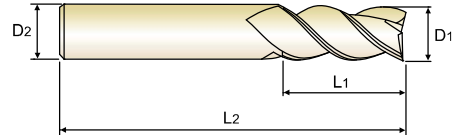
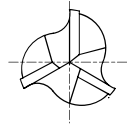


CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH

- **VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG**
- **Fraise carbure, 3 dents, hélice 45°, longue**
- **3 TAGLIENTI, ELICA 45°, SERIE LUNGA**

- ▶ Excellent cutting qualities on aluminum and copper
- ▶ Increased tool life and higher cutting accuracy
- ▶ Mirror surface - Excellent surface finish
- ▶ Superior chip evacuation

- ▶ **Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer**
- ▶ **Verbesserte Standzeiten und höhere Fräsgenauigkeit.**
- ▶ **Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.**
- ▶ **Überlegene Spanabfuhr**



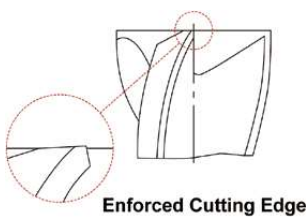
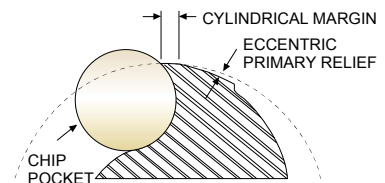
CARBIDE 3 45° PLAIN P.497

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	D1	D2	L1	L2
E5E49030	3.0	6	12	57
E5E49040	4.0	6	15	57
E5E49050	5.0	6	20	57
E5E49060	6.0	6	20	65
E5E49080	8.0	8	22	65
E5E49100	10.0	10	25	70
E5E49120	12.0	12	25	75
E5E49160	16.0	16	35	90
E5E49200	20.0	20	40	100

▶ TiN, TiCN and TiAlN Coatings are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 ~ -0.015	h5



◎ : Excellent ○ : Good

ISO Material Description	P Non-alloy steel					M Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20								
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	42	55									
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230								
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎								
ISO Material Description	N Aluminum-wrought alloy					S Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)			Non Metallic		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41							
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41							
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550							
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎							

Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

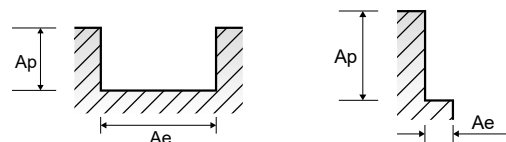
E5E49, E5E50 SERIES

3 FLUTE - SLOTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)									
						3.0	4.0	5.0	6.0	8.0	9.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	1.0D	0.5D	Vc	65	90	110	130	140	160	175	210	210	175
					fz	0.035	0.045	0.050	0.060	0.088	0.097	0.106	0.131	0.158	0.200
					RPM	6897	7162	7003	6897	5570	5659	5570	5570	4178	2785
	FEED	724	967	1050	1241	1471	1647	1771	2189	1980	1671				
	23~24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	42	59	72	85	91	104	114	137	137	114
					fz	0.035	0.045	0.050	0.060	0.088	0.097	0.106	0.131	0.158	0.200
RPM					4483	4655	4552	4483	3621	3678	3621	3621	2716	1810	
FEED	471	628	683	807	956	1070	1151	1423	1287	1086					

3 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)									
						3.0	4.0	5.0	6.0	8.0	9.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	0.15D	1.5D ~ 2.5D	Vc	65	90	110	130	140	160	175	210	210	175
					fz	0.045	0.055	0.065	0.075	0.113	0.122	0.131	0.163	0.200	0.238
					RPM	6897	7162	7003	6897	5570	5659	5570	5570	4178	2785
	FEED	931	1182	1366	1552	1888	2071	2189	2724	2507	1989				
	23~24	Aluminum-cast, alloyed	0.15D	1.5D ~ 2.5D	Vc	42	59	72	85	91	104	114	137	137	114
					fz	0.045	0.055	0.065	0.075	0.113	0.122	0.131	0.163	0.200	0.238
RPM					4483	4655	4552	4483	3621	3678	3621	3621	2716	1810	
FEED	605	768	888	1009	1227	1346	1423	1771	1629	1293					



E5E39, E5E40, E5742, E5711 SERIES

3 FLUTE ROUGHING - SLOTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)					
						6.0	8.0	10.0	12.0	16.0	20.0
N	21~22	Aluminum-wrought alloy	1.0D	1.5D	Vc	198	201	204	241	241	242
					fz	0.168	0.167	0.179	0.167	0.167	0.165
					RPM	10504	7998	6494	6393	4795	3852
	FEED	5294	4007	3487	3203	2402	1907				
	23~24	Aluminum-cast, alloyed	1.0D	1.5D	Vc	129	131	133	157	157	157
					fz	0.168	0.167	0.179	0.167	0.167	0.165
RPM					6828	5198	4221	4155	3116	2504	
FEED	3441	2604	2267	2082	1561	1239					

3 FLUTE ROUGHING - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Mill Diameter (Ø)			
						6.0	8.0	10.0	12.0
N	21~22	Aluminum-wrought alloy	0.5D	1.5D	Vc	254	264	267	320
					fz	0.168	0.168	0.169	0.165
					RPM	13475	10504	8499	8488
	FEED	6791	5294	4309	4202				
	23~24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	165	172	174	208
					fz	0.168	0.168	0.169	0.165
RPM					8759	6828	5524	5517	
FEED	4414	3441	2801	2731					

