


Technical Info. Page No. **148**

Steels ≤45 HRC		Stainless Steels ≤900 N/mm²		Cast Irons ≤300 HB		Hardened Steels -		Titaniums ≤900 N/mm²		Super Alloys ≤900 N/mm²		Aluminiums	
d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA		EDP No. HB			
	tol.	h6	-0.1	±0.50	±0.50	±0.80		AlCrN		AlCrN			
1.0	-0.010	3		4.0		38	4	EMSA 4300M 0100					
1.5	-0.020	3		4.5		38	4	EMSA 4300M 0150					
2.0	-0.020	3		6.0		38	4	EMSA 4300M 0200					
2.5	-0.025	3		9.5		38	4	EMSA 4300M 0250					
3.0	-0.025	3		12.0		38	4	EMSA 4300M 0300					
3.5	-0.025	4		12.0		50	4	EMSA 4300M 0350					
4.0	-0.025	4		14.0		50	4	EMSA 4300M 0400					
4.5	-0.025	6		16.0		50	4	EMSA 4300M 0450		EMSA 4301M 0450			
5.0	-0.025	6		16.0		50	4	EMSA 4300M 0500		EMSA 4301M 0500			
6.0	-0.025	6		19.0		50	4	EMSA 4300M 0600		EMSA 4301M 0600			
7.0	-0.025	8		19.0		63	4	EMSA 4300M 0700		EMSA 4301M 0700			
8.0	-0.025	8		20.0		63	4	EMSA 4300M 0800		EMSA 4301M 0800			
9.0	-0.035	10		22.0		75	4	EMSA 4300M 0900		EMSA 4301M 0900			
10.0	-0.035	10		22.0		75	4	EMSA 4300M 1000		EMSA 4301M 1000			
11.0	-0.035	12		25.0		75	4	EMSA 4300M 1100		EMSA 4301M 1100			
12.0	-0.035	12		25.0		75	4	EMSA 4300M 1200		EMSA 4301M 1200			
14.0	-0.035	14		32.0		89	4	EMSA 4300M 1400		EMSA 4301M 1400			
16.0	-0.035	16		32.0		89	4	EMSA 4300M 1600		EMSA 4301M 1600			
18.0	-0.035	18		38.0		100	4	EMSA 4300M 1800		EMSA 4301M 1800			
20.0	-0.035	20		38.0		100	4	EMSA 4300M 2000		EMSA 4301M 2000			
25.0	-0.035	25		45.0		100	4	EMSA 4300M 2500		EMSA 4301M 2500			

	MATERIAL		Hardness	ap max		ae max		Vc	fz (mm/z) Ø											
	SLOTING			xD	xD	(m/min)	1	2	3	4	5	6	8	10	12	14	16	18	20	
P	Steels, Alloy Steels and Tool Steels	<850 N/mm²	0.5	1	80-100	0.004	0.008	0.012	0.016	0.020	0.025	0.032	0.038	0.045	0.052	0.060	0.070	0.080		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm²	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068		
	Steels, Alloy Steels and Tool Steels	<1400 N/mm²	0.5	1	30-50	0.003	0.006	0.009	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.045	0.053	0.060		
M	Stainless Steel : Easy To Machine	<750 N/mm²	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068		
	Stainless Steel : Difficult To Machine	<950 N/mm²	0.5	1	30-50	0.003	0.006	0.009	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.045	0.053	0.060		
K	Cast Irons, Grey, Spher., Malleable	<300 HB	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068		
N	Aluminiums, Aluminiums Alloys	<6% Si	0.5	1	100-120	0.005	0.010	0.016	0.021	0.026	0.033	0.042	0.049	0.059	0.068	0.079	0.091	0.104		
S	Titanium , Titanium Alloys	<1100N/mm²																		
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm²																		
	SIDE MILLING																			
P	Steels, Alloy Steels and Tool Steels	<850 N/mm²	1.5	0.5	80-100	0.005	0.010	0.014	0.019	0.024	0.030	0.038	0.046	0.054	0.063	0.072	0.084	0.096		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm²	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082		
	Steels, Alloy Steels and Tool Steels	<1400 N/mm²	1.5	0.5	30-50	0.004	0.007	0.011	0.014	0.019	0.023	0.029	0.034	0.041	0.047	0.054	0.063	0.072		
M	Stainless Steel : Easy To Machine	<750 N/mm²	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082		
	Stainless Steel : Difficult To Machine	<950 N/mm²	1.5	0.5	30-50	0.004	0.007	0.011	0.014	0.019	0.023	0.029	0.034	0.041	0.047	0.054	0.063	0.072		
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082		
N	Aluminiums, Aluminiums Alloys	<6% Si	1.5	0.5	100-120	0.006	0.012	0.019	0.025	0.031	0.039	0.050	0.059	0.070	0.081	0.094	0.109	0.125		
S	Titanium , Titanium Alloys	<1100N/mm²																		
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm²																		
	COPYING MILLING [EMB 230 , EMB 430]																			
P	Steels, Alloy Steels and Tool Steels	<850 N/mm²	0.1	0.1	80-100	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.105	0.120	0.126	0.150	0.162	0.018		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm²	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135		
	Steels, Alloy Steels and Tool Steels	<1400 N/mm²	0.1	0.1	40-60	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.074	0.084	0.084	0.106	0.108	0.126		
M	Stainless Steel : Easy To Machine	<750 N/mm²	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135		
	Stainless Steel : Difficult To Machine	<950 N/mm²	0.1	0.1	40-60	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.074	0.084	0.084	0.106	0.108	0.126		
K	Cast Irons, Grey, Spher., Malleable	<300 HB	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135		
N	Aluminiums, Aluminiums Alloys	<6% Si	0.1	0.1	110-130	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.124	0.144	0.154	0.180	0.198	0.216		
S	Titanium , Titanium Alloys	<1100N/mm²																		
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm²																		
	DRILLING [ONLY 2FL, EMS 230]																			
P	Steels, Alloy Steels and Tool Steels	<850 N/mm²	1	1	70-90	0.002	0.005	0.007	0.010	0.012	0.016	0.019	0.023	0.027	0.031	0.036	0.042	0.048		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm²	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041		
	Steels, Alloy Steels and Tool Steels	<1400 N/mm²	0.5	1	25-35	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.017	0.020	0.023	0.027	0.032	0.036		
M	Stainless Steel : Easy To Machine	<750 N/mm²	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041		
	Stainless Steel : Difficult To Machine	<950 N/mm²	0.5	1	25-35	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.017	0.020	0.023	0.027	0.032	0.036		
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041		
N	Aluminiums, Aluminiums Alloys	<6% Si	1	1	80-100	0.003	0.006	0.009	0.012	0.016	0.020	0.025	0.030	0.035	0.041	0.047	0.055	0.062		
S	Titanium , Titanium Alloys	<1100N/mm²																		
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm²																		

CHAMFER MILLS

EMDA 60/90/120

	MATERIAL	Hardness	ap max		Vc (m/min)	fz (mm/z) Ø								
	SIDE MILLING		xD	xD		3	4	5	6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm²	1	<0.3	130-180	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm²	1	<0.3	130-180	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
	Steels, Alloy Steels and Tool Steels	<1400 N/mm²	1	<0.3	90-100	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
M	Stainless Steel : Easy To Machine	<750 N/mm²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
	Stainless Steel : Difficult To Machine	<950 N/mm²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	<0.3	110-160	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm²												

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application