Zylindrische Fräser

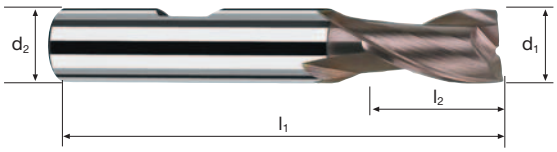
Glattschneidig, kurze Ausführung

HSS | Favora® | Base-X | X-Generation

HSS-E Co8

λ 30° γ 15°

90°



Schruppen

Schlichten

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **GG(G) Aluminium Copper**

Beispiel: **Bestell-Nr.** Beschichtung **U** Artikel-Nr. **0700** ø-Code **.100**

ø Code	d1 h8	d2 h6	l1	l2	α	z	UNICUT-4X U0700
.100	1.0	6	47	3	14.0°	2	●
.120	1.5	6	47	3	13.0°	2	●
.140*	2.0	6	48	4	11.0°	2	●
.160	2.5	6	49	5	8.0°	2	●
.180*	3.0	6	49	5	7.0°	2	●
.200	3.5	6	50	6	5.5°	2	●
.220*	4.0	6	51	7	4.0°	2	●
.240	4.5	6	51	7	3.0°	2	●
.260*	5.0	6	52	8	2.0°	2	●
.280	5.5	6	52	8	1.0°	2	●
.300*	6.0	6	52	8	0.0°	2	●
.322	6.5	10	60	10	5.5°	2	●
.331	7.0	8	54	10	2.0°	2	●
.362	7.5	10	60	10	4.0°	2	●
.391*	8.0	8	55	11	0.0°	2	●
.410	8.5	10	61	11	2.5°	2	●
.420	9.0	10	61	11	1.5°	2	●
.440	9.7	10	63	13	0.0°	2	●
.450*	10.0	10	63	13	0.0°	2	●

* d1 Toleranz für Passfedernut P9

Anwendung

Werkstoff	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min⁻¹]	v_f [mm/min]
Stahl < 850 N/mm²	1.0	2	44	0.002	0.5	1.0	14005	55
	2.0	2	44	0.004	1.0	2.0	7005	55
	3.0	2	44	0.006	1.5	3.0	4670	55
	4.0	2	44	0.008	2.0	4.0	3500	55
	5.0	2	44	0.012	2.5	5.0	2800	65
	6.0	2	44	0.014	3.0	6.0	2335	65
	8.0	2	44	0.018	4.0	8.0	1750	65
	9.0	2	44	0.020	4.5	9.0	1555	60
	10.0	2	44	0.022	5.0	10.0	1400	60
Stahl 850 - 1100 N/mm²	1.0	2	36	0.002	0.5	1.0	11460	45
	2.0	2	36	0.004	1.0	2.0	5730	45
	3.0	2	36	0.006	1.5	3.0	3820	45
	4.0	2	36	0.008	2.0	4.0	2865	45
	5.0	2	36	0.012	2.5	5.0	2290	55
	6.0	2	36	0.014	3.0	6.0	1910	55
	8.0	2	36	0.018	4.0	8.0	1430	50
	9.0	2	36	0.020	4.5	9.0	1275	50
	10.0	2	36	0.022	5.0	10.0	1145	50
Stahl 1100 - 1300 N/mm²	1.0	2	28	0.002	0.5	1.0	8915	35
	2.0	2	28	0.004	1.0	2.0	4455	35
	3.0	2	28	0.006	1.5	3.0	2970	35
	4.0	2	28	0.008	2.0	4.0	2230	35
	5.0	2	28	0.012	2.5	5.0	1785	45
	6.0	2	28	0.014	3.0	6.0	1485	40
	8.0	2	28	0.018	4.0	8.0	1115	40
	9.0	2	28	0.020	4.5	9.0	990	40
	10.0	2	28	0.022	5.0	10.0	890	40
Kaltarbeitsstahl (12%Cr) hoch legiert [1.2379]	1.0	2	25	0.002	0.5	1.0	7960	30
	2.0	2	25	0.004	1.0	2.0	3980	30
	3.0	2	25	0.006	1.5	3.0	2655	30
	4.0	2	25	0.008	2.0	4.0	1990	30
	5.0	2	25	0.012	2.5	5.0	1590	40
	6.0	2	25	0.014	3.0	6.0	1325	35
	8.0	2	25	0.018	4.0	8.0	995	35
	9.0	2	25	0.020	4.5	9.0	885	35
	10.0	2	25	0.022	5.0	10.0	795	35

Werkstoff	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min⁻¹]	v_f [mm/min]
Gusseisen GG(G)	1.0	2	34	0.002	0.5	1.0	10825	45
	2.0	2	34	0.004	1.0	2.0	5410	45
	3.0	2	34	0.006	1.5	3.0	3610	45
	4.0	2	34	0.008	2.0	4.0	2705	45
	5.0	2	34	0.012	2.5	5.0	2165	50
	6.0	2	34	0.014	3.0	6.0	1805	50
	8.0	2	34	0.018	4.0	8.0	1355	50
	9.0	2	34	0.020	4.5	9.0	1205	50
	10.0	2	34	0.022	5.0	10.0	1080	50
Nichtrostender Stahl [Cr-Ni/1.4301]	1.0	2	18	0.002	0.5	1.0	5730	25
	2.0	2	18	0.004	1.0	2.0	2865	25
	3.0	2	18	0.006	1.5	3.0	1910	25
	4.0	2	18	0.008	2.0	4.0	1430	25
	5.0	2	18	0.012	2.5	5.0	1145	25
	6.0	2	18	0.014	3.0	6.0	955	25
	8.0	2	18	0.018	4.0	8.0	715	25
	9.0	2	18	0.020	4.5	9.0	635	25
	10.0	2	18	0.022	5.0	10.0	575	25
Reinkupfer	1.0	2	80	0.002	0.5	1.0	25465	100
	2.0	2	80	0.004	1.0	2.0	12735	100
	3.0	2	80	0.006	1.5	3.0	8490	100
	4.0	2	80	0.008	2.0	4.0	6365	100
	5.0	2	80	0.012	2.5	5.0	5095	120
	6.0	2	80	0.014	3.0	6.0	4245	120
	8.0	2	80	0.018	4.0	8.0	3185	115
	9.0	2	80	0.020	4.5	9.0	2830	115
	10.0	2	80	0.022	5.0	10.0	2545	110
Al-Knetlegierung Si < 6%	1.0	2	100	0.002	0.5	1.0	31830	125
	2.0	2	100	0.004	1.0	2.0	15915	125
	3.0	2	100	0.006	1.5	3.0	10610	125
	4.0	2	100	0.008	2.0	4.0	7960	125
	5.0	2	100	0.012	2.5	5.0	6365	155
	6.0	2	100	0.014	3.0	6.0	5305	150
	8.0	2	100	0.018	4.0	8.0	3980	145
	9.0	2	100	0.020	4.5	9.0	3535	140
	10.0	2	100	0.022	5.0	10.0	3185	140

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Glattschneidig, kurze Ausführung

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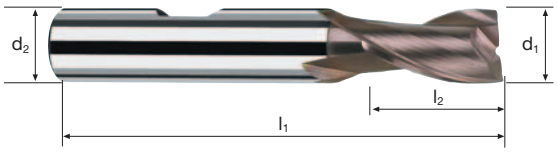
90°



Schruppen

Schlichten

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **GG(G) Aluminium Copper**

Beispiel: **Bestell-Nr.** Beschichtung **U** Artikel-Nr. **0700** ø-Code **.460**

ø Code	d1 h8	d2 h6	l1	l2	α	z	UNICUT-4X U0700
.460	10.5	12	70	13	2.0°	2	●
.470	11.0	12	70	13	1.5°	2	●
.501 *	12.0	12	73	16	0.0°	2	●
.540	13.0	12	73	16	0.0°	2	●
.570 *	14.0	12	73	16	0.0°	2	●
.581	15.0	12	73	16	0.0°	2	●
.610 *	16.0	16	79	19	0.0°	2	●
.620	17.0	16	79	19	0.0°	2	●
.640 *	18.0	16	79	19	0.0°	2	●
.650	19.0	16	79	19	0.0°	2	●
.682 *	20.0	20	88	22	0.0°	2	●
.710 *	22.0	20	88	22	0.0°	2	●
.772 *	25.0	25	102	26	0.0°	2	●

* d1 Toleranz für Passfedernut P9

Anwendung

Werkstoff	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min⁻¹]	v_f [mm/min]
Stahl < 850 N/mm²	11.0	2	44	0.024	5.5	11.0	1275	60
	12.0	2	44	0.026	6.0	12.0	1165	60
	13.0	2	44	0.028	6.5	13.0	1075	60
	14.0	2	44	0.032	7.0	14.0	1000	65
	16.0	2	44	0.036	8.0	16.0	875	65
	18.0	2	44	0.040	9.0	18.0	780	60
	20.0	2	44	0.044	10.0	20.0	700	60
	22.0	2	44	0.048	11.0	22.0	635	60
	25.0	2	44	0.056	12.5	25.0	560	65
Stahl 850 - 1100 N/mm²	11.0	2	36	0.024	5.5	11.0	1040	50
	12.0	2	36	0.026	6.0	12.0	955	50
	13.0	2	36	0.028	6.5	13.0	880	50
	14.0	2	36	0.032	7.0	14.0	820	50
	16.0	2	36	0.036	8.0	16.0	715	50
	18.0	2	36	0.040	9.0	18.0	635	50
	20.0	2	36	0.044	10.0	20.0	575	50
	22.0	2	36	0.048	11.0	22.0	520	50
	25.0	2	36	0.056	12.5	25.0	460	50
Stahl 1100 - 1300 N/mm²	11.0	2	28	0.024	5.5	11.0	810	40
	12.0	2	28	0.026	6.0	12.0	745	40
	13.0	2	28	0.028	6.5	13.0	685	40
	14.0	2	28	0.032	7.0	14.0	635	40
	16.0	2	28	0.036	8.0	16.0	555	40
	18.0	2	28	0.040	9.0	18.0	495	40
	20.0	2	28	0.044	10.0	20.0	445	40
	22.0	2	28	0.048	11.0	22.0	405	40
	25.0	2	28	0.056	12.5	25.0	355	40
Kaltarbeitsstahl (12%Cr) hoch legiert [1.2379]	11.0	2	25	0.024	5.5	11.0	725	35
	12.0	2	25	0.026	6.0	12.0	665	35
	13.0	2	25	0.028	6.5	13.0	610	35
	14.0	2	25	0.032	7.0	14.0	570	35
	16.0	2	25	0.036	8.0	16.0	495	35
	18.0	2	25	0.040	9.0	18.0	440	35
	20.0	2	25	0.044	10.0	20.0	400	35
	22.0	2	25	0.048	11.0	22.0	360	35
	25.0	2	25	0.056	12.5	25.0	320	35

Werkstoff	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min⁻¹]	v_f [mm/min]
Gusseisen GG(G)	11.0	2	34	0.024	5.5	11.0	985	45
	12.0	2	34	0.026	6.0	12.0	900	45
	13.0	2	34	0.028	6.5	13.0	835	45
	14.0	2	34	0.032	7.0	14.0	775	50
	16.0	2	34	0.036	8.0	16.0	675	50
	18.0	2	34	0.040	9.0	18.0	600	50
	20.0	2	34	0.044	10.0	20.0	540	50
	22.0	2	34	0.048	11.0	22.0	490	45
	25.0	2	34	0.056	12.5	25.0	435	50
Nichtrostender Stahl [Cr-Ni/1.4301]	11.0	2	18	0.024	5.5	11.0	520	25
	12.0	2	18	0.026	6.0	12.0	475	25
	13.0	2	18	0.028	6.5	13.0	440	25
	14.0	2	18	0.032	7.0	14.0	410	25
	16.0	2	18	0.036	8.0	16.0	360	25
	18.0	2	18	0.040	9.0	18.0	320	25
	20.0	2	18	0.044	10.0	20.0	285	25
	22.0	2	18	0.048	11.0	22.0	260	25
	25.0	2	18	0.056	12.5	25.0	230	25
Reinkupfer	11.0	2	80	0.024	5.5	11.0	2315	110
	12.0	2	80	0.026	6.0	12.0	2120	110
	13.0	2	80	0.028	6.5	13.0	1960	110
	14.0	2	80	0.032	7.0	14.0	1820	115
	16.0	2	80	0.036	8.0	16.0	1590	115
	18.0	2	80	0.040	9.0	18.0	1415	115
	20.0	2	80	0.044	10.0	20.0	1275	110
	22.0	2	80	0.048	11.0	22.0	1160	110
	25.0	2	80	0.056	12.5	25.0	1020	115
Al-Knetlegierung Si < 6%	11.0	2	100	0.024	5.5	11.0	2895	140
	12.0	2	100	0.026	6.0	12.0	2655	140
	13.0	2	100	0.028	6.5	13.0	2450	135
	14.0	2	100	0.032	7.0	14.0	2275	145
	16.0	2	100	0.036	8.0	16.0	1990	145
	18.0	2	100	0.040	9.0	18.0	1770	140
	20.0	2	100	0.044	10.0	20.0	1590	140
	22.0	2	100	0.048	11.0	22.0	1445	140
	25.0	2	100	0.056	12.5	25.0	1275	145