LOUIS BELET
Swiss Cutting tools

TITANIUM

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EXPERT TOOLS
TITANIUM

LOUIS BÉLET S.A.
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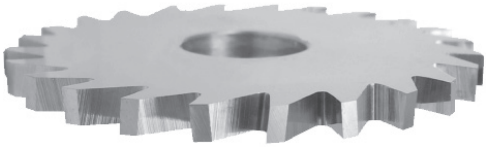
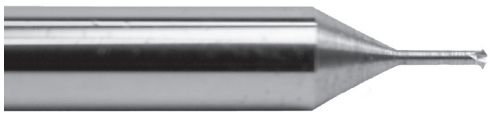
SWISS MADE

- Titanium
- Stainless steel
- Composite
- Brass
- Aluminium

LOUIS BELET
Swiss Cutting tools

EXPERT cutting tools recommended for machining titanium

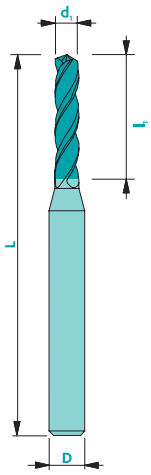
Tool material : **SOLID CARBIDE**
Recommended Coating: **RICO**

Operation	Ref.	Picture	Page
Drilling	**353**		4
Milling	**3100**		7
Saw blades	**226**		8
Threading	**5600**		10
Engraving	**119-2**		11
Special Custom tooling	**helical**		Upon request

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

Index - Titanium

353 Twist drill Z3 - shank Ø3



Material group (see page 3)	a	b
Recommended coating	-	-
V_c uncoated [m/min]	31	28
V_c coated [m/min]	36	34
F [mm]	Ø/120	Ø/120
Pecking	Øx1.2	Øx1.2

d_1: -0.002/-0.004
D: h5

Available
uncoated or coated

140° Z3

λ 34°

CARB

Art. n°	d_1	l_1	D	L
353d0.15	0.15	2.0	3.0	38
353d0.18	0.18	2.0	3.0	38
353d0.20	0.20	3.0	3.0	38
353d0.21	0.21	3.0	3.0	38
353d0.22	0.22	3.0	3.0	38
353d0.23	0.23	3.0	3.0	38
353d0.24	0.24	3.0	3.0	38
353d0.25	0.25	3.5	3.0	38
353d0.26	0.26	3.5	3.0	38
353d0.27	0.27	3.5	3.0	38
353d0.28	0.28	3.5	3.0	38
353d0.29	0.29	3.5	3.0	38
353d0.30	0.30	5.0	3.0	38
353d0.31	0.31	5.0	3.0	38
353d0.32	0.32	5.0	3.0	38
353d0.33	0.33	5.0	3.0	38
353d0.34	0.34	5.0	3.0	38
353d0.35	0.35	5.0	3.0	38
353d0.36	0.36	5.0	3.0	38
353d0.37	0.37	5.0	3.0	38
353d0.38	0.38	5.0	3.0	38
353d0.39	0.39	5.0	3.0	38
353d0.40	0.40	6.0	3.0	38
353d0.41	0.41	6.0	3.0	38
353d0.42	0.42	6.0	3.0	38
353d0.43	0.43	6.0	3.0	38
353d0.44	0.44	6.0	3.0	38
353d0.45	0.45	6.0	3.0	38
353d0.46	0.46	6.0	3.0	38

Art. n°	d_1	l_1	D	L
353d0.47	0.47	6.0	3.0	38
353d0.48	0.48	6.0	3.0	38
353d0.49	0.49	6.0	3.0	38
353d0.50	0.50	6.0	3.0	38
353d0.51	0.51	6.0	3.0	38
353d0.52	0.52	6.0	3.0	38
353d0.53	0.53	6.0	3.0	38
353d0.54	0.54	6.0	3.0	38
353d0.55	0.55	7.0	3.0	38
353d0.56	0.56	7.0	3.0	38
353d0.57	0.57	7.0	3.0	38
353d0.58	0.58	7.0	3.0	38
353d0.59	0.59	7.0	3.0	38
353d0.60	0.60	7.0	3.0	38
353d0.61	0.61	7.0	3.0	38
353d0.62	0.62	7.0	3.0	38
353d0.63	0.63	7.0	3.0	38
353d0.64	0.64	7.0	3.0	38
353d0.65	0.65	7.0	3.0	38
353d0.66	0.66	7.0	3.0	38
353d0.67	0.67	7.0	3.0	38
353d0.68	0.68	7.0	3.0	38
353d0.69	0.69	7.0	3.0	38
353d0.70	0.70	9.5	3.0	38
353d0.71	0.71	9.5	3.0	38
353d0.72	0.72	9.5	3.0	38
353d0.73	0.73	9.5	3.0	38
353d0.74	0.74	9.5	3.0	38
353d0.75	0.75	9.5	3.0	38

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

Twist drill Z3 - shank Ø3

Art. n°	d_1	l_1	D	L
353d0.76	0.76	9.5	3.0	38
353d0.77	0.77	9.5	3.0	38
353d0.78	0.78	9.5	3.0	38
353d0.79	0.79	9.5	3.0	38
353d0.80	0.80	9.5	3.0	38
353d0.81	0.81	9.5	3.0	38
353d0.82	0.82	9.5	3.0	38
353d0.83	0.83	9.5	3.0	38
353d0.84	0.84	9.5	3.0	38
353d0.85	0.85	9.5	3.0	38
353d0.86	0.86	9.5	3.0	38
353d0.87	0.87	9.5	3.0	38
353d0.88	0.88	9.5	3.0	38
353d0.89	0.89	9.5	3.0	38
353d0.90	0.90	9.5	3.0	38
353d0.91	0.91	9.5	3.0	38
353d0.92	0.92	9.5	3.0	38
353d0.93	0.93	9.5	3.0	38
353d0.94	0.94	9.5	3.0	38
353d0.95	0.95	9.5	3.0	38
353d0.96	0.96	9.5	3.0	38
353d0.97	0.97	9.5	3.0	38
353d0.98	0.98	9.5	3.0	38
353d0.99	0.99	9.5	3.0	38
353d1.00	1.00	9.5	3.0	38
353d1.01	1.01	9.5	3.0	38
353d1.02	1.02	9.5	3.0	38
353d1.03	1.03	9.5	3.0	38
353d1.04	1.04	9.5	3.0	38
353d1.05	1.05	10.5	3.0	38
353d1.06	1.06	10.5	3.0	38
353d1.07	1.07	10.5	3.0	38
353d1.08	1.08	10.5	3.0	38
353d1.09	1.09	10.5	3.0	38
353d1.10	1.10	10.5	3.0	38
353d1.11	1.11	10.5	3.0	38
353d1.12	1.12	10.5	3.0	38
353d1.13	1.13	10.5	3.0	38
353d1.14	1.14	10.5	3.0	38
353d1.15	1.15	10.5	3.0	38
353d1.16	1.16	10.5	3.0	38
353d1.17	1.17	10.5	3.0	38
353d1.18	1.18	10.5	3.0	38
353d1.19	1.19	10.5	3.0	38
353d1.20	1.20	10.5	3.0	38
353d1.21	1.21	10.5	3.0	38
353d1.22	1.22	10.5	3.0	38
353d1.23	1.23	10.5	3.0	38
353d1.24	1.24	10.5	3.0	38
353d1.25	1.25	10.5	3.0	38
353d1.26	1.26	10.5	3.0	38
353d1.27	1.27	10.5	3.0	38
353d1.28	1.28	10.5	3.0	38
353d1.29	1.29	10.5	3.0	38
353d1.30	1.30	10.5	3.0	38
353d1.31	1.31	10.5	3.0	38
353d1.32	1.32	10.5	3.0	38
353d1.33	1.33	10.5	3.0	38
353d1.34	1.34	10.5	3.0	38
353d1.35	1.35	10.5	3.0	38
353d1.36	1.36	10.5	3.0	38
353d1.37	1.37	10.5	3.0	38
353d1.38	1.38	10.5	3.0	38
353d1.39	1.39	10.5	3.0	38
353d1.40	1.40	10.5	3.0	38
353d1.41	1.41	10.5	3.0	38
353d1.42	1.42	10.5	3.0	38
353d1.43	1.43	10.5	3.0	38
353d1.44	1.44	10.5	3.0	38
353d1.45	1.45	10.5	3.0	38
353d1.46	1.46	10.5	3.0	38
353d1.47	1.47	10.5	3.0	38
353d1.48	1.48	10.5	3.0	38
353d1.49	1.49	10.5	3.0	38
353d1.50	1.50	10.5	3.0	38
353d1.51	1.51	10.5	3.0	38
353d1.52	1.52	10.5	3.0	38
353d1.53	1.53	10.5	3.0	38
353d1.54	1.54	10.5	3.0	38
353d1.55	1.55	10.5	3.0	38
353d1.56	1.56	10.5	3.0	38
353d1.57	1.57	10.5	3.0	38
353d1.58	1.58	10.5	3.0	38
353d1.59	1.59	10.5	3.0	38
353d1.60	1.60	10.5	3.0	38
353d1.61	1.61	10.5	3.0	38
353d1.62	1.62	10.5	3.0	38

Available uncoated or coated

140°

Z3

λ 34°

CARB

Twist drill Z3 - shank Ø3

Available
uncoated or coated

140°

Z3

λ
34°

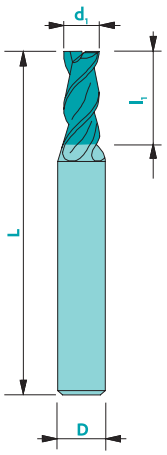
CARB

Art. n°	d_1	l_1	D	L
353d1.63	1.63	10.5	3.0	38
353d1.64	1.64	10.5	3.0	38
353d1.65	1.65	10.5	3.0	38
353d1.66	1.66	10.5	3.0	38
353d1.67	1.67	10.5	3.0	38
353d1.68	1.68	10.5	3.0	38
353d1.69	1.69	10.5	3.0	38
353d1.70	1.70	10.5	3.0	38
353d1.71	1.71	10.5	3.0	38
353d1.72	1.72	10.5	3.0	38
353d1.73	1.73	10.5	3.0	38
353d1.74	1.74	10.5	3.0	38
353d1.75	1.75	10.5	3.0	38
353d1.76	1.76	10.5	3.0	38
353d1.77	1.77	10.5	3.0	38
353d1.78	1.78	10.5	3.0	38
353d1.79	1.79	10.5	3.0	38
353d1.80	1.80	10.5	3.0	38
353d1.81	1.81	10.5	3.0	38
353d1.82	1.82	10.5	3.0	38
353d1.83	1.83	10.5	3.0	38
353d1.84	1.84	10.5	3.0	38
353d1.85	1.85	10.5	3.0	38
353d1.86	1.86	10.5	3.0	38
353d1.87	1.87	10.5	3.0	38
353d1.88	1.88	10.5	3.0	38
353d1.89	1.89	10.5	3.0	38
353d1.90	1.90	10.5	3.0	38
353d1.91	1.91	10.5	3.0	38
353d1.92	1.92	10.5	3.0	38
353d1.93	1.93	10.5	3.0	38
353d1.94	1.94	10.5	3.0	38
353d1.95	1.95	10.5	3.0	38
353d1.96	1.96	10.5	3.0	38
353d1.97	1.97	10.5	3.0	38
353d1.98	1.98	10.5	3.0	38
353d1.99	1.99	10.5	3.0	38
353d2.00	2.00	10.5	3.0	38
353d2.05	2.05	10.5	3.0	38
353d2.10	2.10	10.5	3.0	38
353d2.15	2.15	10.5	3.0	38
353d2.20	2.20	10.5	3.0	38
353d2.25	2.25	10.5	3.0	38

Art. n°	d_1	l_1	D	L
353d2.30	2.30	10.5	3.0	38
353d2.35	2.35	10.5	3.0	38
353d2.40	2.40	10.5	3.0	38
353d2.45	2.45	10.5	3.0	38
353d2.50	2.50	10.5	3.0	38
353d2.55	2.55	10.5	3.0	38
353d2.60	2.60	10.5	3.0	38
353d2.65	2.65	10.5	3.0	38
353d2.70	2.70	10.5	3.0	38
353d2.75	2.75	10.5	3.0	38
353d2.80	2.80	10.5	3.0	38
353d2.85	2.85	10.5	3.0	38
353d2.90	2.90	10.5	3.0	38
353d2.95	2.95	10.5	3.0	38
353d3.00	3.00	10.5	3.0	38

EXPERT end mill titanium

Material group (see page 3)	a	b
Recommended coating	Rico	Rico
V_c uncoated [m/min]	70	90
V_c coated [m/min]	60	80
F_z Ø 0.25 [mm]	0.002	0.002
F_z Ø 0.50 [mm]	0.004	0.002
F_z Ø 1.00 [mm]	0.007	0.004
F_z Ø 2.00 [mm]	0.010	0.008
F_z Ø 4.00 [mm]	0.015	0.016
F_z Ø 6.00 [mm]	0.024	0.024
F_z Ø 8.00 [mm]	0.032	0.032
F_z Ø 10.00 [mm]	0.04	0.04
F_z Ø 12.00 [mm]	0.05	0.05
F_z Ø 16.00 [mm]	0.06	0.06
F_z Ø 20.00 [mm]	0.07	0.07



Available uncoated or coated

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5

Art. n°	d_1	l_1	D	L	Z
3100d0.50	0.5	1.0	6	57	3
3100d0.60	0.6	1.2	6	57	3
3100d0.70	0.7	1.4	6	57	3
3100d0.80	0.8	1.6	6	57	3
3100d0.90	0.9	1.8	6	57	3
3100d1.00	1.0	2.0	6	57	3
3100d1.10	1.1	2.2	6	57	3
3100d1.20	1.2	2.4	6	57	3
3100d1.30	1.3	2.6	6	57	3
3100d1.40	1.4	2.8	6	57	3
3100d1.50	1.5	3.0	6	57	3
3100d1.60	1.6	3.2	6	57	3
3100d1.70	1.7	3.4	6	57	3
3100d1.80	1.8	3.6	6	57	3
3100d1.90	1.9	3.8	6	57	3
3100d2.00	2.0	4.0	6	57	3
3100d2.10	2.1	4.2	6	57	3

Art. n°	d_1	l_1	D	L	Z
3100d2.20	2.2	4.4	6	57	3
3100d2.30	2.3	4.6	6	57	3
3100d2.40	2.4	4.8	6	57	3
3100d2.50	2.5	5.0	6	57	3
3100d2.60	2.6	5.2	6	57	3
3100d2.70	2.7	5.4	6	57	3
3100d2.80	2.8	5.6	6	57	3
3100d2.90	2.9	5.8	6	57	3
3100d3.00	3.0	6.0	6	57	3
3100d3.50	3.5	7.0	6	57	3
3100d4.00	4.0	8.0	6	57	3
3100d5.00	5.0	10.0	6	57	3
3100d6.00	6.0	12.0	8	63	3
3100d8.00	8.0	16.0	8	63	3
3100d10.00	10.0	20.0	10	72	4
3100d12.00	12.0	24.0	12	83	4

Z3-4

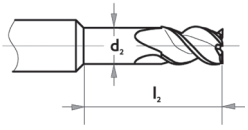
λ 45°

γ 8°

CARB

ap=1xd$_1$ ae=0.10xd$_1$ ap=1xd$_1$

Upon request



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

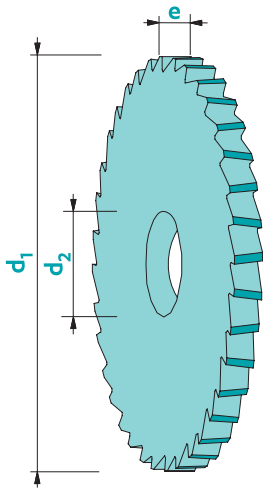
FZ [mm]: Feed per tooth

Z : Number of teeth

Vf [mm/min]: Feed speed

n : Spindle speed

Slitting saw staggered teeth



Material group (see page 3)	a	b
Recommended coating	Rico	Rico
V_c uncoated [m/min]	50	60
V_c coated [m/min]	40	50
F_z [mm]	Ø/10000	Ø/10000

Tolerance e: +0/-0.01
d_2: H5

Available
uncoated or coated

Z
12-36

λ
ALT

γ
8°

CARB

Art. n°	d_1	e	d_2	Z
226d15e1.5a5Z##	15	1.5	5	12 - 18
226d15e2.0a5Z##	15	2.0	5	12 - 18
226d15e2.5a5Z##	15	2.5	5	12 - 18
226d15e3.0a5Z##	15	3.0	5	12 - 18
226d15e3.5a5Z##	15	3.5	5	12 - 18
226d15e4.0a5Z##	15	4.0	5	12 - 18
226d15e4.5a5Z##	15	4.5	5	12 - 18
226d15e5.0a5Z##	15	5.0	5	12 - 18
226d15e5.5a5Z##	15	5.5	5	12 - 18
226d15e6.0a5Z##	15	6.0	5	12 - 18
226d20e1.5a5Z##	20	1.5	5	20 - 24
226d20e2.0a5Z##	20	2.0	5	20 - 24
226d20e2.5a5Z##	20	2.5	5	20 - 24
226d20e3.0a5Z##	20	3.0	5	20 - 24
226d20e3.5a5Z##	20	3.5	5	20 - 24
226d20e4.0a5Z##	20	4.0	5	20 - 24
226d20e4.5a5Z##	20	4.5	5	20 - 24
226d20e5.0a5Z##	20	5.0	5	20 - 24
226d20e5.5a5Z##	20	5.5	5	20 - 24
226d20e6.0a5Z##	20	6.0	5	20 - 24
226d25e1.5a8Z##	25	1.5	8	24 - 28
226d25e2.0a8Z##	25	2.0	8	24 - 28
226d25e2.5a8Z##	25	2.5	8	24 - 28
226d25e3.0a8Z##	25	3.0	8	24 - 28
226d25e3.5a8Z##	25	3.5	8	24 - 28
226d25e4.0a8Z##	25	4.0	8	24 - 28
226d25e4.5a8Z##	25	4.5	8	24 - 28
226d25e5.0a8Z##	25	5.0	8	24 - 28
226d25e5.5a8Z##	25	5.5	8	24 - 28

Art. n°	d_1	e	d_2	Z
226d25e6.0a8Z##	25	6.0	8	24 - 28
226d25e6.5a8Z##	25	6.5	8	24 - 28
226d25e7.0a8Z##	25	7.0	8	24 - 28
226d25e7.5a8Z##	25	7.5	8	24 - 28
226d25e8.0a8Z##	25	8.0	8	24 - 28
226d30e1.5a8Z##	30	1.5	8	24 - 28
226d30e2.0a8Z##	30	2.0	8	24 - 28
226d30e2.5a8Z##	30	2.5	8	24 - 28
226d30e3.0a8Z##	30	3.0	8	24 - 28
226d30e3.5a8Z##	30	3.5	8	24 - 28
226d30e4.0a8Z##	30	4.0	8	24 - 28
226d30e4.5a8Z##	30	4.5	8	24 - 28
226d30e5.0a8Z##	30	5.0	8	24 - 28
226d30e5.5a8Z##	30	5.5	8	24 - 28
226d30e6.0a8Z##	30	6.0	8	24 - 28
226d30e6.5a8Z##	30	6.5	8	24 - 28
226d30e7.0a8Z##	30	7.0	8	24 - 28
226d30e7.5a8Z##	30	7.5	8	24 - 28
226d30e8.0a8Z##	30	8.0	8	24 - 28
226d30e8.5a8Z##	30	8.5	8	24 - 28
226d30e9.0a8Z##	30	9.0	8	24 - 28
226d30e9.5a8Z##	30	9.5	8	24 - 28
226d30e10.0a8Z##	30	10.0	8	24 - 28
226d40e2.0a10Z##	40	2.0	10	28 - 32
226d40e2.5a10Z##	40	2.5	10	28 - 32
226d40e3.0a10Z##	40	3.0	10	28 - 32
226d40e3.5a10Z##	40	3.5	10	28 - 32
226d40e4.0a10Z##	40	4.0	10	28 - 32
226d40e4.5a10Z##	40	4.5	10	28 - 32

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

Art. n°	d_1	e	d_2	Z
226d40e5.0a10Z##	40	5.0	10	28 - 32
226d40e5.5a10Z##	40	5.5	10	28 - 32
226d40e6.0a10Z##	40	6.0	10	28 - 32
226d40e6.5a10Z##	40	6.5	10	28 - 32
226d40e7.0a10Z##	40	7.0	10	28 - 32
226d40e7.5a10Z##	40	7.5	10	28 - 32
226d40e8.0a10Z##	40	8.0	10	28 - 32
226d40e8.5a10Z##	40	8.5	10	28 - 32
226d40e9.0a10Z##	40	9.0	10	28 - 32
226d40e9.5a10Z##	40	9.5	10	28 - 32
226d40e10.0a10Z##	40	10.0	10	28 - 32
226d40e11.0a10Z##	40	11.0	10	28 - 32
226d40e12.0a10Z##	40	12.0	10	28 - 32
226d50e2.0a13Z##	50	2.0	13	28 - 32
226d50e2.5a13Z##	50	2.5	13	28 - 32
226d50e3.0a13Z##	50	3.0	13	28 - 32
226d50e3.5a13Z##	50	3.5	13	28 - 32
226d50e4.0a13Z##	50	4.0	13	28 - 32
226d50e4.5a13Z##	50	4.5	13	28 - 32
226d50e5.0a13Z##	50	5.0	13	28 - 32
226d50e5.5a13Z##	50	5.5	13	28 - 32
226d50e6.0a13Z##	50	6.0	13	28 - 32
226d50e6.5a13Z##	50	6.5	13	28 - 32
226d50e7.0a13Z##	50	7.0	13	28 - 32
226d50e7.5a13Z##	50	7.5	13	28 - 32
226d50e8.0a13Z##	50	8.0	13	28 - 32
226d50e8.5a13Z##	50	8.5	13	28 - 32
226d50e9.0a13Z##	50	9.0	13	28 - 32
226d50e9.5a13Z##	50	9.5	13	28 - 32
226d50e10.0a13Z##	50	10.0	13	28 - 32
226d50e11.0a13Z##	50	11.0	13	28 - 32
226d50e12.0a13Z##	50	12.0	13	28 - 32
226d63e2.0a16Z##	63	2.0	16	28 - 36
226d63e2.5a16Z##	63	2.5	16	28 - 36
226d63e3.0a16Z##	63	3.0	16	28 - 36
226d63e3.5a16Z##	63	3.5	16	28 - 36
226d63e4.0a16Z##	63	4.0	16	28 - 36
226d63e4.5a16Z##	63	4.5	16	28 - 36
226d63e5.0a16Z##	63	5.0	16	28 - 36
226d63e5.5a16Z##	63	5.5	16	28 - 36
226d63e6.0a16Z##	63	6.0	16	28 - 36
226d63e6.5a16Z##	63	6.5	16	28 - 36
226d63e7.0a16Z##	63	7.0	16	28 - 36
226d63e7.5a16Z##	63	7.5	16	28 - 36

Art. n°	d_1	e	d_2	Z
226d63e8.0a16Z##	63	8.0	16	28 - 36
226d63e8.5a16Z##	63	8.5	16	28 - 36
226d63e9.0a16Z##	63	9.0	16	28 - 36
226d63e10.0a16Z##	63	10.0	16	28 - 36
226d80e2.0a22Z##	80	2.0	22	28 - 36
226d80e2.5a22Z##	80	2.5	22	28 - 36
226d80e3.0a22Z##	80	3.0	22	28 - 36
226d80e3.5a22Z##	80	3.5	22	28 - 36
226d80e4.0a22Z##	80	4.0	22	28 - 36
226d80e4.5a22Z##	80	4.5	22	28 - 36
226d80e5.0a22Z##	80	5.0	22	28 - 36
226d80e5.5a22Z##	80	5.5	22	28 - 36
226d80e6.0a22Z##	80	6.0	22	28 - 36
226d80e6.5a22Z##	80	6.5	22	28 - 36
226d80e7.0a22Z##	80	7.0	22	28 - 36
226d80e7.5a22Z##	80	7.5	22	28 - 36
226d80e8.0a22Z##	80	8.0	22	28 - 36
226d80e8.5a22Z##	80	8.5	22	28 - 36
226d80e9.0a22Z##	80	9.0	22	28 - 36
226d80e9.5a22Z##	80	9.5	22	28 - 36
226d80e10.0a22Z##	80	10.0	22	28 - 36
226d80e11.0a22Z##	80	11.0	22	28 - 36
226d80e12.0a22Z##	80	12.0	22	28 - 36

Available uncoated or coated

Z
12-36

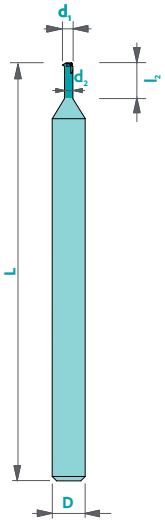
λ
ALT

γ
8°

CARB

5600

Whirling tools Z3 - NIHS norm 06-02 & 06-03



Material group (see page 3)	a	b
Recommended coating	Rico	Rico
V_c uncoated [m/min]	90	80
V_c coated [m/min]	110	100

Available uncoated or coated

Tolerances D: h5

Z3

CARB

Art. n°	Ø nominal	Pitch	d_1	l_2	d_2	D	L
5600S0.80	S0.80	0.200	0.60	2.00	0.38	3	38
5600S0.90	S0.90	0.225	0.68	2.25	0.43	3	38
5600S1.00	S1.00	0.250	0.76	2.50	0.48	3	38
5600S1.20	S1.20	0.250	0.94	2.50	0.66	3	38
5600S1.40	S1.40	0.300	1.10	3.00	0.76	3	38
5600M1.00	M1.00	0.250	0.76	2.50	0.48	3	38
5600M1.20	M1.20	0.250	0.94	2.50	0.66	3	38
5600M1.40	M1.40	0.300	1.10	3.00	0.76	3	38
5600M1.60	M1.60	0.350	1.25	3.50	0.85	3	38
5600M1.80	M1.80	0.350	1.45	3.50	1.05	3	38
5600M2.20	M2.20	0.450	1.70	4.50	1.19	3	38
5600M2.50	M2.50	0.450	2.00	5.00	1.49	3	38
5600M3.00	M3.00	0.500	2.40	4.50	1.84	3	38

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

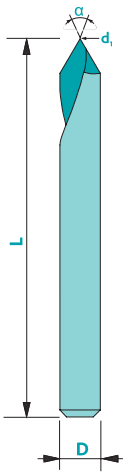
Z : Number of teeth

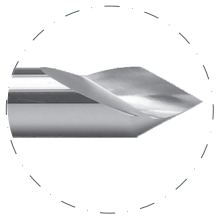
Vf [mm/min]: Feed speed

n : Spindle speed

Helical engraving mill - flat tip

Material group (see page 3)	a	b
Recommended coating	Rico	Rico
n [rpm]	30'000	30'000
Fz↓ [mm]	0.003	0.003
Fz→ [mm]	0.0065	0.0065





Available uncoated or coated

Tolerances d_1: +/- 0.01
D: h5

Article number: 119-2a##d#.##
Example: End mill ref. 119-2 with 25° angle and tip diameter 0.05 mm: 119-2a25d0.05

α*	d_1**	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

0.02-0.30

λ 24°

CARB

Formulas

$F = F_z \cdot Z$

$V_F = F_z \cdot Z \cdot n$

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

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

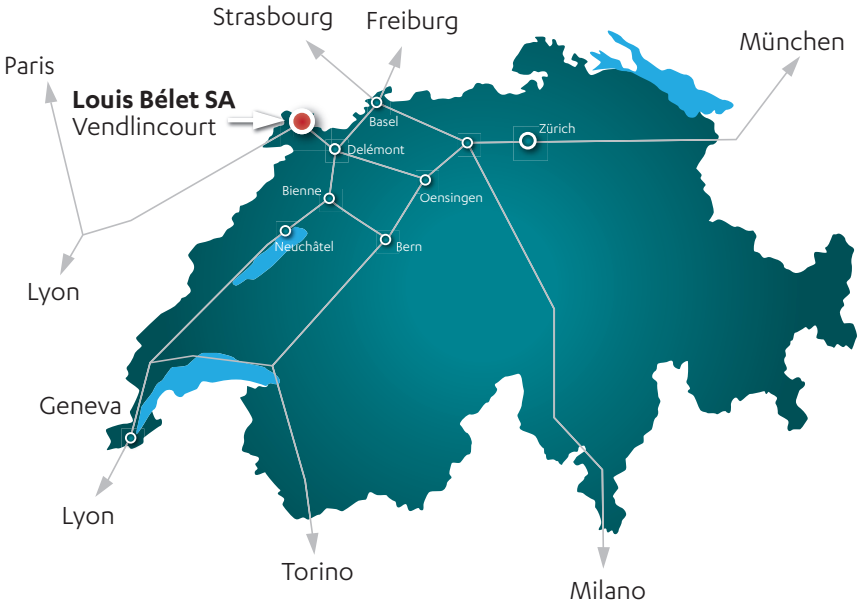
$f_z = \frac{V_f}{Z \cdot n}$

Caption

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

Since 1948

Louis BELET SA is a family business of about 150 employees. The company is run by the two grandchildren of the founder, Mrs Roxane Piquerez and Mr Arnaud Maître.



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12.2021