

DIXI 1151 - 1152

CUTTING CONDITIONS

| Materials to be machined | | | CARBIDE | | TiN | |
|--------------------------|--|------------------------------|------------|-----|------------|-----|
| | | | Vc [m/min] | | Vc [m/min] | |
| P | Unalloyed steel / Low alloyed steel | < 600 N/mm ² | 40 | 60 | 50 | 70 |
| P | Unalloyed steel / Low alloyed steel | 600 – 1500 N/mm ² | | | 40 | 60 |
| P | Lead alloyed cutting steel | | 60 | 90 | | |
| K | Grey cast iron / Nodular pearlitic iron | < 250 HB | 50 | 120 | 60 | 90 |
| K | Nodular ferritic cast iron / Malleable cast iron | | 40 | 55 | 50 | 70 |
| S | Titanium, titanium alloys | | 30 | 50 | | |
| N | Copper alloys - easy to machine (brass - bronze) | | 60 | 100 | | |
| N | Cast aluminium | Si > 8% | 70 | 110 | 80 | 120 |
| N | Gold, silver | | 50 | 80 | 60 | 90 |

$$n \text{ [tr/min]} = \frac{Vc \text{ [m/min]} \times 1000}{\pi \times D_1 \text{ [mm]}}$$

$$Vf \text{ [mm/min]} = n \text{ [tr/min]} \times f \text{ [mm]}$$

Feed per revolution **f [mm]**

| Ø D ₁ 0.20 - 0.50 | Ø D ₁ 0.50 - 1.00 | Ø D ₁ 1.00 - 1.50 | Ø D ₁ 1.50 - 2.00 | Ø D ₁ 2.00 - 3.00 | Ø D ₁ 3.00 - 5.00 | Ø D ₁ 5.00 - 7.00 | Ø D ₁ 7.00 - 10.00 | Ø D ₁ 10.00 - 14.00 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|-----------------------------------|
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |
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| 0.004 - 0.008 | 0.006 - 0.017 | 0.015 - 0.025 | 0.02 - 0.035 | 0.030 - 0.04 | 0.035 - 0.08 | 0.07 - 0.18 | 0.15 - 0.25 | 0.18 - 0.30 |

D₁ < 1mm ⇒ Vc - 30 %

DIXI 1280

| | | | XIDUR | |
|----------|---|--|------------|----|
| | | | Vc [m/min] | |
| H | Hardened tool steel and cast iron | > 1500 N/mm ² (45 - 65 HRC) | 15 | 25 |
| S | Special alloys / Heat resistant stainless steel | Inconel Nimonic Hastelloy | 15 | 30 |

| Ø D ₁ 0.25 - 0.50 | Ø D ₁ 0.50 - 1.00 | Ø D ₁ 1.00 - 2.50 | Ø D ₁ 2.50 - 3.00 | Ø D ₁ 3.00 - 4.00 | Ø D ₁ 4.00 - 5.00 | Ø D ₁ 5.00 - 8.00 | Ø D ₁ 8.00 - 12.00 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|
| 0.01 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 |
| 0.01 | 0.02 | 0.025 | 0.03 | 0.04 | 0.05 | 0.05 | 0.06 |

Pecking cycle = 0.25 x ØD₁