| Cooling						Strategy	HSC	HPC			Expert
Tolerance	e8					Application					
Coating	AlphaFerro Platin X					Features	HA	≠			

- Unequal tooth pitch and variable helical pitch for smooth running
- Specially designed cutting edge geometry for contour machining
- Optimized chip chambers for safe evacuation of the chips

- Process reliable roughing and finishing even with full slot milling
- Multipass milling of 3D contours

- Radius tolerance r ≤ 1.5 mm: ± 0.003 mm
- Radius tolerance r > 1.5 mm: ± 0.005 mm

Roughing

inappropriate — optimal

Finishing

inappropriate — optimal
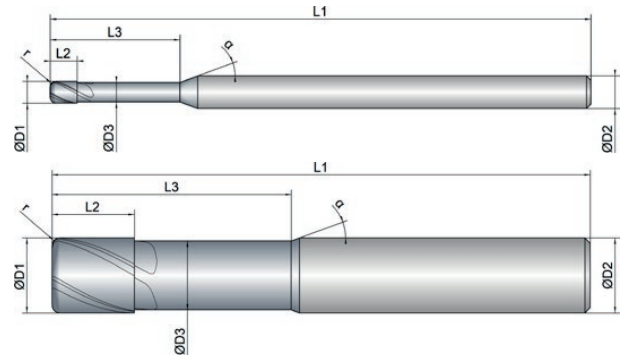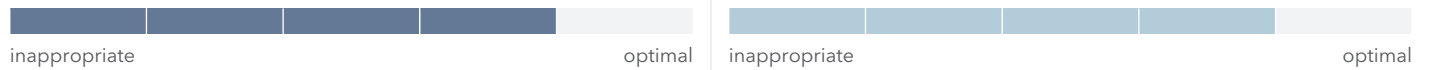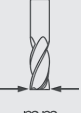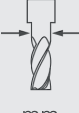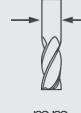
EXPK1-M06-0103	D1 mm ø	D3 mm ø	L2 mm	L3 mm	L1 mm	D2 mm ø	z #	r mm	r °	α °
1/0,2	1.0	0.85	1.5	10.0	50.0	3.0	4	0.20	30	20
2/0,2	2.0	1.8	2.5	12.0	50.0	3.0	4	0.20	30	20
2/0,5	2.0	1.8	2.5	12.0	50.0	3.0	4	0.50	30	20
3/0,3	3.0	2.7	4.0	14.0	50.0	3.0	4	0.30	30	20
3/0,5	3.0	2.7	4.0	14.0	50.0	3.0	4	0.50	30	20
3/1	3.0	2.7	4.0	14.0	50.0	3.0	4	1.00	30	20
4/0,5	4.0	3.7	5.0	16.0	50.0	4.0	4	0.50	30	20
4/1	4.0	3.7	5.0	16.0	50.0	4.0	4	1.00	30	20
6/0,5	6.0	5.5	7.0	21.0	57.0	6.0	4	0.50	30	20
6/1	6.0	5.5	7.0	21.0	57.0	6.0	4	1.00	30	20

EXPK1-M06-0103	D1 mm ø	D3 mm ø	L2 mm	L3 mm	L1 mm	D2 mm ø	z #	r mm	°	α °
8/0,5	8.0	7.4	9.0	27.0	63.0	8.0	4	0.50	30	20
8/1	8.0	7.4	9.0	27.0	63.0	8.0	4	1.00	30	20
8/2	8.0	7.4	9.0	27.0	63.0	8.0	4	2.00	30	20
10/0,5	10.0	9.2	11.0	32.0	72.0	10.0	4	0.50	30	20
10/1	10.0	9.2	11.0	32.0	72.0	10.0	4	1.00	30	20
10/2	10.0	9.2	11.0	32.0	72.0	10.0	4	2.00	30	20
12/0,5	12.0	11.0	12.0	38.0	83.0	12.0	4	0.50	30	20
12/1	12.0	11.0	12.0	38.0	83.0	12.0	4	1.00	30	20
12/2	12.0	11.0	12.0	38.0	83.0	12.0	4	2.00	30	20
16/1	16.0	15.0	16.0	44.0	92.0	16.0	4	1.00	30	20
16/2	16.0	15.0	16.0	44.0	92.0	16.0	4	2.00	30	20
20/1	20.0	18.5	20.0	55.0	104.0	20.0	4	1.00	30	20

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Table 1 — Ø1 to Ø4

				Ø1			Ø2			Ø3			Ø4		
				ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD
Material		Strength (N/mm²)	Feed (mm/Z) / Vc (m/min)	fz	fz	fz	fz	fz	fz	fz	fz	fz	fz	fz	fz
P															
1.1	Steel, unalloyed	<500	200	0.01	0.012	0.015	0.012	0.015	0.018	0.015	0.018	0.02	0.018	0.02	0.022
1.2-1.5	Steel, unalloyed	<1100	160	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018	0.015	0.018	0.02
2.1-2.2	Steel, low-alloyed	<950	150	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018	0.015	0.018	0.02
2.3-2.4	Steel, low-alloyed	<1300	130	0.005	0.008	0.01	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018
3.1-3.2	Steel, high-alloyed	<1100	145	0.005	0.008	0.01	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018
3.3	Steel, high-alloyed	<1400	120	0.004	0.005	0.08	0.005	0.008	0.01	0.008	0.01	0.012	0.01	0.012	0.015
K															
1.1-1.2	Grey cast iron	<1000	180	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018	0.015	0.018	0.02
2.1-2.2	Modular cast iron	<850	145	0.005	0.008	0.01	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018
3.1-3.2	Malleable cast iron	<800	130	0.005	0.008	0.01	0.008	0.01	0.012	0.01	0.012	0.015	0.012	0.015	0.018
M															
1.1	Inox, ferritic/martensitic	<850	80		0.008	0.01		0.01	0.012		0.012	0.015		0.015	0.018
2.1	Inox, austenitic	<650	70		0.007	0.008		0.008	0.01		0.01	0.012		0.012	0.015
2.2	Inox, austenitic	<750	60		0.005	0.006		0.006	0.008		0.008	0.01		0.01	0.012
3.1	Duplex steel	<1100													

Table 2 — Ø6 to Ø12

				Ø6			Ø8			Ø10			Ø12		
				ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ap=0.04xD
Material		Strength (N/mm²)	Feed (mm/Z) / Vc (m/min)	fz	fz	fz							fz	fz	fz
P															
1.1	Steel, unalloyed	<500	200	0.022	0.027	0.032	0.027	0.034	0.039	0.034	0.043	0.048	0.043	0.053	0.058
1.2-1.5	Steel, unalloyed	<1100	160	0.02	0.024	0.03	0.024	0.032	0.037	0.032	0.04	0.045	0.04	0.05	0.055
2.1-2.2	Steel, low-alloyed	<950	150	0.02	0.024	0.03	0.024	0.032	0.037	0.032	0.04	0.045	0.04	0.05	0.055
2.3-2.4	Steel, low-alloyed	<1300	130	0.018	0.022	0.027	0.022	0.029	0.034	0.029	0.038	0.042	0.038	0.048	0.053
3.1-3.2	Steel, high-alloyed	<1100	145	0.018	0.022	0.027	0.022	0.029	0.034	0.029	0.038	0.042	0.038	0.048	0.053
3.3	Steel, high-alloyed	<1400	120	0.015	0.02	0.024	0.02	0.027	0.032	0.027	0.035	0.04	0.035	0.045	0.05
K															
1.1-1.2	Grey cast iron	<1000	180	0.02	0.022	0.027	0.022	0.029	0.034	0.029	0.038	0.042	0.038	0.048	0.053
2.1-2.2	Modular cast iron	<850	145	0.018	0.02	0.024	0.02	0.027	0.032	0.027	0.035	0.04	0.035	0.045	0.05
3.1-3.2	Malleable cast iron	<800	130	0.018	0.02	0.024	0.02	0.027	0.032	0.027	0.035	0.04	0.035	0.045	0.05
M															
1.1	Inox, ferritic/martensitic	<850	80		0.022	0.027		0.029	0.034		0.038	0.042		0.048	0.053
2.1	Inox, austenitic	<650	70		0.02	0.024		0.027	0.03		0.034	0.038		0.043	0.048
2.2	Inox, austenitic	<750	60		0.018	0.022		0.024	0.026		0.03	0.034		0.038	0.043
3.1	Duplex steel	<1100													

NOTE | The values marked in turquoise are side applications! By using multipass milling the maximum infeed (ae, ap) is 0.5xcorner radius!

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	Material	Strength (N/mm²)	Feed (mm/Z)	Ø 16			Ø 20		
				ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ae=0.04xD	ae=1xD ap=0.5xD	ae=0.3xD ap=1xD	ae=0.04xD ae=0.04xD
				fz	fz	fz	fz	fz	fz
P			Vc (m/min)						
1.1	Steel, unalloyed	<500	200	0.053	0.065	0.075	0.065	0.075	0.09
1.2-1.5	Steel, unalloyed	<1100	160	0.05	0.06	0.07	0.06	0.07	0.085
2.1-2.2	Steel, low-alloyed	<950	150	0.05	0.06	0.07	0.06	0.07	0.085
2.3-2.4	Steel, low-alloyed	<1300	130	0.048	0.058	0.068	0.058	0.068	0.083
3.1-3.2	Steel, high-alloyed	<1100	145	0.048	0.058	0.068	0.058	0.068	0.083
3.3	Steel, high-alloyed	<1400	120	0.045	0.055	0.065	0.055	0.065	0.08
K			Vc (m/min)						
1.1-1.2	Grey cast iron	<1000	180	0.048	0.058	0.068	0.058	0.068	0.083
2.1-2.2	Modular cast iron	<850	145	0.045	0.055	0.065	0.055	0.065	0.08
3.1-3.2	Malleable cast iron	<800	130	0.045	0.055	0.065	0.055	0.065	0.08
M			Vc (m/min)						
1.1	Inox, ferritic/martensitic	<850	80		0.058	0.068		0.068	0.083
2.1	Inox, austenitic	<650	70		0.053	0.063		0.063	0.078
2.2	Inox, austenitic	<750	60		0.048	0.058		0.058	0.073
3.1	Duplex steel	<1100							

NOTE | The values marked in turquoise are side applications! By using multipass milling the maximum infeed (ae, ap) is 0.5xcorner radius!