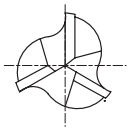
# CARBIDE, 3 FLUTE 45° HELIX with NECK

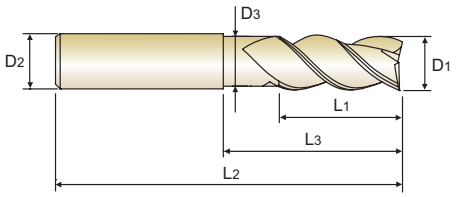
## VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE MIT ABGESETZTEM SCHAFTTETL
## FRAISE CARBURE, 3 DENTS, HÉLICE 45°, DÉTALONNÉE
## 3 TAGLIENTI, ELICA 45°, SCARICATA

- 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 | UNCOATED

p.C539

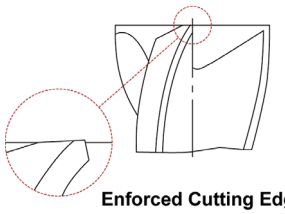
| Recommended ToolHolder | Flat Shank | Plain Shank |
|---|---|---|
| | END MILL HOLDER | HYDRAULIC CHUCK |
| | | SHRINK FIT HOLDER |
| | | POWER MILLING CHUCK |
| | - | ER COLLET CHUCK |

Unit : mm

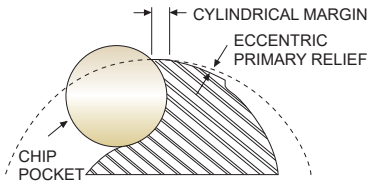
| EDP No. | Mill Diameter | Shank Diameter | Length of Cut | Length Below Shank | Overall Length | Neck Diameter |
|---|---|---|---|---|---|---|
| | $D_1$ | $D_2$ | $L_1$ | $L_3$ | $L_2$ | $D_3$ |
| E5E50030 | 3.0 | 6 | 8 | 12 | 57 | 2.7 |
| E5E50040 | 4.0 | 6 | 11 | 18 | 57 | 3.7 |
| E5E50050 | 5.0 | 6 | 13 | 18 | 57 | 4.7 |
| E5E50060 | 6.0 | 6 | 13 | 18 | 57 | 5.7 |
| E5E50080 | 8.0 | 8 | 21 | 25 | 63 | 7.4 |
| E5E50100 | 10.0 | 10 | 22 | 30 | 72 | 9.2 |
| E5E50120 | 12.0 | 12 | 26 | 36 | 83 | 11 |
| E5E50160 | 16.0 | 16 | 36 | 42 | 92 | 15 |
| E5E50200 | 20.0 | 20 | 41 | 52 | 104 | 19 |

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

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



Enforced Cutting Edge




◎ : Excellent ○ : Good

| ISO | P | | | | | | | | | | | M | | | K | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Non-alloy steel | | | | | Low alloy steel | | | | High alloyed steel, and tool steel | | Stainless steel | | | Grey cast iron | | Nodular cast iron | | Malleable cast iron | |
| 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 | | 21 |
| HB | 125 | 190 | 250 | 270 | 300 | 180 | 275 | 300 | 350 | 200 | 325 | 200 | 240 | 180 | 180 | 260 | 160 | 250 | 130 | 230 |
| Recommend | | | | | | | | | | | | | | | | | | | | |

| ISO | N | | | | | | | | | | S | | | | | | | H | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Description | Aluminum-wrought alloy | | Aluminum-cast, alloyed | | | Copper and Copper Alloys (Bronze / Brass) | | | Non Metallic Materials | | Heat Resistant Super Alloys | | | | | Titanium Alloys | | Hardened steel | | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| HRc | | | | | | | | | | | 15 | 30 | 25 | 38 | 34 | | | 55 | 60 | 42 | 55 |
| HB | 60 | 100 | 75 | 90 | 130 | 110 | 90 | 100 | | | 200 | 280 | 250 | 350 | 320 | 400 Rm | 1050 Rm | 550 | 630 | 400 | 550 |
| Recommend | ◎ | ◎ | ◎ | ◎ | ○ | | | | | | | | | | | | | | | | |