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catalogue!**

# EXPERT TOOLS STAINLESS STEEL



**LOUIS BÉLET S.A.**

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[www.louisbelet.ch](http://www.louisbelet.ch)

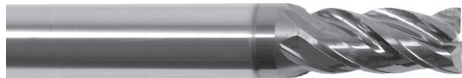
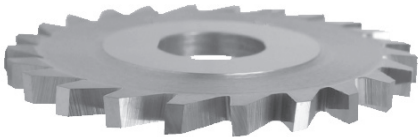
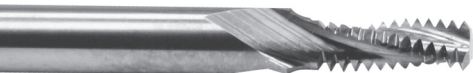
  
**SWISS MADE**

 • Titanium  
• Stainless steel  
• Composite  
• Brass  
• Aluminium

## EXPERT cutting tools recommended for machining stainless steel

Tool material : **SOLID CARBIDE**

Recommended Coating: **TISI**

| Operation                     | Ref.             | Picture                                                                              | Page         |
|-------------------------------|------------------|--------------------------------------------------------------------------------------|--------------|
| <b>Drilling</b>               | <b>370 / 374</b> |    | 5 / 7        |
| <b>Milling</b>                | <b>1620</b>      |    | 9            |
| <b>Saw blades</b>             | <b>227</b>       |  | 11           |
| <b>Threading</b>              | <b>5300</b>      |  | 13           |
| <b>Engraving</b>              | <b>119-3</b>     |  | 15           |
| <b>Special Custom tooling</b> | <b>helical</b>   |  | Upon request |

This table presents only one optimal tool for each operation. You will find other tools suitable for stainless steel machining in our full catalogue.

## Index - Stainless steels

| N° Wsn | DIN                 | AFNOR            | AISI/ATSM | Gr. | N° Wsn | DIN | AFNOR | AISI/ATSM | Gr. |
|--------|---------------------|------------------|-----------|-----|--------|-----|-------|-----------|-----|
| 1.2083 | X42Cr13             | Z40C14           |           | b   |        |     |       | 302       | b   |
| 1.4000 | X6Cr13              | Z6C13            |           | c   |        |     |       | 304 LN    | b   |
| 1.4002 | X6CrAl13            | Z6CA13           |           | b   |        |     |       | 305       | b   |
| 1.4005 | X12CrS13            | Z12CF13          |           | a   |        |     |       | 309       | b   |
| 1.4006 | X10Cr13             | Z12C13           |           | a   |        |     |       | 310 S     | b   |
| 1.4016 | X8Cr17              | Z8C17            |           | a   |        |     |       | 314       | b   |
| 1.4021 | X20Cr13             | Z20C13           |           | c   |        |     |       | 316 Cb    | b   |
| 1.4028 | X30Cr13             | Z33C13           |           | c   |        |     |       | 318       | b   |
| 1.4031 | X38Cr13             | Z40C14           |           | c   |        |     |       | 321       | b   |
| 1.4034 | X46Cr13             | Z40C14           |           | c   |        |     |       | 329       | b   |
| 1.4057 | X22CrNi17           | Z15CN16.02       |           | c   |        |     |       | 330       | b   |
| 1.4104 | X12CrMoS17          | Z10CF17          |           | a   |        |     |       | 347       | b   |
| 1.4113 | X8CrMo17            | Z8CD17.01        |           | a   |        |     |       | 348       | b   |
| 1.4125 | X105CrMo17          | Z100CD17         |           | c   |        |     |       |           |     |
| 1.4301 | X5CrNi18 – 10       | Z7CN18 – 09      |           | b   |        |     |       |           |     |
| 1.4301 | X5CrNi18.09         | Z6CN18.09        | 304       | b   |        |     |       |           |     |
| 1.4303 | X5CrNi1812          | Z8CN18.12        |           | b   |        |     |       |           |     |
| 1.4305 | X10CrNiS18 – 9      | Z8CNF18 – 09     |           | b   |        |     |       |           |     |
| 1.4305 | X12CrNiS18.08       | Z10CNF18.09      | 303       | b   |        |     |       |           |     |
| 1.4306 | X2CrNi19 – 11       | Z3CN19 – 11      |           | b   |        |     |       |           |     |
| 1.4306 | X2CrNi18.09         | Z2CN18.10        | 304 L     | b   |        |     |       |           |     |
| 1.4308 | G-X6CrNi189         | Z6CN18.10M       |           | b   |        |     |       |           |     |
| 1.4310 | X12CrNi177          | Z12CN17.07       |           | a   |        |     |       |           |     |
| 1.4311 | X2CrNiN1810         | Z2CN18.10        |           | b   |        |     |       |           |     |
| 1.4313 | X5CrNi134           | Z5CN13.4         |           | b   |        |     |       |           |     |
| 1.4401 | X5CrNiMo17 – 12 – 2 | Z7CND17 – 12 – 2 |           | b   |        |     |       |           |     |
| 1.4401 | X5CrNiMo18.10       | Z6CND17.11       | 316       | b   |        |     |       |           |     |
| 1.4404 | X2CrNiMo17 – 13 – 2 | Z3CND18 – 11 – 2 | 316 L     | b   |        |     |       |           |     |
| 1.4404 | X2CrNiMo18.10       | Z2CND17.12       |           | b   |        |     |       |           |     |
| 1.4406 | X2CrNiMoN17122      | Z2CND17.12Az     |           | c   |        |     |       |           |     |
| 1.4429 | X2CrNiMo18.12       | Z2CND17.13       | 316 LN    | b   |        |     |       |           |     |
| 1.4429 | X2CrNiMoN17133      | Z2CND17.13Az     |           | c   |        |     |       |           |     |
| 1.4435 | X2CrNiMo18143       | Z2CND17.13       |           | b   |        |     |       |           |     |
| 1.4436 | X2CrNiMo18.12       | Z6CND17.12       |           | b   |        |     |       |           |     |
| 1.4438 | X2CrNiMo18164       | Z2CND19.15       | 317 L     | b   |        |     |       |           |     |
| 1.4462 | X2CrNiMoN225        | Z2CND225Az       |           | c   |        |     |       |           |     |
| 1.4510 | X8CrTi17            | Z8CT17           |           | b   |        |     |       |           |     |
| 1.4100 | X12CrNi177          |                  | 301       | b   |        |     |       |           |     |
| 1.4441 | X2CrNiMo18153       | Z2CN18.14.3      | 316 L     | b   |        |     |       |           |     |
| 1.4511 | X8CrNb17            | Z8CNb17          |           | b   |        |     |       |           |     |
| 1.4512 | X5CrTi12            | Z6CT12           |           | b   |        |     |       |           |     |
| 1.4539 | X2NiCrMoCu25205     | Z1CNDU2520       | 904L      | c   |        |     |       |           |     |
| 1.4541 | X10CrNiTi18.09      | Z6CNT18.10       |           | b   |        |     |       |           |     |
| 1.4541 | X6CrNiTi18 – 10     | Z6CNT18 – 10     |           | b   |        |     |       |           |     |
| 1.4542 | X5CrNiCuNb1714      | Z5CNU17.4        |           | c   |        |     |       |           |     |
| 1.4550 | X10CrNiNb18.09      | Z6CNNb18.10      |           | b   |        |     |       |           |     |
| 1.4571 | X6CrNiMoTi17122     | Z6CNT17.12       | 316 Ti    | b   |        |     |       |           |     |
| 1.4571 | X6CrNiMoTi17-12-2   | Z6CNDT17-12      |           | c   |        |     |       |           |     |
| 1.4571 | X10CrNiMoTi18.10    | Z6CNDT17.12      |           | c   |        |     |       |           |     |
| 1.4580 | X10CrNiMoNb18.10    | Z6CNDNb17.12     |           | b   |        |     |       |           |     |
| 1.4581 | X5CrNiMoNb1810      | Z4CNDNb18.12M    |           | b   |        |     |       |           |     |
| 1.4718 | X45CrSi93           | Z45CS9           |           | b   |        |     |       |           |     |
| 1.4724 | X10CrAl13           | Z10C13           |           | c   |        |     |       |           |     |
| 1.4747 | X80CrNiSi20         | Z80CSN20.02      |           | b   |        |     |       |           |     |
| 1.4828 | X15CrNiSi2012       | Z15CNS20.12      |           | b   |        |     |       |           |     |
| 1.4841 | X15CrNiSi2520       | Z15CNS25.20      |           | c   |        |     |       |           |     |
| 1.4845 | X12CrNi2521         | Z12CN25.20       |           | b   |        |     |       |           |     |
| 1.4864 | X12NiCrSi3616       | Z12NCS37.18      |           | c   |        |     |       |           |     |
| 1.4871 | X53CrMnNiN219       | Z52CMN21.09      |           | c   |        |     |       |           |     |
| 1.4873 | X45CrNiW189         | Z35CNWS20.09     |           | c   |        |     |       |           |     |
| 1.4876 | X10NiCrAlTi3320     | Z8NC32.21        |           | c   |        |     |       |           |     |
| 1.4876 | X10NiCrAlTi3220     | Incoloy800       |           | c   |        |     |       |           |     |
| 1.4878 | X12CrNiTi189        | Z6CNT18.12 (B)   |           | b   |        |     |       |           |     |

## Steels from manufacturers

|         |         |   |
|---------|---------|---|
| Böhler  | A205    | c |
| Böhler  | A500    | b |
| Böhler  | A506    | a |
| Böhler  | H160    | a |
| Böhler  | H525    | c |
| Böhler  | M310    | c |
| Böhler  | M333    | c |
| Böhler  | N350    | c |
| Böhler  | N540    | b |
| Böhler  | N685    | c |
| Böhler  | N700    | c |
| Matthey | Durnico | c |



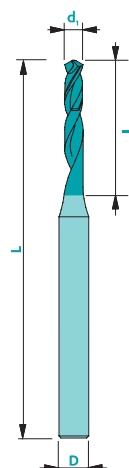
# EXPERT drill - stainless steel



370

| Material group (see page 3)     | a    | b    | c    |
|---------------------------------|------|------|------|
| Recommended coating             | Nemo | Nemo | Nemo |
| V <sub>c</sub> uncoated [m/min] | 25   | 25   | 25   |
| V <sub>c</sub> coated [m/min]   | 30   | 30   | 30   |
| F [mm]                          | Ø/50 | Ø/50 | Ø/50 |
| Pecking                         | Ø/3  | Ø/3  | Ø/3  |

Tolerances  
 d<sub>1</sub>: -0.002/-0.004  
 D: h5



Nemo coated

| Art. n°    | d <sub>1</sub> | L <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 370d0.50NM | 0.50           | 4              | 3 | 38 |
| 370d0.51NM | 0.51           | 4              | 3 | 38 |
| 370d0.52NM | 0.52           | 4              | 3 | 38 |
| 370d0.53NM | 0.53           | 4              | 3 | 38 |
| 370d0.54NM | 0.54           | 4              | 3 | 38 |
| 370d0.55NM | 0.55           | 4              | 3 | 38 |
| 370d0.56NM | 0.56           | 4              | 3 | 38 |
| 370d0.57NM | 0.57           | 4              | 3 | 38 |
| 370d0.58NM | 0.58           | 4              | 3 | 38 |
| 370d0.59NM | 0.59           | 4              | 3 | 38 |
| 370d0.60NM | 0.60           | 5              | 3 | 38 |
| 370d0.61NM | 0.61           | 5              | 3 | 38 |
| 370d0.62NM | 0.62           | 5              | 3 | 38 |
| 370d0.63NM | 0.63           | 5              | 3 | 38 |
| 370d0.64NM | 0.64           | 5              | 3 | 38 |
| 370d0.65NM | 0.65           | 5              | 3 | 38 |
| 370d0.66NM | 0.66           | 5              | 3 | 38 |
| 370d0.67NM | 0.67           | 5              | 3 | 38 |
| 370d0.68NM | 0.68           | 5              | 3 | 38 |
| 370d0.69NM | 0.69           | 5              | 3 | 38 |
| 370d0.70NM | 0.70           | 5              | 3 | 38 |
| 370d0.71NM | 0.71           | 5              | 3 | 38 |
| 370d0.72NM | 0.72           | 5              | 3 | 38 |
| 370d0.73NM | 0.73           | 5              | 3 | 38 |
| 370d0.74NM | 0.74           | 5              | 3 | 38 |
| 370d0.75NM | 0.75           | 5              | 3 | 38 |
| 370d0.76NM | 0.76           | 5              | 3 | 38 |
| 370d0.77NM | 0.77           | 5              | 3 | 38 |
| 370d0.78NM | 0.78           | 5              | 3 | 38 |

| Art. n°    | d <sub>1</sub> | L <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 370d0.79NM | 0.79           | 5              | 3 | 38 |
| 370d0.80NM | 0.80           | 6              | 3 | 38 |
| 370d0.81NM | 0.81           | 6              | 3 | 38 |
| 370d0.82NM | 0.82           | 6              | 3 | 38 |
| 370d0.83NM | 0.83           | 6              | 3 | 38 |
| 370d0.84NM | 0.84           | 6              | 3 | 38 |
| 370d0.85NM | 0.85           | 6              | 3 | 38 |
| 370d0.86NM | 0.86           | 6              | 3 | 38 |
| 370d0.87NM | 0.87           | 6              | 3 | 38 |
| 370d0.88NM | 0.88           | 6              | 3 | 38 |
| 370d0.89NM | 0.89           | 6              | 3 | 38 |
| 370d0.90NM | 0.90           | 6              | 3 | 38 |
| 370d0.91NM | 0.91           | 8              | 3 | 38 |
| 370d0.92NM | 0.92           | 8              | 3 | 38 |
| 370d0.93NM | 0.93           | 8              | 3 | 38 |
| 370d0.94NM | 0.94           | 8              | 3 | 38 |
| 370d0.95NM | 0.95           | 8              | 3 | 38 |
| 370d0.96NM | 0.96           | 8              | 3 | 38 |
| 370d0.97NM | 0.97           | 8              | 3 | 38 |
| 370d0.98NM | 0.98           | 8              | 3 | 38 |
| 370d0.99NM | 0.99           | 8              | 3 | 38 |
| 370d1.00NM | 1.00           | 8              | 3 | 38 |
| 370d1.01NM | 1.01           | 8              | 3 | 38 |
| 370d1.02NM | 1.02           | 8              | 3 | 38 |
| 370d1.03NM | 1.03           | 8              | 3 | 38 |
| 370d1.04NM | 1.04           | 8              | 3 | 38 |
| 370d1.05NM | 1.05           | 8              | 3 | 38 |
| 370d1.06NM | 1.06           | 8              | 3 | 38 |
| 370d1.07NM | 1.07           | 8              | 3 | 38 |



135°

Z2



Variable

CARB

## Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

## Caption

F [mm]: Feed per rotation

FZ [mm]: Feed per tooth

Z: Number of teeth

Vf [mm/min]: Feed speed

n: Spindle speed



Nemo coated



135°

Z2

λ  
Variable

CARB

| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 370d1.08NM | 1.08           | 8              | 3 | 38 |
| 370d1.09NM | 1.09           | 8              | 3 | 38 |
| 370d1.10NM | 1.10           | 8              | 3 | 38 |
| 370d1.11NM | 1.11           | 8              | 3 | 38 |
| 370d1.12NM | 1.12           | 8              | 3 | 38 |
| 370d1.13NM | 1.13           | 8              | 3 | 38 |
| 370d1.14NM | 1.14           | 8              | 3 | 38 |
| 370d1.15NM | 1.15           | 8              | 3 | 38 |
| 370d1.16NM | 1.16           | 8              | 3 | 38 |
| 370d1.17NM | 1.17           | 8              | 3 | 38 |
| 370d1.18NM | 1.18           | 8              | 3 | 38 |
| 370d1.19NM | 1.19           | 8              | 3 | 38 |
| 370d1.20NM | 1.20           | 8              | 3 | 38 |
| 370d1.21NM | 1.21           | 8              | 3 | 38 |
| 370d1.22NM | 1.22           | 8              | 3 | 38 |
| 370d1.23NM | 1.23           | 8              | 3 | 38 |
| 370d1.24NM | 1.24           | 8              | 3 | 38 |
| 370d1.25NM | 1.25           | 8              | 3 | 38 |
| 370d1.26NM | 1.26           | 8              | 3 | 38 |
| 370d1.27NM | 1.27           | 8              | 3 | 38 |
| 370d1.28NM | 1.28           | 8              | 3 | 38 |
| 370d1.29NM | 1.29           | 8              | 3 | 38 |
| 370d1.30NM | 1.30           | 8              | 3 | 38 |
| 370d1.31NM | 1.31           | 8              | 3 | 38 |
| 370d1.32NM | 1.32           | 8              | 3 | 38 |
| 370d1.33NM | 1.33           | 8              | 3 | 38 |
| 370d1.34NM | 1.34           | 8              | 3 | 38 |
| 370d1.35NM | 1.35           | 8              | 3 | 38 |
| 370d1.36NM | 1.36           | 8              | 3 | 38 |
| 370d1.37NM | 1.37           | 8              | 3 | 38 |
| 370d1.38NM | 1.38           | 8              | 3 | 38 |
| 370d1.39NM | 1.39           | 8              | 3 | 38 |
| 370d1.40NM | 1.40           | 8              | 3 | 38 |
| 370d1.41NM | 1.41           | 8              | 3 | 38 |
| 370d1.42NM | 1.42           | 8              | 3 | 38 |
| 370d1.43NM | 1.43           | 8              | 3 | 38 |
| 370d1.44NM | 1.44           | 8              | 3 | 38 |
| 370d1.45NM | 1.45           | 8              | 3 | 38 |
| 370d1.46NM | 1.46           | 8              | 3 | 38 |
| 370d1.47NM | 1.47           | 8              | 3 | 38 |
| 370d1.48NM | 1.48           | 8              | 3 | 38 |
| 370d1.49NM | 1.49           | 8              | 3 | 38 |
| 370d1.50NM | 1.50           | 10             | 3 | 38 |
| 370d1.55NM | 1.55           | 10             | 3 | 38 |
| 370d1.60NM | 1.60           | 10             | 3 | 38 |

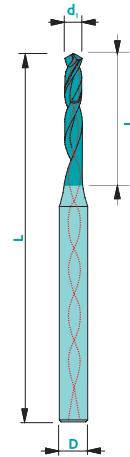
| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 370d1.65NM | 1.65           | 10             | 3 | 38 |
| 370d1.70NM | 1.70           | 12             | 3 | 38 |
| 370d1.75NM | 1.75           | 12             | 3 | 38 |
| 370d1.80NM | 1.80           | 12             | 3 | 38 |
| 370d1.85NM | 1.85           | 12             | 3 | 38 |
| 370d1.90NM | 1.90           | 12             | 3 | 38 |
| 370d1.95NM | 1.95           | 12             | 3 | 38 |
| 370d2.00NM | 2.00           | 12             | 3 | 38 |
| 370d2.05NM | 2.05           | 12             | 3 | 38 |
| 370d2.10NM | 2.10           | 12             | 3 | 38 |
| 370d2.15NM | 2.15           | 12             | 3 | 38 |
| 370d2.20NM | 2.20           | 12             | 3 | 38 |
| 370d2.25NM | 2.25           | 12             | 3 | 38 |
| 370d2.30NM | 2.30           | 12             | 3 | 38 |
| 370d2.35NM | 2.35           | 12             | 3 | 38 |
| 370d2.40NM | 2.40           | 12             | 3 | 38 |
| 370d2.45NM | 2.45           | 12             | 3 | 38 |
| 370d2.50NM | 2.50           | 12             | 3 | 38 |
| 370d2.60NM | 2.60           | 12             | 3 | 38 |
| 370d2.70NM | 2.70           | 12             | 3 | 38 |
| 370d2.80NM | 2.80           | 12             | 3 | 38 |
| 370d2.90NM | 2.90           | 12             | 3 | 38 |
| 370d3.00NM | 3.00           | 12             | 3 | 38 |

# EXPERT drill for stainless steel - with coolant holes



374

| Material group (see page 3)     | a    | b    | c    |
|---------------------------------|------|------|------|
| Recommended coating             | Nemo | Nemo | Nemo |
| V <sub>c</sub> uncoated [m/min] | 25   | 25   | 25   |
| V <sub>c</sub> coated [m/min]   | 45   | 45   | 45   |
| F [mm]                          | Ø/50 | Ø/50 | Ø/50 |
| Pecking                         | 2xØ  | 2xØ  | 2xØ  |



Tolerances d<sub>1</sub>: -0.002/-0.004  
l<sub>1</sub>: 0.1/-0 D: h5

Nemo coated

| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 374d0.70NM | 0.70           | 8              | 3 | 51 |
| 374d0.71NM | 0.71           | 8              | 3 | 51 |
| 374d0.72NM | 0.72           | 8              | 3 | 51 |
| 374d0.73NM | 0.73           | 8              | 3 | 51 |
| 374d0.74NM | 0.74           | 8              | 3 | 51 |
| 374d0.75NM | 0.75           | 8              | 3 | 51 |
| 374d0.76NM | 0.76           | 8              | 3 | 51 |
| 374d0.77NM | 0.77           | 8              | 3 | 51 |
| 374d0.78NM | 0.78           | 8              | 3 | 51 |
| 374d0.79NM | 0.79           | 8              | 3 | 51 |
| 374d0.80NM | 0.80           | 8              | 3 | 51 |
| 374d0.81NM | 0.81           | 8              | 3 | 51 |
| 374d0.82NM | 0.82           | 8              | 3 | 51 |
| 374d0.83NM | 0.83           | 8              | 3 | 51 |
| 374d0.84NM | 0.84           | 8              | 3 | 51 |
| 374d0.85NM | 0.85           | 8              | 3 | 51 |
| 374d0.86NM | 0.86           | 8              | 3 | 51 |
| 374d0.87NM | 0.87           | 8              | 3 | 51 |
| 374d0.88NM | 0.88           | 8              | 3 | 51 |
| 374d0.89NM | 0.89           | 8              | 3 | 51 |
| 374d0.90NM | 0.90           | 10             | 3 | 51 |
| 374d0.91NM | 0.91           | 10             | 3 | 51 |
| 374d0.92NM | 0.92           | 10             | 3 | 51 |
| 374d0.93NM | 0.93           | 10             | 3 | 51 |
| 374d0.94NM | 0.94           | 10             | 3 | 51 |
| 374d0.95NM | 0.95           | 10             | 3 | 51 |
| 374d0.96NM | 0.96           | 10             | 3 | 51 |
| 374d0.97NM | 0.97           | 10             | 3 | 51 |
| 374d0.98NM | 0.98           | 10             | 3 | 51 |
| 374d0.99NM | 0.99           | 10             | 3 | 51 |
| 374d1.00NM | 1.00           | 12             | 3 | 51 |

| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 374d1.01NM | 1.01           | 12             | 3 | 51 |
| 374d1.02NM | 1.02           | 12             | 3 | 51 |
| 374d1.03NM | 1.03           | 12             | 3 | 51 |
| 374d1.04NM | 1.04           | 12             | 3 | 51 |
| 374d1.05NM | 1.05           | 12             | 3 | 51 |
| 374d1.06NM | 1.06           | 12             | 3 | 51 |
| 374d1.07NM | 1.07           | 12             | 3 | 51 |
| 374d1.08NM | 1.08           | 12             | 3 | 51 |
| 374d1.09NM | 1.09           | 12             | 3 | 51 |
| 374d1.10NM | 1.10           | 12             | 3 | 51 |
| 374d1.11NM | 1.11           | 12             | 3 | 51 |
| 374d1.12NM | 1.12           | 12             | 3 | 51 |
| 374d1.13NM | 1.13           | 12             | 3 | 51 |
| 374d1.14NM | 1.14           | 12             | 3 | 51 |
| 374d1.15NM | 1.15           | 12             | 3 | 51 |
| 374d1.16NM | 1.16           | 12             | 3 | 51 |
| 374d1.17NM | 1.17           | 12             | 3 | 51 |
| 374d1.18NM | 1.18           | 12             | 3 | 51 |
| 374d1.19NM | 1.19           | 12             | 3 | 51 |
| 374d1.20NM | 1.20           | 14             | 3 | 51 |
| 374d1.21NM | 1.21           | 14             | 3 | 51 |
| 374d1.22NM | 1.22           | 14             | 3 | 51 |
| 374d1.23NM | 1.23           | 14             | 3 | 51 |
| 374d1.24NM | 1.24           | 14             | 3 | 51 |
| 374d1.25NM | 1.25           | 14             | 3 | 51 |
| 374d1.26NM | 1.26           | 14             | 3 | 51 |
| 374d1.27NM | 1.27           | 14             | 3 | 51 |
| 374d1.28NM | 1.28           | 14             | 3 | 51 |
| 374d1.29NM | 1.29           | 14             | 3 | 51 |
| 374d1.30NM | 1.30           | 14             | 3 | 51 |
| 374d1.31NM | 1.31           | 14             | 3 | 51 |



135°

Z2



CARB



## Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

## Caption

F [mm]: Feed per rotation

FZ [mm]: Feed per tooth

Z : Number of teeth

Vf [mm/min]: Feed speed

n : Spindle speed



Nemo coated



135°

Z2



CARB

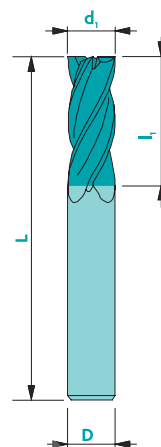


| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 374d1.32NM | 1.32           | 14             | 3 | 51 |
| 374d1.33NM | 1.33           | 14             | 3 | 51 |
| 374d1.34NM | 1.34           | 14             | 3 | 51 |
| 374d1.35NM | 1.35           | 14             | 3 | 51 |
| 374d1.36NM | 1.36           | 14             | 3 | 51 |
| 374d1.37NM | 1.37           | 14             | 3 | 51 |
| 374d1.38NM | 1.38           | 14             | 3 | 51 |
| 374d1.39NM | 1.39           | 14             | 3 | 51 |
| 374d1.40NM | 1.40           | 14             | 3 | 51 |
| 374d1.41NM | 1.41           | 14             | 3 | 51 |
| 374d1.42NM | 1.42           | 14             | 3 | 51 |
| 374d1.43NM | 1.43           | 14             | 3 | 51 |
| 374d1.44NM | 1.44           | 14             | 3 | 51 |
| 374d1.45NM | 1.45           | 14             | 3 | 51 |
| 374d1.46NM | 1.46           | 14             | 3 | 51 |
| 374d1.47NM | 1.47           | 14             | 3 | 51 |
| 374d1.48NM | 1.48           | 14             | 3 | 51 |
| 374d1.49NM | 1.49           | 14             | 3 | 51 |
| 374d1.50NM | 1.50           | 14             | 3 | 51 |
| 374d1.51NM | 1.51           | 14             | 3 | 51 |
| 374d1.52NM | 1.52           | 14             | 3 | 51 |
| 374d1.53NM | 1.53           | 14             | 3 | 51 |
| 374d1.54NM | 1.54           | 14             | 3 | 51 |
| 374d1.55NM | 1.55           | 14             | 3 | 51 |
| 374d1.56NM | 1.56           | 14             | 3 | 51 |
| 374d1.57NM | 1.57           | 14             | 3 | 51 |
| 374d1.58NM | 1.58           | 14             | 3 | 51 |
| 374d1.59NM | 1.59           | 14             | 3 | 51 |
| 374d1.60NM | 1.60           | 14             | 3 | 51 |
| 374d1.61NM | 1.61           | 14             | 3 | 51 |
| 374d1.62NM | 1.62           | 14             | 3 | 51 |
| 374d1.63NM | 1.63           | 14             | 3 | 51 |
| 374d1.64NM | 1.64           | 14             | 3 | 51 |
| 374d1.65NM | 1.65           | 14             | 3 | 51 |
| 374d1.66NM | 1.66           | 14             | 3 | 51 |
| 374d1.67NM | 1.67           | 14             | 3 | 51 |
| 374d1.68NM | 1.68           | 14             | 3 | 51 |
| 374d1.69NM | 1.69           | 14             | 3 | 51 |
| 374d1.70NM | 1.70           | 18             | 3 | 51 |
| 374d1.71NM | 1.71           | 18             | 3 | 51 |
| 374d1.72NM | 1.72           | 18             | 3 | 51 |
| 374d1.73NM | 1.73           | 18             | 3 | 51 |
| 374d1.74NM | 1.74           | 18             | 3 | 51 |
| 374d1.75NM | 1.75           | 18             | 3 | 51 |
| 374d1.76NM | 1.76           | 18             | 3 | 51 |

| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | D | L  |
|------------|----------------|----------------|---|----|
| 374d1.77NM | 1.77           | 18             | 3 | 51 |
| 374d1.78NM | 1.78           | 18             | 3 | 51 |
| 374d1.79NM | 1.79           | 18             | 3 | 51 |
| 374d1.80NM | 1.80           | 18             | 3 | 51 |
| 374d1.81NM | 1.81           | 18             | 3 | 51 |
| 374d1.82NM | 1.82           | 18             | 3 | 51 |
| 374d1.83NM | 1.83           | 18             | 3 | 51 |
| 374d1.84NM | 1.84           | 18             | 3 | 51 |
| 374d1.85NM | 1.85           | 18             | 3 | 51 |
| 374d1.86NM | 1.86           | 18             | 3 | 51 |
| 374d1.87NM | 1.87           | 18             | 3 | 51 |
| 374d1.88NM | 1.88           | 18             | 3 | 51 |
| 374d1.89NM | 1.89           | 18             | 3 | 51 |
| 374d1.90NM | 1.90           | 18             | 3 | 51 |
| 374d1.91NM | 1.91           | 18             | 3 | 51 |
| 374d1.92NM | 1.92           | 18             | 3 | 51 |
| 374d1.93NM | 1.93           | 18             | 3 | 51 |
| 374d1.94NM | 1.94           | 18             | 3 | 51 |
| 374d1.95NM | 1.95           | 18             | 3 | 51 |
| 374d1.96NM | 1.96           | 18             | 3 | 51 |
| 374d1.97NM | 1.97           | 18             | 3 | 51 |
| 374d1.98NM | 1.98           | 18             | 3 | 51 |
| 374d1.99NM | 1.99           | 18             | 3 | 51 |
| 374d2.00NM | 2.00           | 18             | 3 | 51 |
| 374d2.05NM | 2.05           | 18             | 3 | 51 |
| 374d2.10NM | 2.10           | 20             | 4 | 60 |
| 374d2.20NM | 2.20           | 20             | 4 | 60 |
| 374d2.30NM | 2.30           | 20             | 4 | 60 |
| 374d2.40NM | 2.40           | 20             | 4 | 60 |
| 374d2.50NM | 2.50           | 20             | 4 | 60 |
| 374d2.60NM | 2.60           | 20             | 4 | 60 |
| 374d2.70NM | 2.70           | 20             | 4 | 60 |
| 374d2.80NM | 2.80           | 20             | 4 | 60 |
| 374d2.90NM | 2.90           | 20             | 4 | 60 |
| 374d3.00NM | 3.00           | 20             | 4 | 60 |
| 374d3.50NM | 3.50           | 20             | 4 | 60 |
| 374d4.00NM | 4.00           | 20             | 4 | 60 |

| Material group (see page 3)     | a      | b      | c      |
|---------------------------------|--------|--------|--------|
| Recommended coating             | TISI   | TISI   | TISI   |
| V <sub>c</sub> uncoated [m/min] | 90     | 80     | 55     |
| V <sub>c</sub> coated [m/min]   | 110    | 100    | 70     |
| F <sub>z</sub> Ø 0.25 [mm]      | 0.003  | 0.003  | 0.003  |
| F <sub>z</sub> Ø 0.50 [mm]      | 0.0035 | 0.0035 | 0.0035 |
| F <sub>z</sub> Ø 1.00 [mm]      | 0.0040 | 0.0035 | 0.0030 |
| F <sub>z</sub> Ø 2.00 [mm]      | 0.008  | 0.007  | 0.006  |
| F <sub>z</sub> Ø 4.00 [mm]      | 0.015  | 0.013  | 0.012  |
| F <sub>z</sub> Ø 6.00 [mm]      | 0.020  | 0.020  | 0.017  |
| F <sub>z</sub> Ø 8.00 [mm]      | 0.030  | 0.027  | 0.025  |
| F <sub>z</sub> Ø 10.00 [mm]     | 0.040  | 0.037  | 0.032  |
| F <sub>z</sub> Ø 12.00 [mm]     | 0.050  | 0.047  | 0.045  |
| F <sub>z</sub> Ø 16.00 [mm]     | 0.070  | 0.065  | 0.060  |
| F <sub>z</sub> Ø 20.00 [mm]     | 0.090  | 0.080  | 0.075  |

**Tolerances** d<sub>1</sub> ≤ 1 mm ► +0/-0.01  
d<sub>1</sub> > 1 mm ► +0/-0.02  
d<sub>1</sub> = D ► d<sub>1</sub>: e8  
D: h5



Available  
uncoated or coated

| Art. n°    | d <sub>1</sub> | l <sub>1</sub> | 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°

**CARB**



ap=1xd<sub>1</sub>



ae=1xd<sub>1</sub>  
ap=2.0xd<sub>1</sub>

## Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

## Caption

F [mm]: Feed per rotation

FZ [mm]: Feed per tooth

Z : Number of teeth

Vf [mm/min]: Feed speed

n : Spindle speed

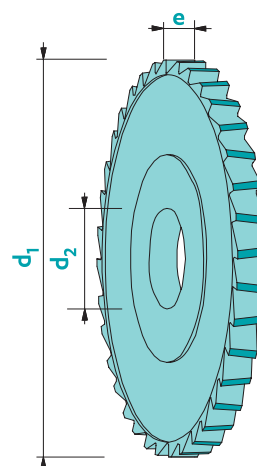


# Slitting saw - staggered teeth - 3 cuts

227

| Material group (see page 3)     | a       | b       | c       |
|---------------------------------|---------|---------|---------|
| Recommended coating             | TISI    | TISI    | TISI    |
| V <sub>c</sub> uncoated [m/min] | 90      | 75      | 45      |
| V <sub>c</sub> coated [m/min]   | 100     | 90      | 50      |
| F <sub>z</sub> [mm]             | Ø/10000 | Ø/10000 | Ø/10000 |

Tolerance  
e: +0/-0.01  
d<sub>2</sub>: H5



Available  
uncoated or coated



Z  
12-36



λ  
ALT

γ  
8°

CARB

## Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

## Caption

F [mm]: Feed per rotation

FZ [mm]: Feed per tooth

Z: Number of teeth

Vf [mm/min]: Feed speed

n: Spindle speed

| Art. n°         | d <sub>1</sub> | e   | d <sub>2</sub> | Z       |
|-----------------|----------------|-----|----------------|---------|
| 227d15e1.0A5Z## | 15             | 1.0 | 5              | 12 - 18 |
| 227d15e1.5A5Z## | 15             | 1.5 | 5              | 12 - 18 |
| 227d15e2.0A5Z## | 15             | 2.0 | 5              | 12 - 18 |
| 227d15e2.5A5Z## | 15             | 2.5 | 5              | 12 - 18 |
| 227d15e3.0A5Z## | 15             | 3.0 | 5              | 12 - 18 |
| 227d15e3.5A5Z## | 15             | 3.5 | 5              | 12 - 18 |
| 227d15e4.0A5Z## | 15             | 4.0 | 5              | 12 - 18 |
| 227d15e4.5A5Z## | 15             | 4.5 | 5              | 12 - 18 |
| 227d15e5.0A5Z## | 15             | 5.0 | 5              | 12 - 18 |
| 227d15e5.5A5Z## | 15             | 5.5 | 5              | 12 - 18 |
| 227d15e6.0A5Z## | 15             | 6.0 | 5              | 12 - 18 |
| 227d20e1.0A5Z## | 20             | 1.0 | 5              | 20 - 24 |
| 227d20e1.5A5Z## | 20             | 1.5 | 5              | 20 - 24 |
| 227d20e2.0A5Z## | 20             | 2.0 | 5              | 20 - 24 |
| 227d20e2.5A5Z## | 20             | 2.5 | 5              | 20 - 24 |
| 227d20e3.0A5Z## | 20             | 3.0 | 5              | 20 - 24 |
| 227d20e3.5A5Z## | 20             | 3.5 | 5              | 20 - 24 |
| 227d20e4.0A5Z## | 20             | 4.0 | 5              | 20 - 24 |
| 227d20e4.5A5Z## | 20             | 4.5 | 5              | 20 - 24 |
| 227d20e5.0A5Z## | 20             | 5.0 | 5              | 20 - 24 |
| 227d20e5.5A5Z## | 20             | 5.5 | 5              | 20 - 24 |
| 227d20e6.0A5Z## | 20             | 6.0 | 5              | 20 - 24 |
| 227d25e1.0A8Z## | 25             | 1.0 | 8              | 24 - 28 |
| 227d25e1.5A8Z## | 25             | 1.5 | 8              | 24 - 28 |
| 227d25e2.0A8Z## | 25             | 2.0 | 8              | 24 - 28 |
| 227d25e2.5A8Z## | 25             | 2.5 | 8              | 24 - 28 |
| 227d25e3.0A8Z## | 25             | 3.0 | 8              | 24 - 28 |
| 227d25e3.5A8Z## | 25             | 3.5 | 8              | 24 - 28 |
| 227d25e4.0A8Z## | 25             | 4.0 | 8              | 24 - 28 |
| 227d25e4.5A8Z## | 25             | 4.5 | 8              | 24 - 28 |

| Art. n°          | d <sub>1</sub> | e    | d <sub>2</sub> | Z       |
|------------------|----------------|------|----------------|---------|
| 227d25e5.0A8Z##  | 25             | 5.0  | 8              | 24 - 28 |
| 227d25e5.5A8Z##  | 25             | 5.5  | 8              | 24 - 28 |
| 227d25e6.0A8Z##  | 25             | 6.0  | 8              | 24 - 28 |
| 227d25e6.5A8Z##  | 25             | 6.5  | 8              | 24 - 28 |
| 227d25e7.0A8Z##  | 25             | 7.0  | 8              | 24 - 28 |
| 227d25e7.5A8Z##  | 25             | 7.5  | 8              | 24 - 28 |
| 227d25e8.0A8Z##  | 25             | 8.0  | 8              | 24 - 28 |
| 227d30e1.0A8Z##  | 30             | 1.0  | 8              | 24 - 28 |
| 227d30e1.5A8Z##  | 30             | 1.5  | 8              | 24 - 28 |
| 227d30e2.0A8Z##  | 30             | 2.0  | 8              | 24 - 28 |
| 227d30e2.5A8Z##  | 30             | 2.5  | 8              | 24 - 28 |
| 227d30e3.0A8Z##  | 30             | 3.0  | 8              | 24 - 28 |
| 227d30e3.5A8Z##  | 30             | 3.5  | 8              | 24 - 28 |
| 227d30e4.0A8Z##  | 30             | 4.0  | 8              | 24 - 28 |
| 227d30e4.5A8Z##  | 30             | 4.5  | 8              | 24 - 28 |
| 227d30e5.0A8Z##  | 30             | 5.0  | 8              | 24 - 28 |
| 227d30e5.5A8Z##  | 30             | 5.5  | 8              | 24 - 28 |
| 227d30e6.0A8Z##  | 30             | 6.0  | 8              | 24 - 28 |
| 227d30e6.5A8Z##  | 30             | 6.5  | 8              | 24 - 28 |
| 227d30e7.0A8Z##  | 30             | 7.0  | 8              | 24 - 28 |
| 227d30e7.5A8Z##  | 30             | 7.5  | 8              | 24 - 28 |
| 227d30e8.0A8Z##  | 30             | 8.0  | 8              | 24 - 28 |
| 227d30e8.5A8Z##  | 30             | 8.5  | 8              | 24 - 28 |
| 227d30e9.0A8Z##  | 30             | 9.0  | 8              | 24 - 28 |
| 227d30e9.5A8Z##  | 30             | 9.5  | 8              | 24 - 28 |
| 227d30e10.0A8Z## | 30             | 10.0 | 8              | 24 - 28 |
| 227d30e12.0A8Z## | 30             | 12.0 | 8              | 24 - 28 |
| 227d40e1.0A10Z## | 40             | 1.0  | 10             | 28 - 32 |
| 227d40e1.5A10Z## | 40             | 1.5  | 10             | 28 - 32 |
| 227d40e2.0A10Z## | 40             | 2.0  | 10             | 28 - 32 |

## Slitting saw - staggered teeth - 3 cuts



Available  
uncoated or coated



**Z**  
12-36



**λ**  
**ALT**

**γ**  
**8°**

**CARB**

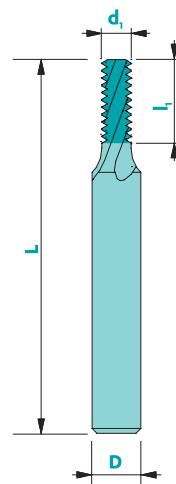
| Art. n°           | d <sub>1</sub> | e    | d <sub>2</sub> | Z       | Art. n°           | d <sub>1</sub> | e    | d <sub>2</sub> | Z       |
|-------------------|----------------|------|----------------|---------|-------------------|----------------|------|----------------|---------|
| 227d40e2.5A10Z##  | 40             | 2.5  | 10             | 28 - 32 | 227d63e5.5A16Z##  | 63             | 5.5  | 16             | 28 - 36 |
| 227d40e3.0A10Z##  | 40             | 3.0  | 10             | 28 - 32 | 227d63e6.0A16Z##  | 63             | 6.0  | 16             | 28 - 36 |
| 227d40e3.5A10Z##  | 40             | 3.5  | 10             | 28 - 32 | 227d63e6.5A16Z##  | 63             | 6.5  | 16             | 28 - 36 |
| 227d40e4.0A10Z##  | 40             | 4.0  | 10             | 28 - 32 | 227d63e7.0A16Z##  | 63             | 7.0  | 16             | 28 - 36 |
| 227d40e4.5A10Z##  | 40             | 4.5  | 10             | 28 - 32 | 227d63e7.5A16Z##  | 63             | 7.5  | 16             | 28 - 36 |
| 227d40e5.0A10Z##  | 40             | 5.0  | 10             | 28 - 32 | 227d63e8.0A16Z##  | 63             | 8.0  | 16             | 28 - 36 |
| 227d40e5.5A10Z##  | 40             | 5.5  | 10             | 28 - 32 | 227d63e8.5A16Z##  | 63             | 8.5  | 16             | 28 - 36 |
| 227d40e6.0A10Z##  | 40             | 6.0  | 10             | 28 - 32 | 227d63e9.0A16Z##  | 63             | 9.0  | 16             | 28 - 36 |
| 227d40e6.5A10Z##  | 40             | 6.5  | 10             | 28 - 32 | 227d63e9.5A16Z##  | 63             | 9.5  | 16             | 28 - 36 |
| 227d40e7.0A10Z##  | 40             | 7.0  | 10             | 28 - 32 | 227d63e10.0A16Z## | 63             | 10.0 | 16             | 28 - 36 |
| 227d40e7.5A10Z##  | 40             | 7.5  | 10             | 28 - 32 | 227d63e12.0A16Z## | 63             | 12.0 | 16             | 28 - 36 |
| 227d40e8.0A10Z##  | 40             | 8.0  | 10             | 28 - 32 | 227d80e4.0A22Z##  | 80             | 4.0  | 22             | 28 - 36 |
| 227d40e8.5A10Z##  | 40             | 8.5  | 10             | 28 - 32 | 227d80e4.5A22Z##  | 80             | 4.5  | 22             | 28 - 36 |
| 227d40e9.0A10Z##  | 40             | 9.0  | 10             | 28 - 32 | 227d80e5.0A22Z##  | 80             | 5.0  | 22             | 28 - 36 |
| 227d40e9.5A10Z##  | 40             | 9.5  | 10             | 28 - 32 | 227d80e5.5A22Z##  | 80             | 5.5  | 22             | 28 - 36 |
| 227d40e10.0A10Z## | 40             | 10.0 | 10             | 28 - 32 | 227d80e6.0A22Z##  | 80             | 6.0  | 22             | 28 - 36 |
| 227d40e12.0A10Z## | 40             | 12.0 | 10             | 28 - 32 | 227d80e6.5A22Z##  | 80             | 6.5  | 22             | 28 - 36 |
| 227d50e1.5A13Z##  | 50             | 1.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e2.0A13Z##  | 50             | 2.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e2.5A13Z##  | 50             | 2.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e3.0A13Z##  | 50             | 3.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e3.5A13Z##  | 50             | 3.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e4.0A13Z##  | 50             | 4.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e4.5A13Z##  | 50             | 4.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e5.0A13Z##  | 50             | 5.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e5.5A13Z##  | 50             | 5.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e6.0A13Z##  | 50             | 6.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e6.5A13Z##  | 50             | 6.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e7.0A13Z##  | 50             | 7.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e7.5A13Z##  | 50             | 7.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e8.0A13Z##  | 50             | 8.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e8.5A13Z##  | 50             | 8.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e9.0A13Z##  | 50             | 9.0  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e9.5A13Z##  | 50             | 9.5  | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e10.0A13Z## | 50             | 10.0 | 13             | 28 - 32 |                   |                |      |                |         |
| 227d50e12.0A13Z## | 50             | 12.0 | 13             | 28 - 32 |                   |                |      |                |         |
| 227d63e1.5A16Z##  | 63             | 1.5  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e2.0A16Z##  | 63             | 2.0  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e2.5A16Z##  | 63             | 2.5  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e3.0A16Z##  | 63             | 3.0  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e3.5A16Z##  | 63             | 3.5  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e4.0A16Z##  | 63             | 4.0  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e4.5A16Z##  | 63             | 4.5  | 16             | 28 - 36 |                   |                |      |                |         |
| 227d63e5.0A16Z##  | 63             | 5.0  | 16             | 28 - 36 |                   |                |      |                |         |

# Helical thread mill - ISO 60°

## Internal and external threading

**5300**

| Material group (see page 3) | a    | b    | c    |
|-----------------------------|------|------|------|
| Recommended coating         | TISI | TISI | TISI |
| $V_c$ uncoated [m/min]      | 90   | 80   | 55   |
| $V_c$ coated [m/min]        | 110  | 100  | 70   |



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

Available  
uncoated or coated

| Art. n°        | Ø nominal  | Pitch | $d_1$ | $l_1$ | D | L  | Z |
|----------------|------------|-------|-------|-------|---|----|---|
| 5300M1.20      | M1.20      | 0.25  | 0.85  | 2.4   | 3 | 38 | 2 |
| 5300M1.40      | M1.40      | 0.30  | 1.00  | 2.8   | 3 | 38 | 3 |
| 5300M1.60/1.80 | M1.60/1.80 | 0.35  | 1.10  | 3.6   | 3 | 38 | 3 |
| 5300M2.00      | M2.00      | 0.40  | 1.40  | 4.0   | 3 | 38 | 3 |
| 5300M2.50      | M2.50      | 0.45  | 1.80  | 5.0   | 3 | 38 | 3 |
| 5300M3.00      | M3.00      | 0.50  | 2.30  | 6.0   | 3 | 38 | 3 |
| 5300M4.00      | M4.00      | 0.70  | 3.00  | 8.0   | 6 | 57 | 3 |
| 5300M5.00      | M5.00      | 0.80  | 3.80  | 10.0  | 6 | 57 | 4 |
| 5300M6.00      | M6.00      | 1.00  | 4.50  | 12.0  | 6 | 57 | 4 |
| 5300M8.00      | M8.00      | 1.25  | 5.00  | 16.0  | 6 | 57 | 4 |
| 5300M10.00     | M10.00     | 1.50  | 6.00  | 20.0  | 6 | 57 | 5 |

**Z2-5**



$\lambda$   
**20°**

$\gamma$   
**8°**

**CARB**

### Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

### Caption

F [mm]: Feed per rotation

FZ [mm]: Feed per tooth

Z: Number of teeth

Vf [mm/min]: Feed speed

n: Spindle speed

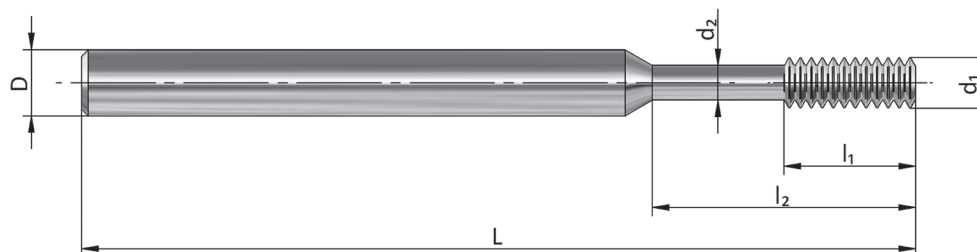
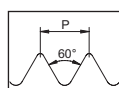
**5300**

Continuation

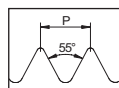
# Helical thread mill - ISO 60°

Internal and external threading

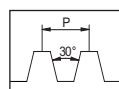
Upon request

Available  
uncoated or coated**Z2-5** $\lambda$   
**20°** $\gamma$   
**8°****CARB**☐ **Order**☐ **Quotation request****Norm :**

ISO 60°



ISO 55°



ISO trapézoïdal



Other :

\_\_\_\_\_

**Dimensions :** $d_1$  : \_\_\_\_\_ $l_1$  : \_\_\_\_\_ $d_2$  : \_\_\_\_\_ $l_2$  : \_\_\_\_\_ $D^*$  : \_\_\_\_\_ $L^*$  : \_\_\_\_\_**Machined material :**

\_\_\_\_\_

**Quantity :**

\_\_\_\_\_

**Coating :**☐ Coated\*\* :

\_\_\_\_\_

☐ Uncoated**Order No :**

\_\_\_\_\_

**Company's stamp & date :**

\_\_\_\_\_

\*Standard dimensions of the bars :  $\varnothing 3 \times L 38$ ,  $\varnothing 4 \times L 38$ ,  $\varnothing 6 \times L 38$ ,  $\varnothing 6 \times L 51$ ,  $\varnothing 8 \times L 61$ ,  $\varnothing 10 \times L 72$ ,  $\varnothing 12 \times L 83$ ,  $\varnothing 16 \times L 92$ ,  $\varnothing 20 \times L 104$ 

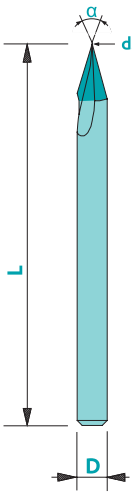
\*\* Without information, the most suitable Coating will be applied.

# Engraving mill- ¾ - flat tip

119-3

| Material group (see page 3) | a     | b     | c     |
|-----------------------------|-------|-------|-------|
| Recommended coating         | TISI  | TISI  | TISI  |
| n [rpm]                     | 28000 | 28000 | 28000 |
| Fz↓ [mm]                    | 0.002 | 0.002 | 0.002 |
| Fz→ [mm]                    | 0.006 | 0.006 | 0.006 |

Tolerances  
d<sub>1</sub>: +/- 0.01  
D: h5



Available  
uncoated or coated

Article number : 119-3a##d#.##  
Example: End mill ref. 119-3 with 25° angle and tip diameter 0.05 mm: 119-3a25d0.05

| $\alpha^{**}$ | d <sub>1</sub> <sup>**</sup> | D | L  |
|---------------|------------------------------|---|----|
| 15-45°        | 0.02-0.09                    | 3 | 33 |
| 15-45°        | 0.10-0.30                    | 3 | 33 |
| 50-140°       | 0.02-0.09                    | 3 | 33 |
| 50-140°       | 0.10-0.30                    | 3 | 33 |

\* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°  
\*\* Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, tip diameter, shank) upon request

Y  
0.02-0.30



$\lambda$   
0°

CARB

## Formulas

$$F = F_z \cdot Z$$

$$V_f = F_z \cdot Z \cdot n$$

$$n = \frac{V_c \cdot 1000}{\pi \cdot d_1}$$

$$V_c = \frac{\pi \cdot d_1 \cdot n}{1000}$$

$$f_z = \frac{V_f}{Z \cdot n}$$

## Caption

F [mm]: Feed per rotation  
FZ [mm]: Feed per tooth  
Z : Number of teeth  
Vf [mm/min]: Feed speed  
n : Spindle speed

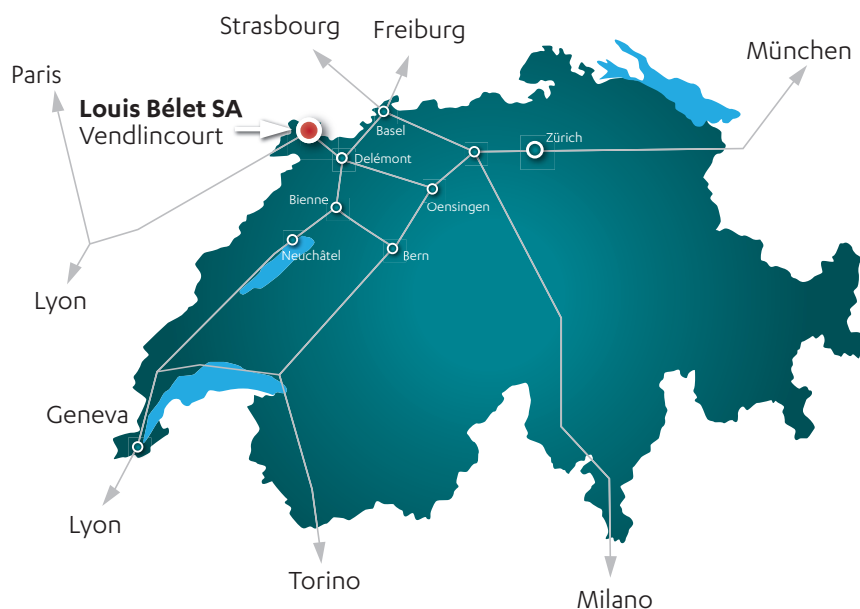


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