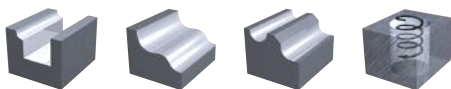
EPBT *Epoch Hard TH Coating* ***EPHT*** *Epoch Ball TH Coating* *High Speed Direct Milling of Hardened Steels*



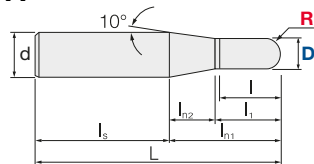
EPHT: D1mm ~ D20mm
EPBT: D1mm ~ D12mm
• For Materials ≤ 69HRC

EPBT | Epoch Ball TH-Coating

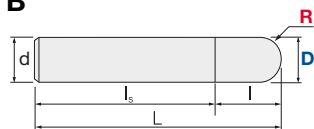
V max High Speed	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 69	No. of Teeth 2
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A



B



Carbide Micro Grain	TH45+ Nano-PVD Coating	Rake Angle Positive
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Helix Angle	R Tol. [mm]	d Tol.
30°	+/-0.005	h5

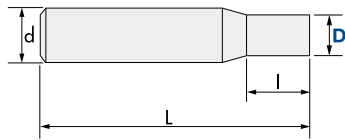
ID Code	Item No.	Z	D	R	I	I ₁	I _{n1}	I _{n2}	L	L _s	d	Type
EP 255	EPBT-2010	2	1	0.5	1.5	2.5	11	8.5	50	39	4	A
EP 256	EPBT-2020		2	1	3	4	15.3	11.3		34.7	6	
EP 257	EPBT-2030		3	1.5	4.5	5.5	14	8.5	70	56		
EP 258	EPBT-2040		4	2	6	7	12.7	5.7		57.3		
EP 259	EPBT-2050		5	2.5	7.5	8.5	11.3	2.8	80	68.7	8	B
EP 260	EPBT-2060		6	3	9	-	-	-	90	81		
EP 261	EPBT-2080		8	4	12				100	88		
EP 262	EPBT-2100		10	5	15					85	10	
EP 263	EPBT-2120		12	6	18				110	92	12	

EPHT | Epoch Hard TH-Coating

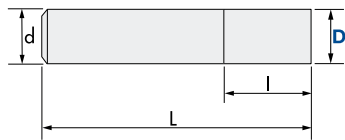
V max High Speed	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 69	No. of Teeth 4	No. of Teeth 6
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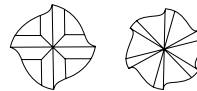
A



B





Carbide Micro Grain	TH45+ Nano-PVD Coating	Rake Angle Negative
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Helix Angle	D Tol. [mm]	d Tol.
46°	D1-D6: 0/-0.015 D8-D20: 0/-0.02	h6

ID Code	Item No.	Z	D	l	L	L _s	d	Type
EP 244	EPHT-4010	4	1	3.5	60	56.5	6	A
EP 264	EPHT-4015		1.5	5		55		
EP 245	EPHT-4020		2	7		53		
EP 265	EPHT-4025		2.5	8		52		
EP 246	EPHT-4030		3	10		50		
EP 247	EPHT-4040		4	12		48		
EP 248	EPHT-4050		5	15		45		
EP 249	EPHT-6060	6	6	15	75	45	8	B
EP 250	EPHT-6080		8	20		55		
EP 251	EPHT-6100		10	25		55		
EP 252	EPHT-6120		12	30		70		
EP 253	EPHT-6160		16	40		70		
EP 254	EPHT-6200		20	45		80		

Cutting Conditions Schnittwerte Condizioni di taglio Condiciones de Corte Conditions de coupe Valores de corte:							
		D	Page Seite			D	Page Seite
EPHT	Side Milling	D1 – D20	5				
EPBT	 Roughing	D1 – D20	6	EPBT	 Finishing	D1 – D12	7

EPHT / EPBT | Recommended Cutting Conditions

NOTE

1. Use a highly rigid and accurate machine as possible.
2. These conditions are for general guidance; in actual machining conditions adjust the parameters according to your actual machine and work-piece conditions.
3. If the rpm available is lower than recommended please reduce the feed rate to the same ratio.

ANMERKUNG

1. Benutzen Sie für die Bearbeitung jeweils die Maschine mit der höchsten Genauigkeit und der höchsten Stabilität.
2. Die angegebenen Schnittwerte stellen eine generelle Empfehlung dar. Die Werte sollten immer an die jeweilige Bearbeitung, deren Form und die verwendete Maschine angepasst werden.
3. Ist die Ihnen verfügbare Drehzahl niedriger als der in der Tabelle angegebene Wert, sollte der Vorschub im gleichen Verhältnis reduziert werden.

NOTE

1. Utiliser une machine aussi rigide et fiable que possible.
2. Ces conditions sont indicatives : en utilisation, ajuster les conditions en fonction de la machine et de la pièce usinée.
3. Si la rotation possible est inférieure à celle recommandée, ajuster l'avance dans la même proportion.

NOTA

1. Usate centri di lavoro più precisi e rigidi possibile
2. Le condizioni di taglio sono valori generali. Per ottimizzare il processo di lavoro rispettate le geometrie dello stampo e la macchina disponibile.
3. Quando i giri della macchina disponibili sono più bassi rispetto al valore espresso regolate l'avanzamento con lo stesso rapporto.

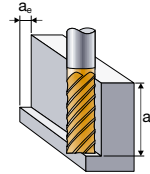
OBSERVACIONES











1. Utilizar la máquina más rígida y precisa posible.
2. Las condiciones de corte de la tabla son una orientación general. Para un trabajo específico hay que ajustar las condiciones en función de la geometría de la pieza, el resultado esperado y el tipo de máquina que vamos a utilizar.
3. Si las rpm máximas de la máquina son inferiores, hay que ajustar el avance en proporción a las mismas.

NOTA

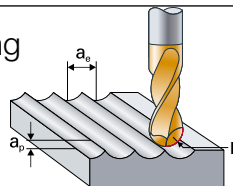
1. Use uma máquina rígida e o mais precisa possível.
2. Estas condições são para orientação geral, em condições de maquinação real ajustar os parâmetros de acordo com a sua máquina e com as condições das peças a maquinar.
3. Se o número de rotações disponível na máquina for menor do que o recomendado por favor reduza avanço na mesma proporção.

EPHT | Recommended Cutting Conditions | Side Milling



Work piece Material		Condition Range	a _p a _e	Cutting Condition	Tool D (mm)									
					D 1	D 2	D 3	D 4	D 6	D 8	D 10	D 12	D 16	D 20
II	Tool Steel (25-35HRC)		a _p =1.5-2D	n (min ⁻¹)	79,600	39,800	26,500	22,300	14,900	11,100	8,900	7,400	5,600	4,500
				V _c (m/min)	250	250	250	280	280	280	280	280	280	280
			a _e =0.1D	V _f (mm/min)	2,550	2,870	3,070	3,750	5,360	5,330	5,340	4,880	4,370	4,590
				f _z (mm/tooth)	0.008	0.018	0.029	0.042	0.060	0.080	0.100	0.110	0.130	0.170
			a _p =1.5-2D	n (min ⁻¹)	19,100	19,100	12,700	11,100	7,400	5,600	4,500	3,700	2,800	2,200
				V _c (m/min)	60	120	120	140	140	140	140	140	140	140
			a _e =0.1D	V _f (mm/min)	610	1,380	1,470	1,860	2,890	2,860	2,700	2,440	2,180	2,240
				f _z (mm/tooth)	0.008	0.018	0.029	0.042	0.065	0.085	0.100	0.110	0.130	0.170
III	Pre-hardened steel (35-45HRC)		a _p =1.5-2D	n (min ⁻¹)	79,600	39,800	26,500	20,700	13,800	10,400	8,300	6,900	5,200	4,100
				V _c (m/min)	250	250	250	260	260	260	260	260	260	260
			a _e =0.1D	V _f (mm/min)	2,550	2,550	2,760	3,150	4,550	4,680	4,480	4,140	3,430	3,690
				f _z (mm/tooth)	0.008	0.016	0.026	0.038	0.055	0.075	0.090	0.100	0.110	0.150
			a _p =1.5-2D	n (min ⁻¹)	19,100	15,900	10,600	9,600	6,400	4,800	3,800	3,200	2,400	1,900
				V _c (m/min)	60	100	100	120	120	120	120	120	120	120
			a _e =0.1D	V _f (mm/min)	380	700	760	1,000	1,540	1,580	1,480	1,340	1,150	1,200
				f _z (mm/tooth)	0.005	0.011	0.018	0.026	0.040	0.055	0.065	0.070	0.080	0.105
IV	Hardened steel (45-55HRC)		a _p =1.5-2D	n (min ⁻¹)	63,700	31,800	21,200	18,300	12,200	9,200	7,300	6,100	4,600	3,700
				V _c (m/min)	200	200	200	230	230	230	230	230	230	230
			a _e =0.03D	V _f (mm/min)	1,780	1,780	1,950	2,420	3,660	3,590	3,500	3,290	2,760	2,890
				f _z (mm/tooth)	0.007	0.014	0.023	0.033	0.050	0.065	0.080	0.090	0.100	0.130
			a _p =1.5-2D	n (min ⁻¹)	19,100	12,700	8,500	8,000	5,300	4,000	3,200	2,700	2,000	1,600
				V _c (m/min)	60	80	80	100	100	100	100	100	100	100
			a _e =0.06D	V _f (mm/min)	380	510	540	740	1,110	1,080	1,060	970	840	860
				f _z (mm/tooth)	0.005	0.010	0.016	0.023	0.035	0.045	0.055	0.060	0.070	0.090
V	Hardened steel (55-65HRC)		a _p =1-1.5D	n (min ⁻¹)	47,800	23,900	15,900	14,300	9,600	7,200	5,700	4,800	3,600	2,900
				V _c (m/min)	150	150	150	180	180	180	180	180	180	180
			a _e =0.02D	V _f (mm/min)	1,150	1,240	1,340	1,720	2,590	2,590	2,390	2,300	1,940	2,090
				f _z (mm/tooth)	0.006	0.013	0.021	0.030	0.045	0.060	0.070	0.080	0.090	0.120
			a _p =1-1.5D	n (min ⁻¹)	19,100	9,600	6,400	6,400	4,200	3,200	2,500	2,100	1,600	1,300
				V _c (m/min)	60	60	60	80	80	80	80	80	80	80
			a _e =0.04D	V _f (mm/min)	310	350	380	540	760	770	750	690	620	620
				f _z (mm/tooth)	0.004	0.009	0.015	0.021	0.030	0.040	0.050	0.055	0.065	0.080
V	Hardened steel (65-70HRC)		a _p =1-1.5D	n (min ⁻¹)	31,800	15,900	10,600	10,400	6,900	5,200	4,100	3,500	2,600	2,100
				V _c (m/min)	100	100	100	130	130	130	130	130	130	130
			a _e =0.02D	V _f (mm/min)	640	760	810	1,120	1,660	1,720	1,600	1,470	1,250	1,390
				f _z (mm/tooth)	0.005	0.012	0.019	0.027	0.040	0.055	0.065	0.070	0.080	0.110
			a _p =1-1.5D	n (min ⁻¹)	12,700	6,400	4,200	4,800	3,200	2,400	1,900	1,600	1,200	1,000
				V _c (m/min)	40	40	40	60	60	60	60	60	60	60
			a _e =0.04D	V _f (mm/min)	200	200	220	360	580	580	510	480	400	450
				f _z (mm/tooth)	0.004	0.008	0.013	0.019	0.030	0.040	0.045	0.050	0.055	0.075

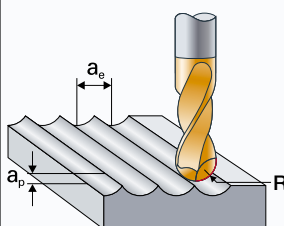
EPBT | Recommended Cutting Conditions | Roughing



Work piece material	Condition Range	a _p a _e	Cutting Condition	Tool Radius (mm)							
				R0.5/D1	R1/D2	R1.5/D3	R2/D4	R3/D6	R4/D8	R5/D10	R6/D12
II Tool Steel (25-35HRC)	High Speed	a _p =0.06-0.08D	n (min ⁻¹)	79,600	47,800	31,800	23,900	18,000	13,500	10,800	9,000
			V _c (m/min)	250	300	300	300	340	340	340	340
		a _e =0.3D	V _r (mm/min)	3,180	2,870	3,180	3,350	3,960	4,050	3,890	3,420
			f _z (mm/tooth)	0.02	0.03	0.05	0.07	0.11	0.15	0.18	0.19
	General	a _p =0.06-0.08D	n (min ⁻¹)	19,100	19,100	15,900	11,900	9,600	7,200	5,700	4,800
			V _c (m/min)	60	120	150	150	180	180	180	180
		a _e =0.3D	V _r (mm/min)	760	1,150	1,590	1,670	2,110	2,160	2,050	1,820
			f _z (mm/tooth)	0.02	0.03	0.05	0.07	0.11	0.15	0.18	0.19
III Pre-hardened steel (35-45HRC)	High Speed	a _p =0.06-0.08D	n (min ⁻¹)	79,600	47,800	31,800	23,900	18,000	13,500	10,800	9,000
			V _c (m/min)	250	300	300	300	340	340	340	340
		a _e =0.3D	V _r (mm/min)	3,180	2,870	3,180	2,870	3,240	3,510	3,460	3,060
			f _z (mm/tooth)	0.02	0.03	0.05	0.06	0.09	0.13	0.16	0.17
	General	a _p =0.06-0.08D	n (min ⁻¹)	19,100	19,100	15,900	11,900	9,600	7,200	5,700	4,800
			V _c (m/min)	60	120	150	150	180	180	180	180
		a _e =0.3D	V _r (mm/min)	760	1,150	1,590	1,430	1,730	1,870	1,820	1,630
			f _z (mm/tooth)	0.02	0.03	0.05	0.06	0.09	0.13	0.16	0.17
IV Hardened steel (45-55HRC)	High Speed	a _p =0.05-0.06D	n (min ⁻¹)	76,400	38,200	27,600	20,700	14,900	11,100	8,900	7,400
			V _c (m/min)	240	240	260	260	280	280	280	280
		a _e =0.25D	V _r (mm/min)	3,060	2,290	2,210	2,480	2,680	2,660	2,490	2,220
			f _z (mm/tooth)	0.02	0.03	0.04	0.06	0.09	0.12	0.14	0.15
	General	a _p =0.05-0.06D	n (min ⁻¹)	19,100	15,900	12,700	9,600	7,400	5,600	4,500	3,700
			V _c (m/min)	60	100	120	120	140	140	140	140
		a _e =0.25D	V _r (mm/min)	380	640	1,020	960	1,180	1,230	1,170	1,040
			f _z (mm/tooth)	0.01	0.02	0.04	0.05	0.08	0.11	0.13	0.14
V Hardened steel (55-65HRC)	High Speed	a _p =0.03-0.04D	n (min ⁻¹)	57,300	28,700	21,200	15,900	12,700	9,600	7,600	6,400
			V _c (m/min)	180	180	200	200	240	240	240	240
		a _e =0.25D	V _r (mm/min)	1,150	1,150	1,700	1,590	2,030	1,920	1,980	1,790
			f _z (mm/tooth)	0.01	0.02	0.04	0.05	0.08	0.10	0.13	0.14
	General	a _p =0.03-0.04D	n (min ⁻¹)	19,100	12,700	10,600	8,000	6,400	4,800	3,800	3,200
			V _c (m/min)	60	80	100	100	120	120	120	120
		a _e =0.25D	V _r (mm/min)	380	510	640	800	900	860	910	830
			f _z (mm/tooth)	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.13
V Hardened steel (65-70HRC)	High Speed	a _p =0.02-0.03D	n (min ⁻¹)	38,200	19,100	12,700	9,600	8,500	6,400	5,100	4,200
			V _c (m/min)	120	120	120	120	160	160	160	160
		a _e =0.2D	V _r (mm/min)	760	760	1,020	960	1,360	1,280	1,330	1,180
			f _z (mm/tooth)	0.01	0.02	0.04	0.05	0.08	0.10	0.13	0.14
	General	a _p =0.02-0.03D	n (min ⁻¹)	15,900	8,000	5,300	4,000	4,200	3,200	2,500	2,100
			V _c (m/min)	50	50	50	50	80	80	80	80
		a _e =0.2D	V _r (mm/min)	320	320	320	400	590	580	600	550
			f _z (mm/tooth)	0.01	0.02	0.03	0.05	0.07	0.09	0.12	0.13

Theoretical cusp height in end milling (μm)
 Die theoretische Rautiefe in der Fräsbearbeitung (μm)
 Cresta teorica di fresatura (μm)

Cálculo de altura de la cresta teórica en fresado (mm)
 Hauteur de crête théorique en fraisage (μm)
 Altura da crista teórica em fresagem (μm)



Feed pitch and cusp height
 a_e (mm) Zeilensprung
 Passo di avanzamento / Cresta
 Paso y altura de cresta
 Pas et hauteur de crête
 Passo lateral x/ Altura da crista

$$h = R - \sqrt{\frac{(2 \cdot R)^2 - a_{p,e}^2}{4}} \quad h = \frac{a_e^2}{8 \cdot R}$$

		a _e (mm)							
		0.05	0.075	0.1	0.15	0.2	0.3	0.4	0.5
R (mm)	0.5	0.63	1.41	2.51	5.66	10.10	23.03	41.74	66.99
	1.0	0.31	0.70	1.25	2.82	5.01	11.31	20.20	31.75
	2.0	0.16	0.35	0.63	1.41	2.50	5.63	10.03	15.69
	3.0	0.10	0.23	0.42	0.94	1.67	3.75	6.67	10.43
	4.0	0.08	0.18	0.31	0.70	1.25	2.81	5.00	7.82
	5.0	0.06	0.14	0.25	0.56	1.00	2.25	4.00	6.25
	6.0	0.05	0.12	0.21	0.47	0.83	1.88	3.33	5.21
	8.0	0.04	0.09	0.16	0.35	0.63	1.41	2.50	3.91
	10.0	0.03	0.07	0.13	0.28	0.50	1.13	2.0	3.13

NOTE

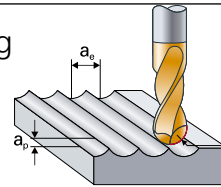
1. Use a highly rigid and accurate machine as available.
2. The radial step over (Pf, pick feed) in the above table is for general information. Please select the conditions to suit your actual surface finish requirements, according to the cusp height stated.
3. The cutting conditions in the above table are a general guide. For your actual work piece adjust the conditions according to the machining shape, purpose and the machine tool to be used.
4. If the rpm speed available is lower, adjust the feed rate to the same ratio with the rpm.

ANMERKUNG

1. Nutzen Sie für die Bearbeitungen die Maschine mit der höchsten Genauigkeit und der höchsten Steifigkeit.
2. Der in der Tabelle angegebene Zeilensprung ist eine generelle Empfehlung. Um die jeweiligen Anforderungen an die Oberflächengüte zu erreichen wählen Sie die Bedingungen entsprechend der angegebenen Rautiefe.
3. Die in der Tabelle angegebenen Schnittbedingungen stellen eine generelle Empfehlung dar. Die Werte sollten immer an die jeweilige Bearbeitung, deren Form und die verwendete Maschine angepasst werden.
4. Sollte die Ihnen verfügbare Drehzahl niedriger als der in der Tabelle angegebene Wert sein, sollte der Vorschub im gleichen Verhältnis reduziert werden.



EPBT | Recommended Cutting Conditions | Finishing



Work piece material	Condition Range	a _p a _e	Cutting Condition	Tool Radius (mm)							
				R0.5/D1	R1/D2	R1.5/D3	R2/D4	R3/D6	R4/D8	R5/D10	R6/D12
II Tool Steel (25-35HRC)	High Speed	a _p =0.05-0.1D	n (min ⁻¹)	79,600	47,800	31,800	23,900	15,900	13,900	11,100	9,300
			V _c (m/min)	250	300	300	300	300	350	350	350
		a _e =0.02-0.06D	V _r (mm/min)	7,960	5,740	4,450	4,300	3,500	3,340	2,890	2,600
			f _z (mm/tooth)	0.05	0.06	0.07	0.09	0.11	0.12	0.13	0.14
	General	a _p =0.05-0.1D	n (min ⁻¹)	19,100	19,100	19,100	14,300	9,600	8,000	6,400	5,300
			V _c (m/min)	60	120	180	180	180	200	200	200
		a _e =0.02-0.06D	V _r (mm/min)	1,910	2,290	2,670	2,570	2,110	1,920	1,660	1,480
			f _z (mm/tooth)	0.05	0.06	0.07	0.09	0.11	0.12	0.13	0.14
III Pre-hardened steel (35-45HRC)	High Speed	a _p =0.05-0.1D	n (min ⁻¹)	79,600	47,800	31,800	23,900	15,900	13,900	11,100	9,300
			V _c (m/min)	250	300	300	300	300	350	350	350
		a _e =0.02-0.06D	V _r (mm/min)	7,960	5,740	4,450	4,300	3,500	3,340	2,890	2,600
			f _z (mm/tooth)	0.05	0.06	0.07	0.09	0.11	0.12	0.13	0.14
	General	a _p =0.05-0.1D	n (min ⁻¹)	19,100	19,100	19,100	14,300	9,600	8,000	6,400	5,300
			V _c (m/min)	60	120	180	180	180	200	200	200
		a _e =0.02-0.06D	V _r (mm/min)	1,910	2,290	2,670	2,570	2,110	1,920	1,660	1,480
			f _z (mm/tooth)	0.05	0.06	0.07	0.09	0.11	0.12	0.13	0.14
IV Hardened steel (45-55HRC)	High Speed	a _p =0.05-0.08D	n (min ⁻¹)	79,600	39,800	26,500	19,900	14,900	11,100	8,900	7,400
			V _c (m/min)	250	250	250	250	280	280	280	280
		a _e =0.02-0.04D	V _r (mm/min)	6,370	3,980	3,180	3,180	3,280	2,660	2,310	2,070
			f _z (mm/tooth)	0.04	0.05	0.06	0.08	0.11	0.12	0.13	0.14
	General	a _p =0.05-0.08D	n (min ⁻¹)	19,100	19,100	13,800	10,400	8,000	6,000	4,800	4,000
			V _c (m/min)	60	120	130	130	150	150	150	150
		a _e =0.02-0.04D	V _r (mm/min)	1,530	1,910	1,660	1,660	1,760	1,440	1,250	1,120
			f _z (mm/tooth)	0.04	0.05	0.06	0.08	0.11	0.12	0.13	0.14
V Hardened steel (55-65HRC)	High Speed	a _p =0.04-0.06D	n (min ⁻¹)	63,700	31,800	21,200	15,900	13,300	10,000	8,000	6,600
			V _c (m/min)	200	200	200	200	250	250	250	250
		a _e =0.02-0.04D	V _r (mm/min)	3,820	3,180	2,540	2,540	2,660	2,200	1,920	1,720
			f _z (mm/tooth)	0.03	0.05	0.06	0.08	0.10	0.11	0.12	0.13
	General	a _p =0.04-0.06D	n (min ⁻¹)	19,100	19,100	12,700	9,600	8,000	6,000	4,800	4,000
			V _c (m/min)	60	120	120	120	150	150	150	150
		a _e =0.02-0.04D	V _r (mm/min)	1,150	1,910	1,520	1,540	1,600	1,320	1,150	1,040
			f _z (mm/tooth)	0.03	0.05	0.06	0.08	0.10	0.11	0.12	0.13
V Hardened steel (65-70HRC)	High Speed	a _p =0.02-0.04D	n (min ⁻¹)	47,800	23,900	15,900	11,900	10,600	8,000	6,400	5,300
			V _c (m/min)	150	150	150	150	200	200	200	200
		a _e =0.02-0.03D	V _r (mm/min)	2,870	2,390	1,910	1,900	2,120	1,760	1,540	1,380
			f _z (mm/tooth)	0.03	0.05	0.06	0.08	0.10	0.11	0.12	0.13
	General	a _p =0.02-0.04D	n (min ⁻¹)	19,100	14,300	9,600	7,200	6,400	4,800	3,800	3,200
			V _c (m/min)	60	90	90	90	120	120	120	120
		a _e =0.02-0.03D	V _r (mm/min)	1,150	1,430	1,150	1,150	1,280	1,060	910	830
			f _z (mm/tooth)	0.03	0.05	0.06	0.08	0.10	0.11	0.12	0.13

NOTA

- Usate centri di lavoro più precisi e rigidi possibile.
- Gli indicazioni sul passo laterale (a_e) espresso nella tabella sopra riportata sono valori generali. Per ottimizzare il processo di lavoro usate le relazioni cresta/raggio più vicine alle Vostre esigenze.
- Le condizioni di taglio indicate sono valori generali. Per ottimizzare il Vostro processo di lavoro analizzate i parametri in funzione delle geometrie che dovete generare e del centro di lavoro a disposizione.
- Se i giri del mandrino della macchina disponibili sono più bassi rispetto al valore espresso regolate l'avanzamento con lo stesso rapporto.

OBSERVACIONES

- Utilizar la máquina más rígida y precisa posible.
- El paso radial (P_f, paso) de la tabla es una información general. Hay que utilizar el paso adecuado en función del acabado superficial que se pretenda obtener según la rugosidad máxima prevista (Altura de cresta).
- Las condiciones de corte de la tabla son una orientación general. Para un trabajo específico hay que ajustar las condiciones en función de la geometría de la pieza, el resultado esperado y el tipo de máquina que vamos a utilizar.
- Si las rpm de la máquina son inferiores, hay que ajustar el avance en proporción a las mismas.

Note: For finishing and precise tool definition for the CAM system please download DXF data (QuickFinder), or contact your local MOLDINO Tool staff for more details.

Nota: Per lavorazioni di finitura e per una precisa e corretta definizione del profilo dell'utensile per l'utilizzo CAM si prega di richiedere file DXF tramite QuickFinder o rivolgendosi al personale MOLDINO Tool.

Remarque : Pour les opérations de finition et une définition précise de l'outil dans votre système FAO, demandez nous le fichier DXF des outils, téléchargez les via notre logiciel QuickFinder, ou contactez votre interlocuteur commercial pour plus de détails.

NOTE

- Utiliser une machine aussi fiable et rigide que possible.
- SVP choisissez vos conditions en fonction de l'état de surface requis.
- Les conditions de coupe du tableau sont indicatives. Pour votre application, ajuster cette base en fonction de votre machine.
- Si le nombre de tours est insuffisant ajuster les avances dans la même proportion que la rotation disponible.

NOTA

- Use a máquina disponível mais rígida e precisa possível.
- O passo lateral (P_f, incremento lateral) na tabela acima é para informação geral. Por favor selecione as condições para atender às suas exigências de acabamento de superfície real, de acordo com a altura da crista pretendida.
- As condições de corte no quadro acima são uma informação geral. Para o seu trabalho real ajuste as condições de acordo com a forma da peça, máquina e ferramenta a ser usada para objectivo pretendido.
- Se a velocidade rpm disponível é inferior, ajuste o avanço para a mesma relação com a rpm.

Achtung: Bitte laden Sie sich für die Schlichtbearbeitung und die präzise Definition der Werkzeuge die DXF Daten herunter (QuickFinder) oder wenden Sie sich an Ihren MOLDINO Anwendungstechniker.

Nota: En procesos de acabado y para una más precisa definición de la herramienta en el sistema de CAM por favor solicite los ficheros DXF (QuickFinder), o póngase en contacto con MOLDINO Tool para obtener más detalles.

Nota: Para o acabamento e precisão assim como melhor definição da ferramenta para o sistema CAM por favor solicite dados DXF (QuickFinder), ou entre em contato com sua equipe de ferramentas MOLDINO local para obter mais detalhes.

Always up to date: Please check our P50 QuickFinder



Attentions on Safety

1. Cautions regarding handling

- (1) When removing the tool from its case (packaging), be careful that the tool does not pop out or is dropped. Be particularly careful regarding contact with the tool flutes.
- (2) When handling tools with sharp cutting flutes, be careful not to touch the cutting flutes directly with your bare hands.

2. Cautions regarding mounting

- (1) Before use, check the outside appearance of the tool for scratches, cracks, etc. and that it is firmly mounted in the collet chuck, etc.
- (2) When preparing for use, be sure that the inserts are firmly mounted in place and that they are firmly mounted on the arbor, etc.
- (3) If abnormal chattering, etc. occurs during use, stop the machine immediately and remove the cause of the chattering.

3. Cautions during use

- (1) Before use, confirm the dimensions and direction of rotation of the tool and milling work material.
- (2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
- (3) Cutting tools are made of a hard material. During use, they may break and fly off. In addition, cutting chips may also fly off. Since there is a danger of injury to workers, fire, or eye damage from such flying pieces, a safety cover should be attached when work is performed and safety equipment such as safety goggles should be worn to create a safe environment for work.
- (4) There is a risk of fire or inflammation due to sparks, heat due to breakage, and cutting chips. Do not use where there is a risk of fire or explosion. Please caution of fire while using oil base coolant, fire prevention is necessary.
- (5) Do not use the tool for any purpose other than that for which it is intended.

4. Cautions regarding regrinding

- (1) If regrinding is not performed at the proper time, there is a risk of the tool breaking. Replace the tool with one in good condition, or perform regrinding.
- (2) Grinding dust will be created when regrinding a tool. When regrinding, be sure to attach a safety cover over the work area and wear safety clothes such as safety goggles, etc.
- (3) This product contains the specified chemical substance cobalt and its inorganic compounds. When performing regrinding or similar processing, be sure to handle the processing in accordance with the local laws and regulations regarding prevention of hazards due to specified chemical substances.

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