

End mill Z4 - variable helix & pitch



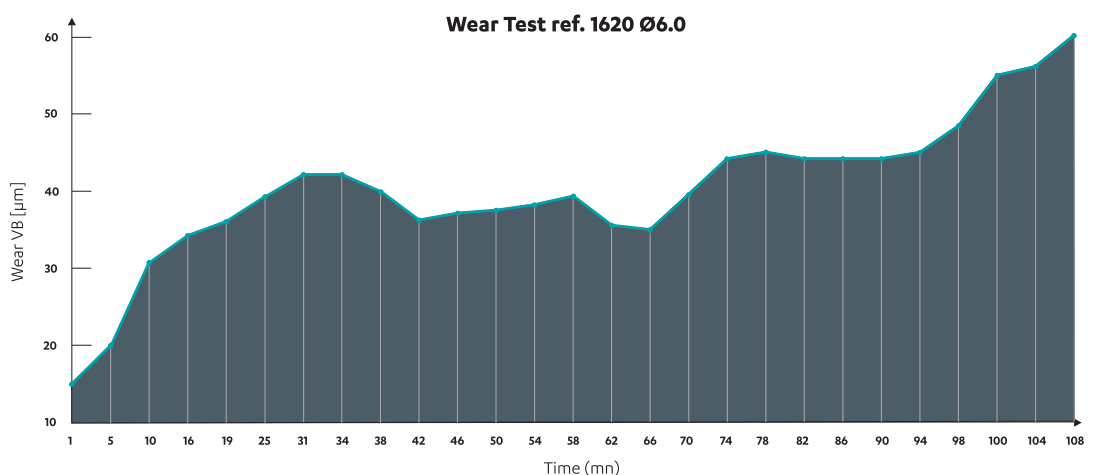
- 40% productivity increase through its geometry and its specific carbide
- Drastic reduction of vibrations, for a longer life cycle of the tool
- A machining solution for your semi-finishing and finishing outlining as well as grooving

Test protocol:

- Tool: ref 1620 Ø 6.0 mm, TiAlN
- Machined material: stainless steel no. 1.4435, X2CrNiMo18-14-3, 316L, 215 HV
- Machine: Mazak - Integrex 100-IV. Lubrication: Emulsion
- Cutting conditions : $a_p = 9.0 \text{ mm}$ $V_c = 80 \text{ m/min}$
 $a_e = 2.5 \text{ mm}$ $f_z = 0.03 \text{ mm}$

Results :

- Service life of the tool: > 100 min
- Surface condition after 100 min: $R_a = 0.5 \mu\text{m}$



Conclusion

These excellent results allow to recommend the drill for machining high-performance roughing to finishing

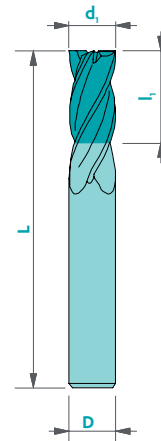
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1620

| Material | Vc uncoated | Vc coated | Uncoated | Coated | Rec. Coating |
|-------------------------------|-------------|-----------|----------|--------|--------------|
| Steel < 700 N/mm ² | 100 | 130 | □ | ■ | Trio |
| Steel > 700 N/mm ² | 80 | 100 | - | ■ | Trio |
| Stainless steel | 50 | 70 | □ | ■ | Trio |
| Cast iron | 60 | 100 | □ | ■ | Trio |
| Copper | 150 | 180 | □ | ■ | Solo |
| Brass - Bronze | 140 | 190 | ■ | □ | Solo |
| Aluminium | 200 | 350 | □ | ■ | Rico/Solo |
| Gold - Silver | 140 | 180 | ■ | □ | Solo |
| Platinum - Palladium | - | 35 | - | □ | Solo |
| Superalloy | - | 40 | - | ■ | Trio |
| Titanium | 40 | 60 | ■ | ■ | Rico/Trio |

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1 \text{ mm} \rightarrow +0/-0.01$
 $d_1 > 1 \text{ mm} \rightarrow +0/-0.02$
 $d_1 = D \rightarrow d_1 : e8$
 D: h5



Available
uncoated or coated

| Art. n° | d_1 | l_1 | λ | D | L |
|------------|-------|-------|-----------|----|----|
| 1620d1.00 | 1.0 | 2 | 0.02 | 6 | 51 |
| 1620d1.50 | 1.5 | 3 | 0.02 | 6 | 51 |
| 1620d2.00 | 2.0 | 4 | 0.02 | 6 | 51 |
| 1620d2.50 | 2.5 | 5 | 0.02 | 6 | 51 |
| 1620d3.00 | 3.0 | 6 | 0.02 | 6 | 51 |
| 1620d3.50 | 3.5 | 7 | 0.03 | 6 | 51 |
| 1620d4.00 | 4.0 | 8 | 0.03 | 6 | 51 |
| 1620d5.00 | 5.0 | 10 | 0.04 | 6 | 51 |
| 1620d6.00 | 6.0 | 12 | 0.05 | 6 | 51 |
| 1620d8.00 | 8.0 | 16 | 0.05 | 8 | 61 |
| 1620d10.00 | 10.0 | 20 | 0.05 | 10 | 72 |
| 1620d12.00 | 12.0 | 24 | 0.05 | 12 | 83 |
| 1620d14.00 | 14.0 | 28 | 0.06 | 14 | 83 |
| 1620d16.00 | 16.0 | 32 | 0.06 | 16 | 92 |

Z4



λ
35-45°

γ
8°

SUB-CARFINE N



$ap=1 \times d_1$

$ae=1 \times d_1$
 $ap=2.0 \times d_1$

Ø1 and 1.5 to be used only
for peripheral milling and
not for grooving

Option: Weldon flat

