Index - End mills

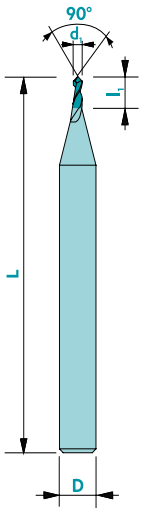
Multi-uses end mill

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

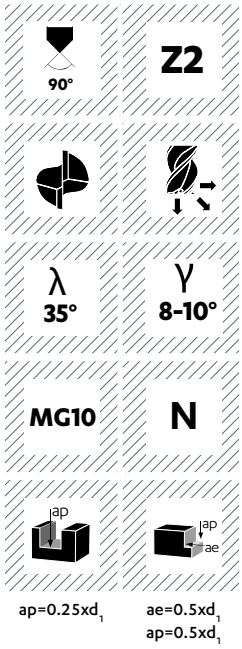
Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
1120d0.50	0.50	1.0	3	38
1120d0.60	0.60	1.2	3	38
1120d0.70	0.70	1.4	3	38
1120d0.80	0.80	1.6	3	38
1120d0.90	0.90	1.8	3	38
1120d1.00	1.00	2.0	3	38
1120d1.50	1.50	3.0	3	38
1120d2.00	2.00	4.0	3	38
1120d3.00	3.00	6.0	6	51
1120d4.00	4.00	8.0	6	51
1120d6.00	6.00	12.0	6	51

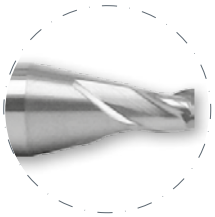


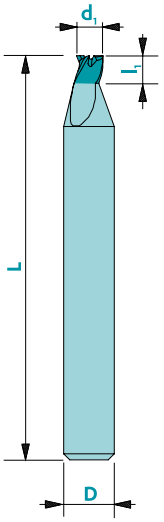
ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Upon request

End mill Z3 l_1=1xd_1



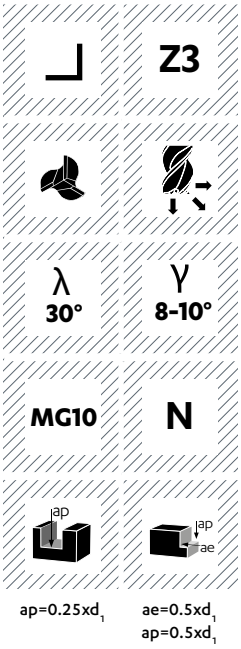


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

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

Available uncoated or coated (see page 61)



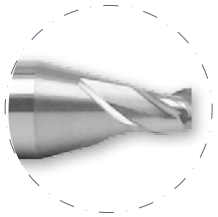
ap=0.25xd_1 ae=0.5xd_1 ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1510d0.30	0.30	0.30	3	38
1510d0.35	0.35	0.35	3	38
1510d0.40	0.40	0.40	3	38
1510d0.45	0.45	0.45	3	38
1510d0.50	0.50	0.50	3	38
1510d0.55	0.55	0.55	3	38
1510d0.60	0.60	0.60	3	38
1510d0.65	0.65	0.65	3	38
1510d0.70	0.70	0.70	3	38
1510d0.75	0.75	0.75	3	38
1510d0.80	0.80	0.80	3	38
1510d0.85	0.85	0.85	3	38
1510d0.90	0.90	0.90	3	38
1510d0.95	0.95	0.95	3	38
1510d1.00	1.00	1.00	3	38
1510d1.05	1.05	1.05	3	38
1510d1.10	1.10	1.10	3	38
1510d1.15	1.15	1.15	3	38
1510d1.20	1.20	1.20	3	38
1510d1.25	1.25	1.25	3	38
1510d1.30	1.30	1.30	3	38
1510d1.35	1.35	1.35	3	38
1510d1.40	1.40	1.40	3	38
1510d1.45	1.45	1.45	3	38
1510d1.50	1.50	1.50	3	38
1510d1.55	1.55	1.55	3	38
1510d1.60	1.60	1.60	3	38
1510d1.65	1.65	1.65	3	38
1510d1.70	1.70	1.70	3	38
1510d1.75	1.75	1.75	3	38

Art. n°	d_1	l_1	D	L
1510d1.80	1.80	1.80	3	38
1510d1.85	1.85	1.85	3	38
1510d1.90	1.90	1.90	3	38
1510d1.95	1.95	1.95	3	38
1510d2.00	2.00	2.00	3	38
1510d2.05	2.05	2.05	3	38
1510d2.10	2.10	2.10	3	38
1510d2.15	2.15	2.15	3	38
1510d2.20	2.20	2.20	3	38
1510d2.25	2.25	2.25	3	38
1510d2.30	2.30	2.30	3	38
1510d2.35	2.35	2.35	3	38
1510d2.40	2.40	2.40	3	38
1510d2.45	2.45	2.45	3	38
1510d2.50	2.50	2.50	3	38
1510d2.55	2.55	2.55	3	38
1510d2.60	2.60	2.60	3	38
1510d2.65	2.65	2.65	3	38
1510d2.70	2.70	2.70	3	38
1510d2.75	2.75	2.75	3	38
1510d2.80	2.80	2.80	3	38
1510d2.85	2.85	2.85	3	38
1510d2.90	2.90	2.90	3	38
1510d2.95	2.95	2.95	3	38
1510d3.00	3.00	3.00	6	51
1510d3.10	3.10	3.10	6	51
1510d3.20	3.20	3.20	6	51
1510d3.30	3.30	3.30	6	51
1510d3.40	3.40	3.40	6	51

End mill Z3 l_1=1xd_1

Art. n°	d_1	l_1	D	L
1510d3.50	3.50	3.50	6	51
1510d3.60	3.60	3.60	6	51
1510d3.70	3.70	3.70	6	51
1510d3.80	3.80	3.80	6	51
1510d3.90	3.90	3.90	6	51
1510d4.00	4.00	4.00	6	51
1510d4.10	4.10	4.10	6	51
1510d4.20	4.20	4.20	6	51
1510d4.30	4.30	4.30	6	51
1510d4.40	4.40	4.40	6	51
1510d4.50	4.50	4.50	6	51
1510d4.60	4.60	4.60	6	51
1510d4.70	4.70	4.70	6	51
1510d4.80	4.80	4.80	6	51
1510d4.90	4.90	4.90	6	51
1510d5.00	5.00	5.00	6	51
1510d5.10	5.10	5.10	6	51
1510d5.20	5.20	5.20	6	51
1510d5.30	5.30	5.30	6	51
1510d5.40	5.40	5.40	6	51
1510d5.50	5.50	5.50	6	51
1510d5.60	5.60	5.60	6	51
1510d5.70	5.70	5.70	6	51
1510d5.80	5.80	5.80	6	51
1510d5.90	5.90	5.90	6	51
1510d6.00	6.00	6.00	6	51
1510d6.50	6.50	6.50	8	61
1510d7.00	7.00	7.00	8	61
1510d7.50	7.50	7.50	8	61
1510d8.00	8.00	8.00	8	61
1510d8.50	8.50	8.50	10	72
1510d9.00	9.00	9.00	10	72
1510d9.50	9.50	9.50	10	72
1510d10.00	10.00	10.00	10	72
1510d11.00	11.00	11.00	11	83
1510d12.00	12.00	12.00	12	83
1510d13.00	13.00	13.00	13	83
1510d14.00	14.00	14.00	14	83
1510d15.00	15.00	15.00	15	83
1510d16.00	16.00	16.00	16	92



Available uncoated or coated (see page 61)

Z3

λ 30°

γ 8-10°

MG10

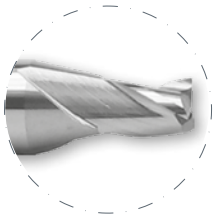
N

ap=0.25xd_1

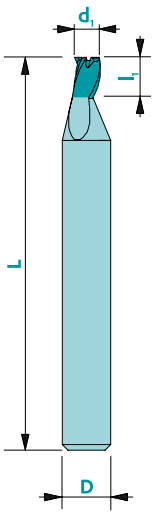
ae=0.5xd_1
ap=0.5xd_1

1515

End mill Z3 l_1=1.5xd_1



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

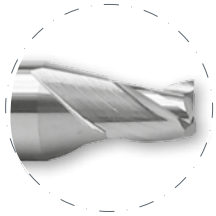
ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1515d0.30	0.30	0.45	3	38
1515d0.35	0.35	0.55	3	38
1515d0.40	0.40	0.60	3	38
1515d0.45	0.45	0.70	3	38
1515d0.50	0.50	0.75	3	38
1515d0.55	0.55	0.85	3	38
1515d0.60	0.60	0.90	3	38
1515d0.65	0.65	1.00	3	38
1515d0.70	0.70	1.05	3	38
1515d0.75	0.75	1.15	3	38
1515d0.80	0.80	1.20	3	38
1515d0.85	0.85	1.30	3	38
1515d0.90	0.90	1.35	3	38
1515d0.95	0.95	1.45	3	38
1515d1.00	1.00	1.50	3	38
1515d1.05	1.05	1.60	3	38
1515d1.10	1.10	1.65	3	38
1515d1.15	1.15	1.70	3	38
1515d1.20	1.20	1.80	3	38
1515d1.25	1.25	1.90	3	38
1515d1.30	1.30	1.95	3	38
1515d1.35	1.35	2.05	3	38
1515d1.40	1.40	2.10	3	38
1515d1.45	1.45	2.15	3	38
1515d1.50	1.50	2.25	3	38
1515d1.55	1.55	2.35	3	38
1515d1.60	1.60	2.40	3	38
1515d1.65	1.65	2.45	3	38
1515d1.70	1.70	2.55	3	38
1515d1.75	1.75	2.65	3	38

Art. n°	d_1	l_1	D	L
1515d1.80	1.80	2.70	3	38
1515d1.85	1.85	2.80	3	38
1515d1.90	1.90	2.85	3	38
1515d1.95	1.95	2.90	3	38
1515d2.00	2.00	3.00	3	38
1515d2.05	2.05	3.05	3	38
1515d2.10	2.10	3.15	3	38
1515d2.15	2.15	3.20	3	38
1515d2.20	2.20	3.30	3	38
1515d2.25	2.25	3.40	3	38
1515d2.30	2.30	3.45	3	38
1515d2.35	2.35	3.55	3	38
1515d2.40	2.40	3.60	3	38
1515d2.45	2.45	3.70	3	38
1515d2.50	2.50	3.75	3	38
1515d2.55	2.55	3.80	3	38
1515d2.60	2.60	3.90	3	38
1515d2.65	2.65	3.95	3	38
1515d2.70	2.70	4.05	3	38
1515d2.75	2.75	4.15	3	38
1515d2.80	2.80	4.20	3	38
1515d2.85	2.85	4.30	3	38
1515d2.90	2.90	4.35	3	38
1515d2.95	2.95	4.45	3	38
1515d3.00	3.00	4.50	6	51
1515d3.10	3.10	4.65	6	51
1515d3.20	3.20	4.80	6	51
1515d3.30	3.30	4.95	6	51
1515d3.40	3.40	5.10	6	51

End mill Z3 l_1=1.5xd_1

Art. n°	d_1	l_1	D	L
1515d3.50	3.50	5.25	6	51
1515d3.60	3.60	5.40	6	51
1515d3.70	3.70	5.55	6	51
1515d3.80	3.80	5.70	6	51
1515d3.90	3.90	5.85	6	51
1515d4.00	4.00	6.00	6	51
1515d4.10	4.10	6.15	6	51
1515d4.20	4.20	6.30	6	51
1515d4.30	4.30	6.45	6	51
1515d4.40	4.40	6.60	6	51
1515d4.50	4.50	6.75	6	51
1515d4.60	4.60	6.90	6	51
1515d4.70	4.70	7.05	6	51
1515d4.80	4.80	7.20	6	51
1515d4.90	4.90	7.35	6	51
1515d5.00	5.00	7.50	6	51
1515d5.10	5.10	7.65	6	51
1515d5.20	5.20	7.80	6	51
1515d5.30	5.30	7.95	6	51
1515d5.40	5.40	8.10	6	51
1515d5.50	5.50	8.25	6	51
1515d5.60	5.60	8.40	6	51
1515d5.70	5.70	8.55	6	51
1515d5.80	5.80	8.70	6	51
1515d5.90	5.90	8.85	6	51
1515d6.00	6.00	9.00	6	51
1515d6.50	6.50	9.75	8	61
1515d7.00	7.00	10.50	8	61
1515d7.50	7.50	11.25	8	61
1515d8.00	8.00	12.00	8	61
1515d8.50	8.50	12.75	10	72
1515d9.00	9.00	13.50	10	72
1515d9.50	9.50	14.25	10	72
1515d10.00	10.00	15.00	10	72
1515d11.00	11.00	16.50	11	83
1515d12.00	12.00	18.00	12	83
1515d13.00	13.00	19.50	13	83
1515d14.00	14.00	21.00	14	83
1515d15.00	15.00	22.50	15	83
1515d16.00	16.00	24.00	16	92



Available uncoated or coated (see page 61)

Z3

λ 30°

γ 8-10°

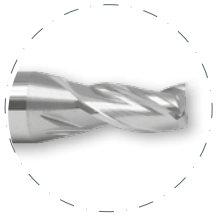
MG10

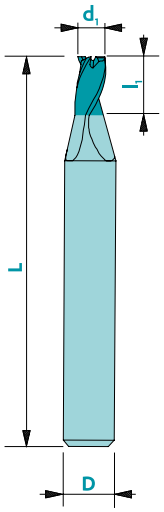
N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

End mill Z3 $l_1=2xd_1$





Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
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Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

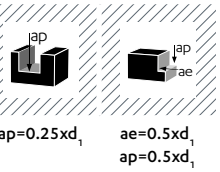
Z3

λ 30°

γ 8-10°

MG10

N



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

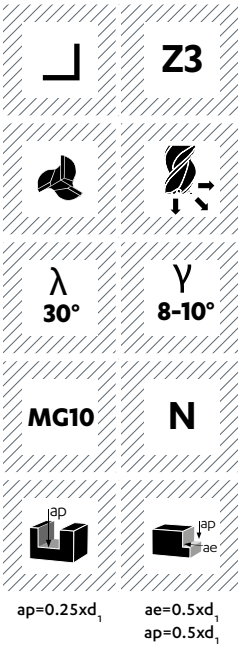
Art. n°	d$_1$	l$_1$	D	L
1520d0.30	0.30	0.60	3	38
1520d0.35	0.35	0.70	3	38
1520d0.40	0.40	0.80	3	38
1520d0.45	0.45	0.90	3	38
1520d0.50	0.50	1.00	3	38
1520d0.55	0.55	1.10	3	38
1520d0.60	0.60	1.20	3	38
1520d0.65	0.65	1.30	3	38
1520d0.70	0.70	1.40	3	38
1520d0.75	0.75	1.50	3	38
1520d0.80	0.80	1.60	3	38
1520d0.85	0.85	1.70	3	38
1520d0.90	0.90	1.80	3	38
1520d0.95	0.95	1.90	3	38
1520d1.00	1.00	2.00	3	38
1520d1.05	1.05	2.10	3	38
1520d1.10	1.10	2.20	3	38
1520d1.15	1.15	2.30	3	38
1520d1.20	1.20	2.40	3	38
1520d1.25	1.25	2.50	3	38
1520d1.30	1.30	2.60	3	38
1520d1.35	1.35	2.70	3	38
1520d1.40	1.40	2.80	3	38
1520d1.45	1.45	2.90	3	38
1520d1.50	1.50	3.00	3	38
1520d1.55	1.55	3.10	3	38
1520d1.60	1.60	3.20	3	38
1520d1.65	1.65	3.30	3	38
1520d1.70	1.70	3.40	3	38
1520d1.75	1.75	3.50	3	38

Art. n°	d$_1$	l$_1$	D	L
1520d1.80	1.80	3.60	3	38
1520d1.85	1.85	3.70	3	38
1520d1.90	1.90	3.80	3	38
1520d1.95	1.95	3.90	3	38
1520d2.00	2.00	4.00	3	38
1520d2.05	2.05	4.10	3	38
1520d2.10	2.10	4.20	3	38
1520d2.15	2.15	4.30	3	38
1520d2.20	2.20	4.40	3	38
1520d2.25	2.25	4.50	3	38
1520d2.30	2.30	4.60	3	38
1520d2.35	2.35	4.70	3	38
1520d2.40	2.40	4.80	3	38
1520d2.45	2.45	4.90	3	38
1520d2.50	2.50	5.00	3	38
1520d2.55	2.55	5.10	3	38
1520d2.60	2.60	5.20	3	38
1520d2.65	2.65	5.30	3	38
1520d2.70	2.70	5.40	3	38
1520d2.75	2.75	5.50	3	38
1520d2.80	2.80	5.60	3	38
1520d2.85	2.85	5.70	3	38
1520d2.90	2.90	5.80	3	38
1520d2.95	2.95	5.90	3	38
1520d3.00	3.00	6.00	6	51
1520d3.10	3.10	6.20	6	51
1520d3.20	3.20	6.40	6	51
1520d3.30	3.30	6.60	6	51
1520d3.40	3.40	6.80	6	51

End mill Z3 l_1=2xd_1

Art. n°	d_1	l_1	D	L
1520d3.50	3.50	7.00	6	51
1520d3.60	3.60	7.20	6	51
1520d3.70	3.70	7.40	6	51
1520d3.80	3.80	7.60	6	51
1520d3.90	3.90	7.80	6	51
1520d4.00	4.00	8.00	6	51
1520d4.10	4.10	8.20	6	51
1520d4.20	4.20	8.40	6	51
1520d4.30	4.30	8.60	6	51
1520d4.40	4.40	8.80	6	51
1520d4.50	4.50	9.00	6	51
1520d4.60	4.60	9.20	6	51
1520d4.70	4.70	9.40	6	51
1520d4.80	4.80	9.60	6	51
1520d4.90	4.90	9.80	6	51
1520d5.00	5.00	10.00	6	51
1520d5.10	5.10	10.20	6	51
1520d5.20	5.20	10.40	6	51
1520d5.30	5.30	10.60	6	51
1520d5.40	5.40	10.80	6	51
1520d5.50	5.50	11.00	6	51
1520d5.60	5.60	11.20	6	51
1520d5.70	5.70	11.40	6	51
1520d5.80	5.80	11.60	6	51
1520d5.90	5.90	11.80	6	51
1520d6.00	6.00	12.00	6	51
1520d6.50	6.50	13.00	8	51
1520d7.00	7.00	14.00	8	61
1520d7.50	7.50	15.00	8	61
1520d8.00	8.00	16.00	8	61
1520d8.50	8.50	17.00	10	72
1520d9.00	9.00	18.00	10	72
1520d9.50	9.50	19.00	10	72
1520d10.00	10.00	20.00	10	72
1520d11.00	11.00	22.00	11	83
1520d12.00	12.00	24.00	12	83
1520d13.00	13.00	26.00	13	83
1520d14.00	14.00	28.00	14	83
1520d15.00	15.00	30.00	15	83
1520d16.00	16.00	32.00	16	92

Available uncoated or coated (see page 61)

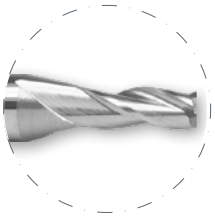


ap=0.25xd_1

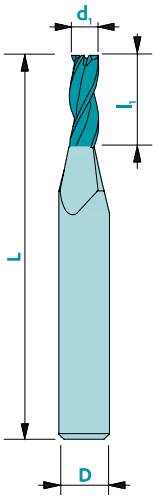
ae=0.5xd_1
ap=0.5xd_1

1530

End mill Z3 l_1=3xd_1



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

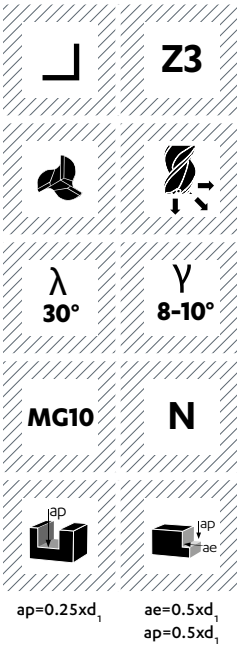
Art. n°	d_1	l_1	D	L
1530d0.50	0.50	1.50	3	38
1530d0.55	0.55	1.65	3	38
1530d0.60	0.60	1.80	3	38
1530d0.65	0.65	1.95	3	38
1530d0.70	0.70	2.10	3	38
1530d0.75	0.75	2.25	3	38
1530d0.80	0.80	2.40	3	38
1530d0.85	0.85	2.55	3	38
1530d0.90	0.90	2.70	3	38
1530d0.95	0.95	2.85	3	38
1530d1.00	1.00	3.00	3	38
1530d1.05	1.05	3.15	3	38
1530d1.10	1.10	3.30	3	38
1530d1.15	1.15	3.45	3	38
1530d1.20	1.20	3.60	3	38
1530d1.25	1.25	3.75	3	38
1530d1.30	1.30	3.90	3	38
1530d1.35	1.35	4.05	3	38
1530d1.40	1.40	4.20	3	38
1530d1.45	1.45	4.35	3	38
1530d1.50	1.50	4.50	3	38
1530d1.55	1.55	4.65	3	38
1530d1.60	1.60	4.80	3	38
1530d1.65	1.65	4.95	3	38
1530d1.70	1.70	5.10	3	38
1530d1.75	1.75	5.25	3	38
1530d1.80	1.80	5.40	3	38
1530d1.85	1.85	5.55	3	38
1530d1.90	1.90	5.70	3	38
1530d1.95	1.95	5.85	3	38

Art. n°	d_1	l_1	D	L
1530d2.00	2.00	6.00	3	38
1530d2.05	2.05	6.15	3	38
1530d2.10	2.10	6.30	3	38
1530d2.15	2.15	6.45	3	38
1530d2.20	2.20	6.60	3	38
1530d2.25	2.25	6.75	3	38
1530d2.30	2.30	6.90	3	38
1530d2.35	2.35	7.05	3	38
1530d2.40	2.40	7.20	3	38
1530d2.45	2.45	7.35	3	38
1530d2.50	2.50	7.50	3	38
1530d2.55	2.55	7.65	3	38
1530d2.60	2.60	7.80	3	38
1530d2.65	2.65	7.95	3	38
1530d2.70	2.70	8.10	3	38
1530d2.75	2.75	8.25	3	38
1530d2.80	2.80	8.40	3	38
1530d2.85	2.85	8.55	3	38
1530d2.90	2.90	8.70	3	38
1530d2.95	2.95	8.85	3	38
1530d3.00	3.00	9.00	6	51
1530d3.10	3.10	9.30	6	51
1530d3.20	3.20	9.60	6	51
1530d3.30	3.30	9.90	6	51
1530d3.40	3.40	10.20	6	51
1530d3.50	3.50	10.50	6	51
1530d3.60	3.60	10.80	6	51
1530d3.70	3.70	11.10	6	51
1530d3.80	3.80	11.40	6	51

End mill Z3 l_1=3xd_1

Art. n°	d_1	l_1	D	L
1530d3.90	3.90	11.70	6	51
1530d4.00	4.00	12.00	6	51
1530d4.10	4.10	12.30	6	51
1530d4.20	4.20	12.60	6	51
1530d4.30	4.30	12.90	6	51
1530d4.40	4.40	13.20	6	51
1530d4.50	4.50	13.50	6	51
1530d4.60	4.60	13.80	6	51
1530d4.70	4.70	14.10	6	51
1530d4.80	4.80	14.40	6	51
1530d4.90	4.90	14.70	6	51
1530d5.00	5.00	15.00	6	51
1530d5.10	5.10	15.30	6	51
1530d5.20	5.20	15.60	6	51
1530d5.30	5.30	15.90	6	51
1530d5.40	5.40	16.20	6	51
1530d5.50	5.50	16.50	6	51
1530d5.60	5.60	16.80	6	51
1530d5.70	5.70	17.10	6	51
1530d5.80	5.80	17.40	6	51
1530d5.90	5.90	17.70	6	51
1530d6.00	6.00	18.00	6	51
1530d6.50	6.50	19.50	8	51
1530d7.00	7.00	21.00	8	61
1530d7.50	7.50	22.50	8	61
1530d8.00	8.00	24.00	8	61
1530d8.50	8.50	25.50	10	72
1530d9.00	9.00	27.00	10	72
1530d9.50	9.50	28.50	10	72
1530d10.00	10.00	30.00	10	72
1530d11.00	11.00	33.00	11	83
1530d12.00	12.00	36.00	12	83
1530d13.00	13.00	39.00	13	83
1530d14.00	14.00	42.00	14	92
1530d15.00	15.00	45.00	15	92
1530d16.00	16.00	48.00	16	104

Available uncoated or coated (see page 61)



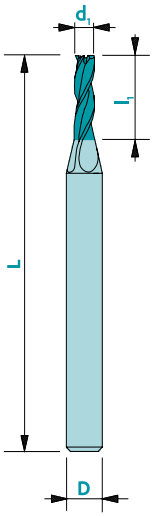
ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

1540

End mill Z3 l_1=4xd_1

Available uncoated or coated (see page 61)

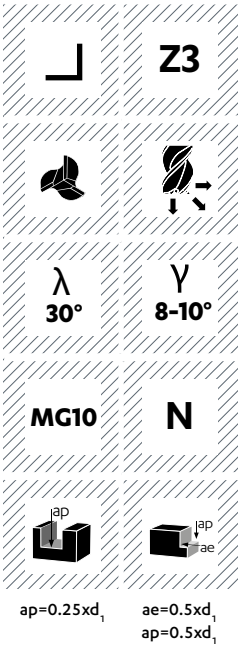


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
d_1=D ▶ d_1: e8



ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

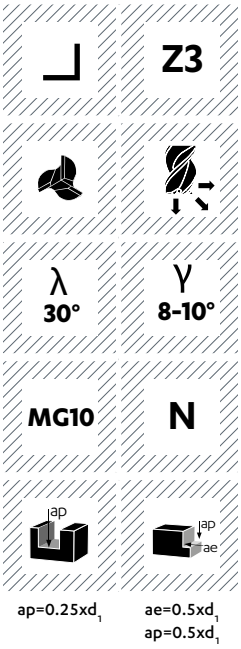
Art. n°	d_1	l_1	D	L
1540d0.50	0.50	2.0	3	51
1540d0.55	0.55	2.2	3	51
1540d0.60	0.60	2.4	3	51
1540d0.65	0.65	2.6	3	51
1540d0.70	0.70	2.8	3	51
1540d0.75	0.75	3.0	3	51
1540d0.80	0.80	3.2	3	51
1540d0.85	0.85	3.4	3	51
1540d0.90	0.90	3.6	3	51
1540d0.95	0.95	3.8	3	51
1540d1.00	1.00	4.0	3	51
1540d1.05	1.05	4.2	3	51
1540d1.10	1.10	4.4	3	51
1540d1.15	1.15	4.6	3	51
1540d1.20	1.20	4.8	3	51
1540d1.25	1.25	5.0	3	51
1540d1.30	1.30	5.2	3	51
1540d1.35	1.35	5.4	3	51
1540d1.40	1.40	5.6	3	51
1540d1.45	1.45	5.8	3	51
1540d1.50	1.50	6.0	3	51
1540d1.55	1.55	6.2	3	51
1540d1.60	1.60	6.4	3	51
1540d1.65	1.65	6.6	3	51
1540d1.70	1.70	6.8	3	51
1540d1.75	1.75	7.0	3	51
1540d1.80	1.80	7.2	3	51
1540d1.85	1.85	7.4	3	51
1540d1.90	1.90	7.6	3	51
1540d1.95	1.95	7.8	3	51

Art. n°	d_1	l_1	D	L
1540d2.00	2.00	8.0	3	51
1540d2.05	2.05	8.2	3	51
1540d2.10	2.10	8.4	3	51
1540d2.15	2.15	8.6	3	51
1540d2.20	2.20	8.8	3	51
1540d2.25	2.25	9.0	3	51
1540d2.30	2.30	9.2	3	51
1540d2.35	2.35	9.4	3	51
1540d2.40	2.40	9.6	3	51
1540d2.45	2.45	9.8	3	51
1540d2.50	2.50	10.0	3	51
1540d2.55	2.55	10.2	3	51
1540d2.60	2.60	10.4	3	51
1540d2.65	2.65	10.6	3	51
1540d2.70	2.70	10.8	3	51
1540d2.75	2.75	11.0	3	51
1540d2.80	2.80	11.2	3	51
1540d2.85	2.85	11.4	3	51
1540d2.90	2.90	11.6	3	51
1540d2.95	2.95	11.8	3	51
1540d3.00	3.00	12.0	6	51
1540d3.10	3.10	12.4	6	51
1540d3.20	3.20	12.8	6	51
1540d3.30	3.30	13.2	6	51
1540d3.40	3.40	13.6	6	51
1540d3.50	3.50	14.0	6	51
1540d3.60	3.60	14.4	6	51
1540d3.70	3.70	14.8	6	51
1540d3.80	3.80	15.2	6	51

End mill Z3 l_1=4xd_1

Art. n°	d_1	l_1	D	L
1540d3.90	**3.90**	**15.6**	6	51
1540d4.00	**4.00**	**16.0**	6	51
1540d4.10	**4.10**	**16.4**	6	51
1540d4.20	**4.20**	**16.8**	6	51
1540d4.30	**4.30**	**17.2**	6	51
1540d4.40	**4.40**	**17.6**	6	51
1540d4.50	**4.50**	**18.0**	6	51
1540d4.60	**4.60**	**18.4**	6	51
1540d4.70	**4.70**	**18.8**	6	51
1540d4.80	**4.80**	**19.2**	6	51
1540d4.90	**4.90**	**19.6**	6	51
1540d5.00	**5.00**	**20.0**	6	57
1540d5.10	**5.10**	**20.4**	6	57
1540d5.20	**5.20**	**20.8**	6	57
1540d5.30	**5.30**	**21.2**	6	57
1540d5.40	**5.40**	**21.6**	6	57
1540d5.50	**5.50**	**22.0**	6	57
1540d5.60	**5.60**	**22.4**	6	57
1540d5.70	**5.70**	**22.8**	6	57
1540d5.80	**5.80**	**23.2**	6	57
1540d5.90	**5.90**	**23.6**	6	57
1540d6.00	**6.00**	**24.0**	6	57
1540d6.50	**6.50**	**26.0**	8	72
1540d7.00	**7.00**	**28.0**	8	72
1540d7.50	**7.50**	**30.0**	8	72
1540d8.00	**8.00**	**32.0**	8	72
1540d8.50	**8.50**	**34.0**	10	92
1540d9.00	**9.00**	**36.0**	10	92
1540d9.50	**9.50**	**38.0**	10	92
1540d10.00	**10.00**	**40.0**	10	92
1540d11.00	**11.00**	**44.0**	11	92
1540d12.00	**12.00**	**48.0**	12	104
1540d13.00	**13.00**	**52.0**	13	104
1540d14.00	**14.00**	**56.0**	14	120
1540d15.00	**15.00**	**60.0**	15	130
1540d16.00	**16.00**	**64.0**	16	130

Available uncoated or coated (see page 61)

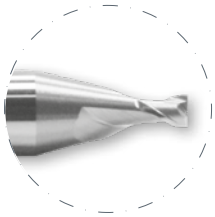


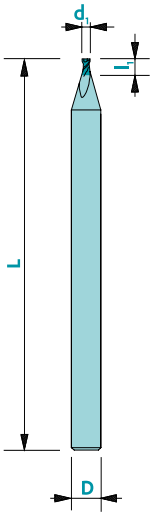
ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

1210

Micro end mill Z2 l_1=1xd_1





Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02

Available uncoated or coated (see page 61)

Z2

λ 35°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
1210d0.08	0.08	0.08	3	38
1210d0.09	0.09	0.09	3	38
1210d0.10	0.10	0.10	3	38
1210d0.12	0.12	0.12	3	38
1210d0.15	0.15	0.15	3	38
1210d0.20	0.20	0.20	3	38
1210d0.25	0.25	0.25	3	38
1210d0.30	0.30	0.30	3	38
1210d0.35	0.35	0.35	3	38
1210d0.40	0.40	0.40	3	38
1210d0.45	0.45	0.45	3	38
1210d0.50	0.50	0.50	3	38
1210d0.55	0.55	0.55	3	38
1210d0.60	0.60	0.60	3	38
1210d0.65	0.65	0.65	3	38
1210d0.70	0.70	0.70	3	38
1210d0.75	0.75	0.75	3	38
1210d0.80	0.80	0.80	3	38
1210d0.85	0.85	0.85	3	38
1210d0.90	0.90	0.90	3	38
1210d0.95	0.95	0.95	3	38
1210d1.00	1.00	1.00	3	38
1210d1.05	1.05	1.05	3	38
1210d1.10	1.10	1.10	3	38
1210d1.15	1.15	1.15	3	38
1210d1.20	1.20	1.20	3	38
1210d1.25	1.25	1.25	3	38
1210d1.30	1.30	1.30	3	38
1210d1.35	1.35	1.35	3	38
1210d1.40	1.40	1.40	3	38

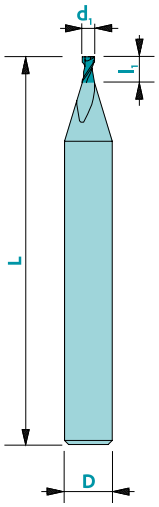
Art. n°	d_1	l_1	D	L
1210d1.45	1.45	1.45	3	38
1210d1.50	1.50	1.50	3	38
1210d1.55	1.55	1.55	3	38
1210d1.60	1.60	1.60	3	38
1210d1.65	1.65	1.65	3	38
1210d1.70	1.70	1.70	3	38
1210d1.75	1.75	1.75	3	38
1210d1.80	1.80	1.80	3	38
1210d1.85	1.85	1.85	3	38
1210d1.90	1.90	1.90	3	38
1210d1.95	1.95	1.95	3	38
1210d2.00	2.00	2.00	3	38
1210d2.10	2.10	2.10	3	38
1210d2.20	2.20	2.20	3	38
1210d2.30	2.30	2.30	3	38
1210d2.40	2.40	2.40	3	38
1210d2.50	2.50	2.50	3	38
1210d2.60	2.60	2.60	3	38
1210d2.70	2.70	2.70	3	38
1210d2.80	2.80	2.80	3	38
1210d2.90	2.90	2.90	3	38

Micro end mill Z2

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances $d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
102d0.08	0.08	0.16	3	38
102d0.10	0.10	0.20	3	38
102d0.11	0.11	0.20	3	38
102d0.12	0.12	0.20	3	38
102d0.13	0.13	0.30	3	38
102d0.14	0.14	0.30	3	38
102d0.15	0.15	0.30	3	38
102d0.16	0.16	0.30	3	38
102d0.17	0.17	0.30	3	38
102d0.18	0.18	0.40	3	38
102d0.19	0.19	0.40	3	38
102d0.20	0.20	0.40	3	38
102d0.21	0.21	0.40	3	38
102d0.22	0.22	0.40	3	38
102d0.23	0.23	0.50	3	38
102d0.24	0.24	0.50	3	38
102d0.25	0.25	0.60	3	38
102d0.26	0.26	0.60	3	38
102d0.27	0.27	0.60	3	38
102d0.28	0.28	0.60	3	38
102d0.29	0.29	0.60	3	38
102d0.30	0.30	0.60	3	38
102d0.35	0.35	0.80	3	38
102d0.40	0.40	0.80	3	38
102d0.45	0.45	1.00	3	38
102d0.50	0.50	1.00	3	38
102d0.55	0.55	1.20	3	38
102d0.60	0.60	1.20	3	38
102d0.65	0.65	1.40	3	38
102d0.70	0.70	1.40	3	38

Art. n°	d_1	l_1	D	L
102d0.75	0.75	1.60	3	38
102d0.80	0.80	1.60	3	38
102d0.85	0.85	1.80	3	38
102d0.90	0.90	1.80	3	38
102d0.95	0.95	2.00	3	38
102d1.00	1.00	2.00	3	38
102d1.05	1.05	2.20	3	38
102d1.10	1.10	2.20	3	38
102d1.15	1.15	2.40	3	38
102d1.20	1.20	2.40	3	38
102d1.25	1.25	2.60	3	38
102d1.30	1.30	2.60	3	38
102d1.35	1.35	2.80	3	38
102d1.40	1.40	2.80	3	38
102d1.45	1.45	3.00	3	38
102d1.50	1.50	3.00	3	38
102d1.55	1.55	3.20	3	38
102d1.60	1.60	3.20	3	38
102d1.65	1.65	3.40	3	38
102d1.70	1.70	3.40	3	38
102d1.75	1.75	3.60	3	38
102d1.80	1.80	3.60	3	38
102d1.85	1.85	4.00	3	38
102d1.90	1.90	4.00	3	38
102d1.95	1.95	6.00	3	38
102d2.00	2.00	6.00	3	38
102d2.05	2.05	7.00	3	38
102d2.10	2.10	7.00	3	38
102d2.15	2.15	7.00	3	38

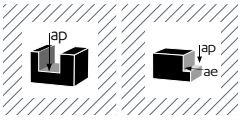
Z2

λ 35°

γ 8-10°

MG10

N



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Micro end mill Z2

Continuation

Available uncoated or coated (see page 61)

	Z2
λ 35°	γ 8-10°
MG10	N
ap	ap / ae
ap=0.25xd$_1$	ae=0.5xd$_1$ ap=0.5xd$_1$

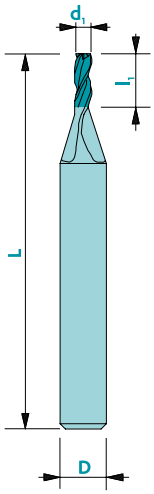
Art. n°	d_1	l_1	D	L
102d2.20	**2.20**	**7.00**	3	38
102d2.25	**2.25**	**7.00**	3	38
102d2.30	**2.30**	**7.00**	3	38
102d2.35	**2.35**	**7.00**	3	38
102d2.40	**2.40**	**7.00**	3	38
102d2.45	**2.45**	**7.00**	3	38
102d2.50	**2.50**	**7.00**	3	38
102d2.60	**2.60**	**7.00**	3	38
102d2.70	**2.70**	**7.00**	3	38
102d2.80	**2.80**	**7.00**	3	38
102d2.90	**2.90**	**7.00**	3	38

Micro end mill Z3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

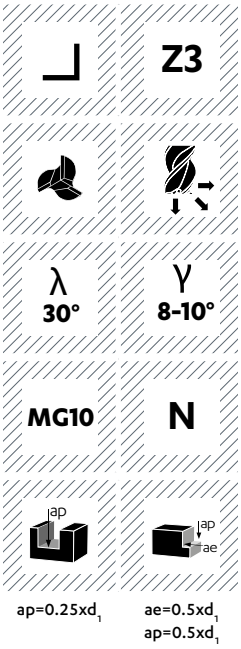
not adapted - adapted □ highly adapted ■

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



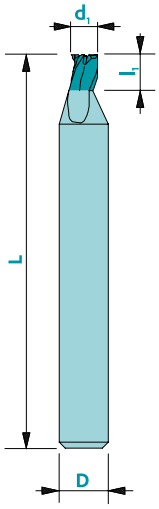
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
102-1d0.20	0.20	0.50	3	38
102-1d0.30	0.30	0.80	3	38
102-1d0.40	0.40	1.00	3	38
102-1d0.50	0.50	1.50	3	38
102-1d0.60	0.60	2.50	3	38
102-1d0.70	0.70	2.50	3	38
102-1d0.80	0.80	2.50	3	38
102-1d0.90	0.90	4.00	3	38
102-1d1.00	1.00	4.00	3	38
102-1d1.10	1.10	4.00	3	38
102-1d1.20	1.20	4.00	3	38
102-1d1.30	1.30	4.00	3	38
102-1d1.40	1.40	4.00	3	38
102-1d1.50	1.50	6.00	3	38
102-1d1.60	1.60	6.00	3	38
102-1d1.70	1.70	6.00	3	38
102-1d1.80	1.80	6.00	3	38
102-1d1.90	1.90	6.00	3	38
102-1d2.00	2.00	6.00	3	38
102-1d2.10	2.10	6.00	3	38
102-1d2.20	2.20	6.00	3	38
102-1d2.30	2.30	6.00	3	38
102-1d2.40	2.40	6.00	3	38
102-1d2.50	2.50	6.00	3	38
102-1d2.60	2.60	6.00	3	38
102-1d2.70	2.70	6.00	3	38
102-1d2.80	2.80	6.00	3	38
102-1d2.90	2.90	6.00	3	38
102-1d3.00	3.00	6.00	3	38



Short end mill Z3

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z3

λ 30°

γ 8-10°

MG10

N

ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Art. n°	d_1	l_1	D	L
103-0d1.00	1.00	2.0	4	38
103-0d1.05	1.05	2.0	4	38
103-0d1.10	1.10	2.0	4	38
103-0d1.15	1.15	3.0	4	38
103-0d1.20	1.20	3.0	4	38
103-0d1.25	1.25	3.0	4	38
103-0d1.30	1.30	3.0	4	38
103-0d1.35	1.35	3.0	4	38
103-0d1.40	1.40	3.0	4	38
103-0d1.45	1.45	3.0	4	38
103-0d1.50	1.50	3.0	4	38
103-0d1.55	1.55	3.0	4	38
103-0d1.60	1.60	3.0	4	38
103-0d1.65	1.65	3.0	4	38
103-0d1.70	1.70	3.0	4	38
103-0d1.75	1.75	3.0	4	38
103-0d1.80	1.80	3.0	4	38
103-0d1.85	1.85	3.0	4	38
103-0d1.90	1.90	3.0	4	38
103-0d1.95	1.95	3.0	4	38
103-0d2.00	2.00	3.0	4	38
103-0d2.05	2.05	3.0	4	38
103-0d2.10	2.10	3.0	4	38
103-0d2.15	2.15	3.0	4	38
103-0d2.20	2.20	3.0	4	38
103-0d2.25	2.25	3.0	4	38
103-0d2.30	2.30	3.0	4	38
103-0d2.35	2.35	3.0	4	38
103-0d2.40	2.40	3.0	4	38

Art. n°	d_1	l_1	D	L
103-0d2.45	2.45	3.0	4	38
103-0d2.50	2.50	3.0	4	38
103-0d2.55	2.55	4.0	4	38
103-0d2.60	2.60	4.0	4	38
103-0d2.65	2.65	4.0	4	38
103-0d2.70	2.70	4.0	4	38
103-0d2.75	2.75	4.0	4	38
103-0d2.80	2.80	4.0	4	38
103-0d2.85	2.85	4.0	4	38
103-0d2.90	2.90	4.0	4	38
103-0d2.95	2.95	4.0	4	38
103-0d3.00	3.00	4.0	4	38
103-0d3.50	3.50	4.0	4	38
103-0d4.00	4.00	4.0	6	51
103-0d4.50	4.50	4.0	6	51
103-0d5.00	5.00	6.0	6	51
103-0d5.50	5.50	6.0	6	51
103-0d6.00	6.00	8.0	6	51
103-0d7.00	7.00	8.0	7	61
103-0d8.00	8.00	10.0	8	61
103-0d9.00	9.00	12.0	9	61
103-0d10.00	10.00	15.0	10	72

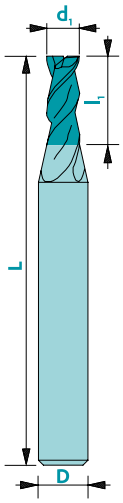
Finishing end mill Z2

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
104d0.30	0.30	1.0	3	38
104d0.35	0.35	1.0	3	38
104d0.40	0.40	1.5	3	38
104d0.45	0.45	1.5	3	38
104d0.50	0.50	2.0	3	38
104d0.55	0.55	2.0	3	38
104d0.60	0.60	2.0	3	38
104d0.65	0.65	2.0	3	38
104d0.70	0.70	3.0	3	38
104d0.75	0.75	3.0	3	38
104d0.80	0.80	3.0	3	38
104d0.85	0.85	3.0	3	38
104d0.90	0.90	3.0	3	38
104d0.95	0.95	3.0	3	38
104d1.00	1.00	3.0	3	38
104d1.10	1.10	4.0	3	38
104d1.20	1.20	4.0	3	38
104d1.30	1.30	4.0	3	38
104d1.40	1.40	5.0	3	38
104d1.50	1.50	5.0	3	38
104d1.60	1.60	5.0	3	38
104d1.70	1.70	6.0	3	38
104d1.80	1.80	6.0	3	38
104d1.90	1.90	6.0	3	38
104d2.00	2.00	6.0	3	38
104d2.50	2.50	8.0	3	38
104d3.00	3.00	8.0	3	38
104d3.50	3.50	8.0	6	51
104d4.00	4.00	12.0	6	51
104d4.50	4.50	12.0	6	51

Art. n°	d_1	l_1	D	L
104d5.00	5.00	15.0	6	51
104d5.50	5.50	15.0	6	51
104d6.00	6.00	18.0	6	51
104d7.00	7.00	20.0	8	61
104d8.00	8.00	20.0	8	61
104d9.00	9.00	20.0	10	72
104d10.00	10.00	22.0	10	72

Z2

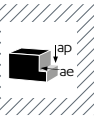
λ 45°

γ 8-10°

MG10

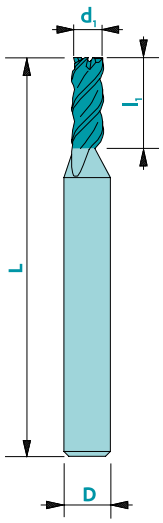
N

ap=0.25xd1



ae=0.5xd1
ap=0.5xd1

Finishing end mill Z3



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Available uncoated or coated (see page 61)

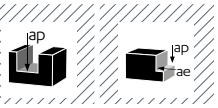
Z3

λ 45°

γ 8-10°

MG10

N



ap=0.25xd$_1$ ae=0.5xd$_1$ ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
104-0d0.30	0.30	1.5	3	38
104-0d0.35	0.35	1.5	3	38
104-0d0.40	0.40	2.0	3	38
104-0d0.45	0.45	2.0	3	38
104-0d0.50	0.50	2.0	3	38
104-0d0.55	0.55	2.0	3	38
104-0d0.60	0.60	2.0	3	38
104-0d0.65	0.65	2.0	3	38
104-0d0.70	0.70	2.0	3	38
104-0d0.75	0.75	2.0	3	38
104-0d0.80	0.80	3.0	3	38
104-0d0.85	0.85	3.0	3	38
104-0d0.90	0.90	3.0	3	38
104-0d0.95	0.95	3.0	3	38
104-0d1.00	1.00	3.0	3	38
104-0d1.10	1.10	4.0	3	38
104-0d1.20	1.20	5.0	3	38
104-0d1.30	1.30	5.0	3	38
104-0d1.40	1.40	5.0	3	38
104-0d1.50	1.50	5.0	3	38
104-0d1.60	1.60	5.0	3	38
104-0d1.70	1.70	5.0	3	38
104-0d1.80	1.80	6.0	3	38
104-0d1.90	1.90	6.0	3	38
104-0d2.00	2.00	6.0	3	38
104-0d2.50	2.50	6.0	3	38
104-0d3.00	3.00	9.0	3	38

Art. n°	d_1	l_1	D	L
104-0d3.50	3.50	9.0	6	51
104-0d4.00	4.00	12.0	6	51
104-0d4.50	4.50	12.0	6	51
104-0d5.00	5.00	15.0	6	51
104-0d5.50	5.50	15.0	6	51
104-0d6.00	6.00	18.0	6	51
104-0d7.00	7.00	20.0	8	61
104-0d8.00	8.00	20.0	8	61
104-0d9.00	9.00	20.0	10	72
104-0d10.00	10.00	22.0	10	72
104-0d12.00	12.00	22.0	12	83

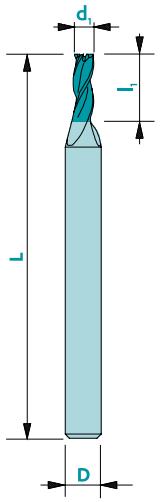
End mill Z3 - shank Ø 6.0

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

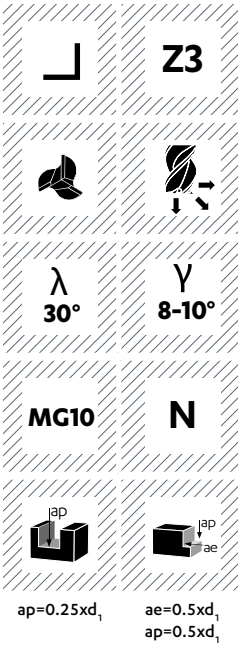
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
105d1.00	1.0	3	6	51
105d1.10	1.1	3	6	51
105d1.20	1.2	3	6	51
105d1.30	1.3	4	6	51
105d1.40	1.4	4	6	51
105d1.50	1.5	6	6	51
105d1.60	1.6	6	6	51
105d1.70	1.7	6	6	51
105d1.80	1.8	6	6	51
105d1.90	1.9	6	6	51
105d2.00	2.0	8	6	51
105d2.10	2.1	8	6	51
105d2.20	2.2	8	6	51
105d2.30	2.3	8	6	51
105d2.40	2.4	8	6	51
105d2.50	2.5	10	6	51
105d2.60	2.6	10	6	51
105d2.70	2.7	10	6	51
105d2.80	2.8	10	6	51
105d2.90	2.9	10	6	51
105d3.00	3.0	10	6	51
105d3.10	3.1	10	6	51
105d3.20	3.2	10	6	51
105d3.30	3.3	10	6	51
105d3.40	3.4	10	6	51
105d3.50	3.5	10	6	51
105d3.60	3.6	10	6	51
105d3.70	3.7	10	6	51
105d3.80	3.8	10	6	51
105d3.90	3.9	10	6	51

Art. n°	d_1	l_1	D	L
105d4.00	4.0	10	6	51
105d4.10	4.1	10	6	51
105d4.20	4.2	10	6	51
105d4.30	4.3	10	6	51
105d4.40	4.4	10	6	51
105d4.50	4.5	10	6	51
105d4.60	4.6	10	6	51
105d4.70	4.7	10	6	51
105d4.80	4.8	10	6	51
105d4.90	4.9	10	6	51
105d5.00	5.0	10	6	51
105d5.10	5.1	10	6	51
105d5.20	5.2	10	6	51
105d5.30	5.3	10	6	51
105d5.40	5.4	10	6	51
105d5.50	5.5	10	6	51
105d5.60	5.6	10	6	51
105d5.70	5.7	10	6	51
105d5.80	5.8	10	6	51
105d5.90	5.9	10	6	51
105d6.00	6.0	10	6	51



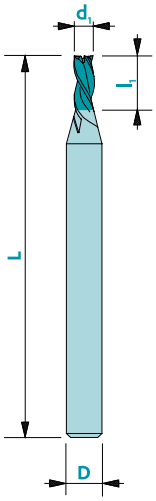
ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

105-G

End mill Z3 - left hand helix & left cut

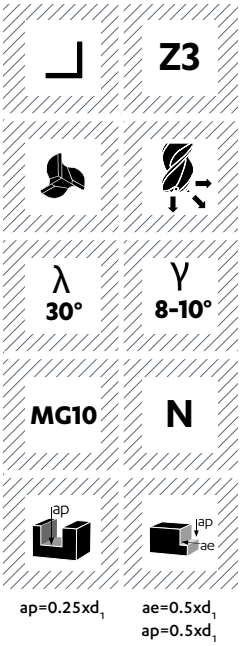
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1 <> D ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8



ap=0.25xd_1 ae=0.5xd_1 ap=0.5xd_1

Art. n°	d_1	l_1	D	L
105-Gd1.50	1.5	5	6	51
105-Gd1.60	1.6	5	6	51
105-Gd1.70	1.7	5	6	51
105-Gd1.80	1.8	5	6	51
105-Gd1.90	1.9	5	6	51
105-Gd2.00	2.0	8	6	51
105-Gd2.10	2.1	8	6	51
105-Gd2.20	2.2	8	6	51
105-Gd2.30	2.3	8	6	51
105-Gd2.40	2.4	8	6	51
105-Gd2.50	2.5	10	6	51
105-Gd2.60	2.6	10	6	51
105-Gd2.70	2.7	10	6	51
105-Gd2.80	2.8	10	6	51
105-Gd2.90	2.9	10	6	51
105-Gd3.00	3.0	10	6	51
105-Gd3.10	3.1	10	6	51
105-Gd3.20	3.2	10	6	51
105-Gd3.30	3.3	10	6	51
105-Gd3.40	3.4	10	6	51
105-Gd3.50	3.5	10	6	51
105-Gd3.60	3.6	10	6	51
105-Gd3.70	3.7	10	6	51
105-Gd3.80	3.8	10	6	51
105-Gd3.90	3.9	10	6	51
105-Gd4.00	4.0	10	6	51
105-Gd4.10	4.1	10	6	51
105-Gd4.20	4.2	10	6	51
105-Gd4.30	4.3	10	6	51
105-Gd4.40	4.4	10	6	51

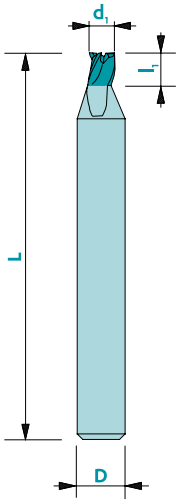
Art. n°	d_1	l_1	D	L
105-Gd4.50	4.5	10	6	51
105-Gd5.00	5.0	10	6	51
105-Gd5.50	5.5	10	6	51
105-Gd6.00	6.0	10	6	51
105-Gd7.00	7.0	15	7	61
105-Gd8.00	8.0	16	8	61
105-Gd9.00	9.0	18	10	72
105-Gd10.00	10.0	20	10	72
105-Gd11.00	11.0	25	12	83
105-Gd12.00	12.0	25	12	83

Short end mill Z3

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

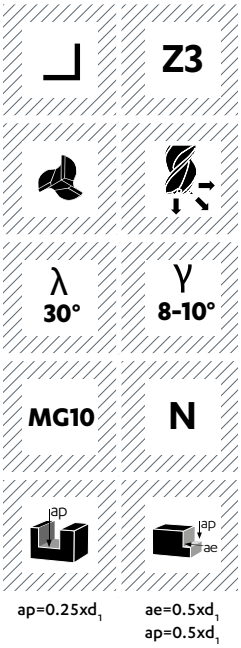
not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ d_1:+0/-0.02 D: h5
d_1=D ▶ d_1: e8



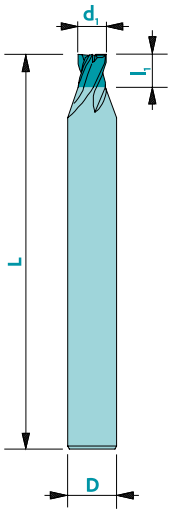
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
109d1.50	1.5	3	6	51
109d2.00	2.0	3	6	51
109d2.50	2.5	3	6	51
109d3.00	3.0	4	6	51
109d3.50	3.5	4	6	51
109d4.00	4.0	5	6	51
109d4.50	4.5	5	6	51
109d5.00	5.0	6	6	51
109d5.50	5.5	7	6	51
109d6.00	6.0	7	6	51
109d7.00	7.0	8	8	61
109d8.00	8.0	9	8	61
109d9.00	9.0	10	10	72
109d10.00	10.0	11	10	72
109d12.00	12.0	12	12	83



ap=0.25xd_1 ae=0.5xd_1
ap=0.5xd_1

Short end mill Z4

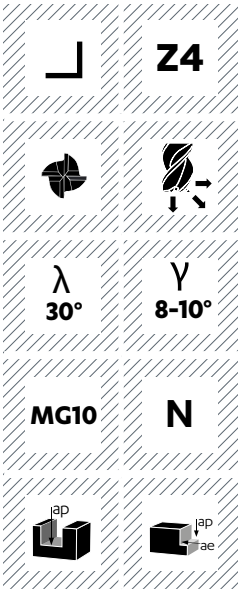


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ d_1: +0/-0.02 D: h5
d_1=D ▶ d_1: e8

Available uncoated or coated (see page 61)



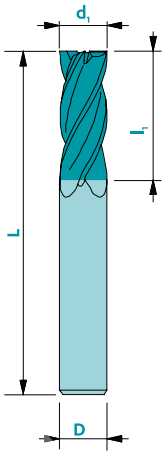
ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
110-1d2.00	2.0	3	6	51
110-1d2.50	2.5	3	6	51
110-1d3.00	3.0	4	6	51
110-1d3.50	3.5	4	6	51
110-1d4.00	4.0	5	6	51
110-1d4.50	4.5	5	6	51
110-1d5.00	5.0	6	6	51
110-1d5.50	5.5	7	6	51
110-1d6.00	6.0	7	6	51
110-1d7.00	7.0	8	8	61
110-1d8.00	8.0	9	8	61
110-1d9.00	9.0	10	10	72
110-1d10.00	10.0	11	10	72
110-1d12.00	12.0	12	12	83
110-1d14.00	14.0	14	14	83
110-1d16.00	16.0	16	16	92
110-1d18.00	18.0	18	18	92
110-1d20.00	20.0	20	20	104

End mill Z4 - variable helix & pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

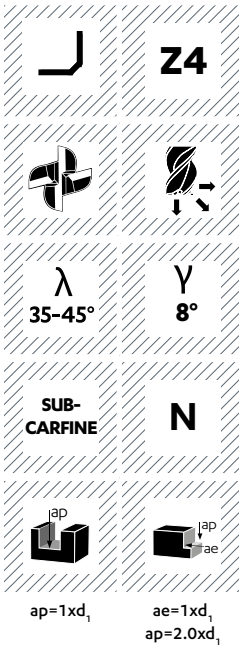


Available uncoated or coated (see page 61)

Tolerances

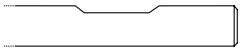
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Art. n°	d_1	l_1	⌟	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



ap=1xd$_1$ ae=1xd$_1$
ap=2.0xd$_1$

Option: Weldon flat

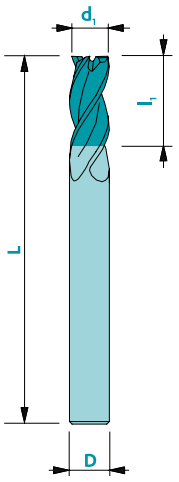


Upon request : Z6

1621

End mill Z3 - variable helix & pitch

Available uncoated or coated (see page 61)



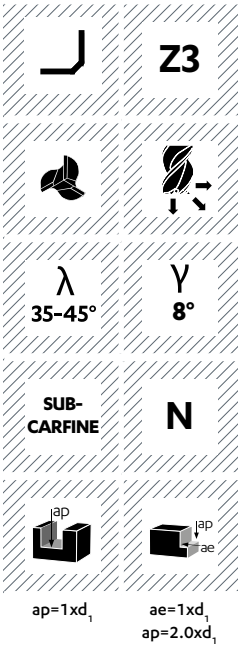
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

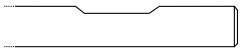
$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5



Art. n°	d_1	l_1	⌐	D	L
1621d1.00	1.0	2	0.02	6	51
1621d1.50	1.5	3	0.02	6	51
1621d2.00	2.0	4	0.02	6	51
1621d2.50	2.5	5	0.02	6	51
1621d3.00	3.0	6	0.02	6	51
1621d3.50	3.5	7	0.03	6	51
1621d4.00	4.0	8	0.03	6	51
1621d5.00	5.0	10	0.04	6	51
1621d6.00	6.0	12	0.05	6	51
1621d8.00	8.0	16	0.05	8	61
1621d10.00	10.0	20	0.05	10	72
1621d12.00	12.0	24	0.05	12	83
1621d14.00	14.0	28	0.06	14	83
1621d16.00	16.0	32	0.06	16	92

Option: Weldon flat



EXPERT end mill for brass - spiral toothing

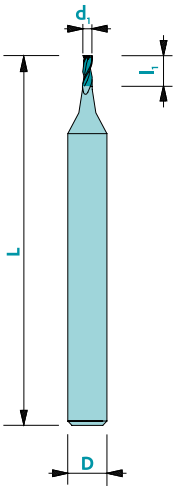
1820

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	140	190	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerance

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
1820d0.50	0.50	1.00	4	38
1820d0.80	0.80	1.60	4	38
1820d1.00	1.00	2.00	4	38
1820d1.50	1.50	3.00	4	38
1820d2.00	2.00	4.00	4	38
1820d3.00	3.00	5.00	4	38

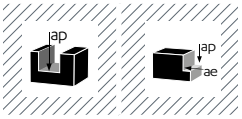
Other dimensions available upon request

Z3

λ 30°

MG10

N

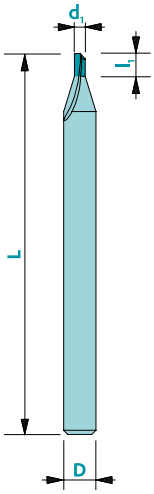


ap=0.35xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Straight cut end mill Z1 - reinforced

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z1

λ 0°

γ 0°

MG10

N

ap=0.5xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
111-1d0.20	0.2	0.9	3.0	38
111-1d0.30	0.3	1.5	3.0	38
111-1d0.40	0.4	1.5	3.0	38
111-1d0.50	0.5	1.5	3.0	38
111-1d0.60	0.6	1.5	3.0	38
111-1d0.70	0.7	1.5	3.0	38
111-1d0.80	0.8	1.5	3.0	38
111-1d0.90	0.9	1.5	3.0	38
111-1d1.00	1.0	2.0	3.0	38
111-1d1.10	1.1	2.0	3.0	38
111-1d1.20	1.2	2.0	3.0	38
111-1d1.30	1.3	2.0	3.0	38
111-1d1.40	1.4	2.0	3.0	38
111-1d1.50	1.5	2.0	3.0	38
111-1d1.60	1.6	2.5	3.0	38
111-1d1.70	1.7	2.5	3.0	38
111-1d1.80	1.8	2.5	3.0	38
111-1d1.90	1.9	2.5	3.0	38
111-1d2.00	2.0	2.5	3.0	38
111-1d2.10	2.1	3.0	3.0	38
111-1d2.20	2.2	3.0	3.0	38
111-1d2.30	2.3	3.0	3.0	38
111-1d2.40	2.4	3.0	3.0	38
111-1d2.50	2.5	3.5	3.0	38
111-1d2.60	2.6	3.5	3.0	38
111-1d2.70	2.7	3.5	3.0	38
111-1d2.80	2.8	3.5	3.0	38
111-1d2.90	2.9	3.5	3.0	38
111-1d3.00	3.0	4.0	3.0	38
111-1d3.50	3.5	4.0	4.0	38

Art. n°	d_1	l_1	D	L
111-1d4.00	4.0	5.0	4.0	38
111-1d4.50	4.5	5.0	6.0	51
111-1d5.00	5.0	6.0	6.0	51
111-1d5.50	5.5	6.0	6.0	51
111-1d6.00	6.0	7.0	6.0	51
111-1d6.50	6.5	7.0	6.5	51
111-1d7.00	7.0	8.0	7.0	51
111-1d8.00	8.0	9.0	8.0	51

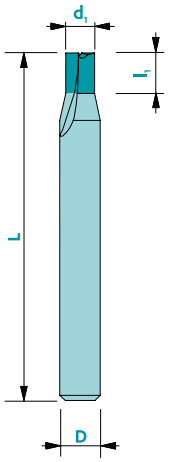
Straight cut end mill Z2 - reinforced

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

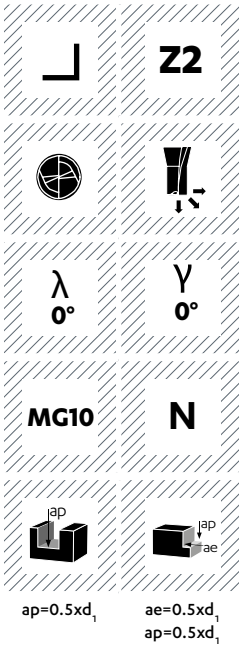
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
111-2d0.80	0.8	3.0	3	38
111-2d0.90	0.9	3.0	3	38
111-2d1.00	1.0	3.0	3	38
111-2d1.10	1.1	3.0	3	38
111-2d1.20	1.2	3.0	3	38
111-2d1.30	1.3	3.0	3	38
111-2d1.40	1.4	3.0	3	38
111-2d1.50	1.5	4.0	3	38
111-2d1.60	1.6	4.0	3	38
111-2d1.70	1.7	4.0	3	38
111-2d1.80	1.8	4.0	3	38
111-2d1.90	1.9	4.0	3	38
111-2d2.00	2.0	5.0	3	38
111-2d2.10	2.1	5.0	3	38
111-2d2.20	2.2	5.0	3	38
111-2d2.30	2.3	5.0	3	38
111-2d2.40	2.4	5.0	3	38
111-2d2.50	2.5	6.0	3	38
111-2d2.60	2.6	6.0	3	38
111-2d2.70	2.7	6.0	3	38
111-2d2.80	2.8	6.0	3	38
111-2d2.90	2.9	6.0	3	38
111-2d3.00	3.0	6.0	3	38
111-2d3.10	3.1	6.0	4	38
111-2d3.20	3.2	6.0	4	38
111-2d3.30	3.3	6.0	4	38
111-2d3.40	3.4	6.0	4	38

Art. n°	d_1	l_1	D	L
111-2d3.50	3.5	6.0	4	38
111-2d3.60	3.6	6.0	4	38
111-2d3.70	3.7	6.0	4	38
111-2d3.80	3.8	6.0	4	38
111-2d3.90	3.9	6.0	4	38
111-2d4.00	4.0	6.0	4	38
111-2d5.00	5.0	8.0	6	51
111-2d6.00	6.0	8.0	6	51
111-2d7.00	7.0	9.0	7	51
111-2d8.00	8.0	9.0	8	51
111-2d9.00	9.0	12.0	10	51
111-2d10.00	10.0	12.0	10	51

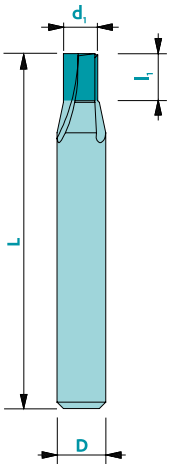


ap=0.5xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Straight cut end mill Z3 - reinforced

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	60	-	□	Trio
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	80	110	■	□	Solo
Aluminium	-	-	-	-	-
Gold - Silver	50	60	■	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	20	30	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z3

λ 0°

γ 0°

MG10

N

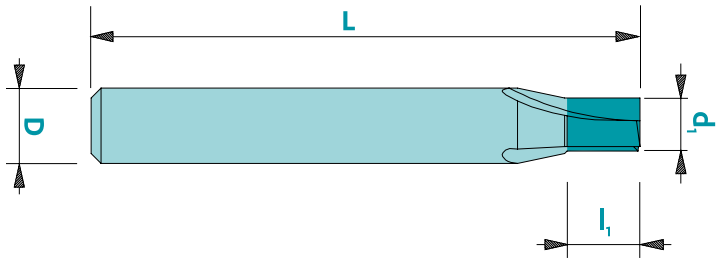
ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Art. n°	d_1	l_1	D	L
111-3d1.00	1.0	3	3	38
111-3d1.10	1.1	3	3	38
111-3d1.20	1.2	3	3	38
111-3d1.30	1.3	3	3	38
111-3d1.40	1.4	3	3	38
111-3d1.50	1.5	4	3	38
111-3d1.60	1.6	4	3	38
111-3d1.70	1.7	4	3	38
111-3d1.80	1.8	4	3	38
111-3d1.90	1.9	4	3	38
111-3d2.00	2.0	5	3	38
111-3d2.10	2.1	5	3	38
111-3d2.20	2.2	5	3	38
111-3d2.30	2.3	5	3	38
111-3d2.40	2.4	5	3	38
111-3d2.50	2.5	6	3	38
111-3d2.60	2.6	6	3	38
111-3d2.70	2.7	6	3	38
111-3d2.80	2.8	6	3	38
111-3d2.90	2.9	6	3	38
111-3d3.00	3.0	6	4	38
111-3d3.10	3.1	6	4	38
111-3d3.20	3.2	6	4	38
111-3d3.30	3.3	6	4	38
111-3d3.40	3.4	6	4	38
111-3d3.50	3.5	6	4	38
111-3d3.60	3.6	6	4	38
111-3d3.70	3.7	6	4	38
111-3d3.80	3.8	6	4	38
111-3d3.90	3.9	6	4	38

Art. n°	d_1	l_1	D	L
111-3d4.00	4.0	6	4	38
111-3d5.00	5.0	8	6	51
111-3d6.00	6.0	8	6	51
111-3d7.00	7.0	9	7	51
111-3d8.00	8.0	9	8	51
111-3d9.00	9.0	12	10	51
111-3d10.00	10.0	12	10	51

Straight cut end mill Z1-3 - reinforced



☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ l_1 : _____ D : _____

Tolerances d_1 : _____ L : _____ Z: _____

Coating :

☐ Coated * : ☐ Uncoated

_____

Order No :

_____

Quantity :

_____

Contact person :

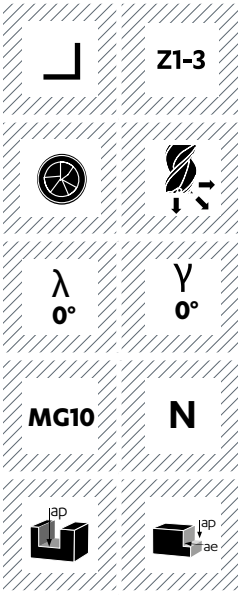
_____

Company's stamp & date :

_____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

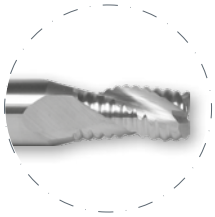
* Without information, the most suitable coating will be applied.

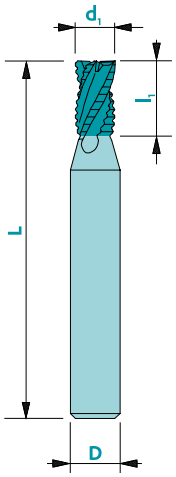


ap=0.25xd_1

ae=0.5xd_1
ap=0.5xd_1

Roughing end mill - medium pitch



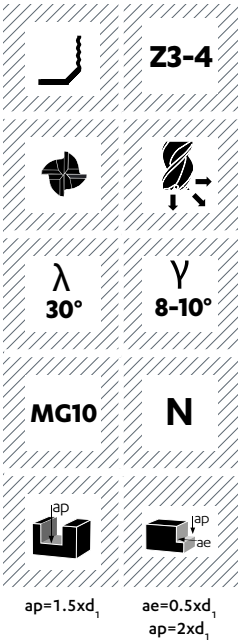


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +0/-0.1
D: h5

Available uncoated or coated (see page 61)



ap=1.5xd_1
ae=0.5xd_1
ap=2xd_1

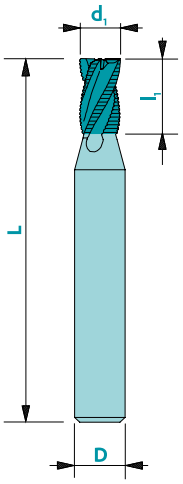
Art. n°	d_1	l_1	D	L	Z
115d6.00	6.0	13	6	51	3
115d7.00	7.0	16	8	61	3
115d8.00	8.0	16	10	72	4
115d10.00	10.0	22	10	72	4
115d12.00	12.0	25	12	83	4
115d14.00	14.0	28	14	83	4
115d16.00	16.0	36	16	92	4

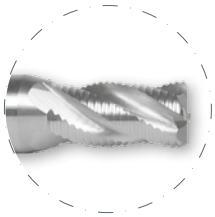
Roughing end mill - fine pitch

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

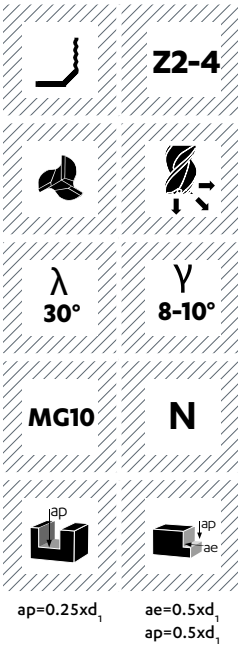
Tolerances d_1: +0/-0.1
D: h5





Available uncoated or coated (see page 61)

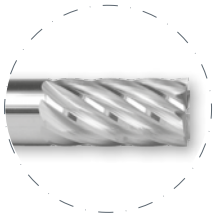
Art. n°	d_1	l_1	D	L	Z
115-1d1.50	1.5	3	6	51	2
115-1d2.00	2.0	4	6	51	2
115-1d2.50	2.5	5	6	51	2
115-1d3.00	3.0	6	6	51	3
115-1d3.50	3.5	7	6	51	3
115-1d4.00	4.0	8	6	51	3
115-1d4.50	4.5	9	6	51	3
115-1d5.00	5.0	10	6	51	3
115-1d5.50	5.5	11	6	51	3
115-1d6.00	6.0	12	6	51	3
115-1d7.00	7.0	14	8	61	3
115-1d8.00	8.0	16	10	72	4
115-1d9.00	9.0	18	10	72	4
115-1d10.00	10.0	20	10	72	4
115-1d12.00	12.0	24	12	83	4
115-1d14.00	14.0	28	14	83	4
115-1d16.00	16.0	32	16	92	4
115-1d20.00	20.0	40	20	104	4



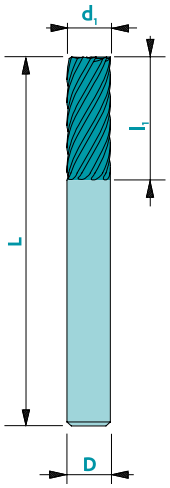
ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

Finishing end mill multiflutes - helix angle 30°



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D_1 mm ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8

Z6-12

λ 30°

γ 8°

MG10

N

ap
ae

ae=0.05xd_1
ap=1xd_1

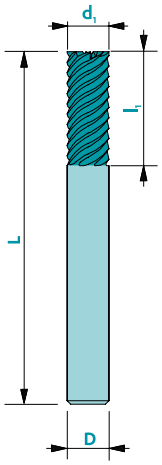
Art. n°	d_1	l_1	D	L	Z
113d2.00	2.0	8	6	51	6
113d2.50	2.5	8	6	51	6
113d3.00	3.0	12	6	51	6
113d3.50	3.5	12	6	51	6
113d4.00	4.0	12	6	51	6
113d4.50	4.5	14	6	51	6
113d5.00	5.0	14	6	51	6
113d5.50	5.5	16	6	51	6
113d6.00	6.0	16	6	51	8
113d7.00	7.0	20	7	61	8
113d8.00	8.0	20	8	61	8
113d10.00	10.0	22	10	72	8
113d12.00	12.0	22	12	83	10
113d14.00	14.0	25	14	83	10
113d16.00	16.0	25	16	92	12

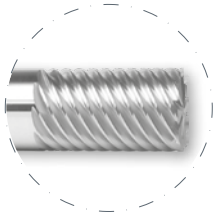
Finishing end mill - helix angle 60°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1<D ▶ +0/-0.02 D: h5
d_1=D ▶ d_1: e8





Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	Z
113-0d2.00	**2.0**	**8**	6	51	**5**
113-0d2.50	**2.5**	**8**	6	51	**5**
113-0d3.00	**3.0**	**12**	6	51	**5**
113-0d3.50	**3.5**	**12**	6	51	**5**
113-0d4.00	**4.0**	**12**	6	51	**6**
113-0d4.50	**4.5**	**14**	6	51	**6**
113-0d5.00	**5.0**	**14**	6	51	**6**
113-0d5.50	**5.5**	**16**	6	51	**6**
113-0d6.00	**6.0**	**16**	6	51	**8**
113-0d7.00	**7.0**	**20**	7	61	**8**
113-0d8.00	**8.0**	**20**	8	61	**8**
113-0d10.00	**10.0**	**22**	10	72	**8**
113-0d12.00	**12.0**	**22**	12	83	**10**
113-0d14.00	**14.0**	**25**	14	83	**10**
113-0d16.00	**16.0**	**25**	16	92	**12**

Z5-12

λ 60°

γ 8°

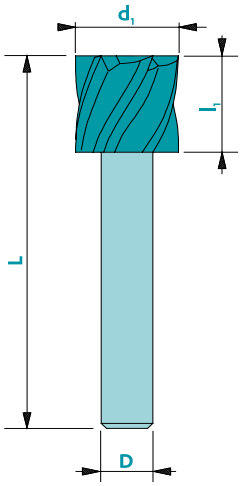
MG10

N

ap ae

ae=0.05xd$_1$
ap=1xd$_1$

Facemill - 2 cuts



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/-0.02 D: h5

Available uncoated or coated (see page 61)

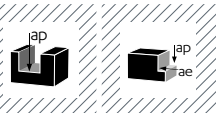
Z6-8

λ 30°

γ 8-10°

MG10

N



ap=0.05xd$_1$ ae=0.05xd$_1$
ap=1xd$_1$

Art. n°	d_1	l_1	D	L	Z
113-1d15.00	15	15	10	61	6
113-1d16.00	16	15	10	61	6
113-1d18.00	18	15	10	61	6
113-1d20.00	20	20	10	61	6
113-1d25.00	25	25	10	61	8
113-1d28.00	28	25	10	61	8
113-1d30.00	30	30	10	61	8

End mill with ball end Z2

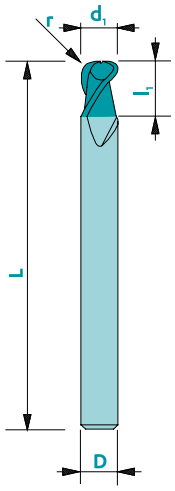
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

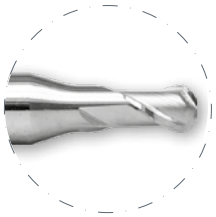
not adapted - adapted □ highly adapted ■

Tolerances

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

+0/-0.01
D: h5

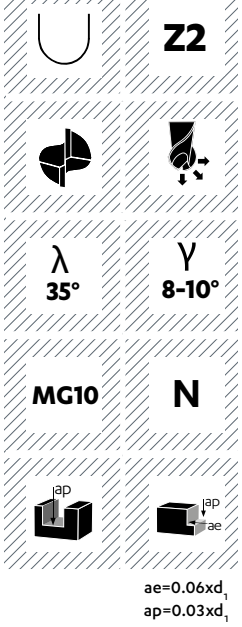




Available uncoated or coated (see page 61)

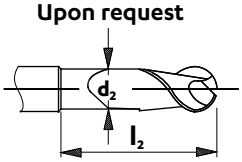
Art. n°	d_1	l_1	D	L	r
114-2d0.10	0.10	0.20	3	38	0.050
114-2d0.15	0.15	0.30	3	38	0.075
114-2d0.20	0.20	0.40	3	38	0.100
114-2d0.25	0.25	0.50	3	38	0.120
114-2d0.30	0.30	0.60	3	38	0.150
114-2d0.40	0.40	0.80	3	38	0.200
114-2d0.50	0.50	1.00	3	38	0.250
114-2d0.60	0.60	1.20	3	38	0.300
114-2d0.70	0.70	1.40	3	38	0.350
114-2d0.80	0.80	1.60	3	38	0.400
114-2d0.90	0.90	1.80	3	38	0.450
114-2d1.00	1.00	2.00	3	38	0.500
114-2d1.10	1.10	2.10	3	38	0.550
114-2d1.20	1.20	2.20	3	38	0.600
114-2d1.30	1.30	2.30	3	38	0.650
114-2d1.40	1.40	2.40	3	38	0.700
114-2d1.50	1.50	2.50	3	38	0.750
114-2d1.60	1.60	2.50	3	38	0.800
114-2d1.70	1.70	2.60	3	38	0.850
114-2d1.80	1.80	2.60	3	38	0.900
114-2d1.90	1.90	3.00	3	38	0.950
114-2d2.00	2.00	3.00	3	38	1.000
114-2d2.10	2.10	3.00	3	38	1.050
114-2d2.20	2.20	3.50	3	38	1.100
114-2d2.30	2.30	3.50	3	38	1.150
114-2d2.40	2.40	3.50	3	38	1.200
114-2d2.50	2.50	4.00	3	38	1.250
114-2d3.00	3.00	4.50	3	38	1.500
114-2d3.50	3.50	5.00	6	51	1.750
114-2d4.00	4.00	6.00	6	51	2.000

Art. n°	d_1	l_1	D	L	r
114-2d4.50	4.50	7.00	6	51	2.250
114-2d5.00	5.00	8.00	6	51	2.500
114-2d5.50	5.50	8.00	6	51	2.750
114-2d6.00	6.00	9.00	6	51	3.000
114-2d6.50	6.50	10.00	8	61	3.250
114-2d7.00	7.00	10.00	8	61	3.500
114-2d7.50	7.50	12.00	8	61	3.750
114-2d8.00	8.00	12.00	8	61	4.000
114-2d8.50	8.50	13.00	10	72	4.250
114-2d9.00	9.00	13.00	10	72	4.500
114-2d10.00	10.00	15.00	10	72	5.000
114-2d12.00	12.00	18.00	12	83	6.000
114-2d14.00	14.00	21.00	14	83	7.000
114-2d16.00	16.00	24.00	16	92	8.000



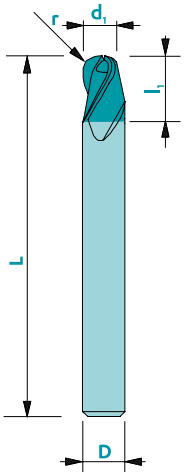
ae=0.06xd_1
ap=0.03xd_1

Upon request



End mill with ball end Z3

Available uncoated or coated (see page 61)



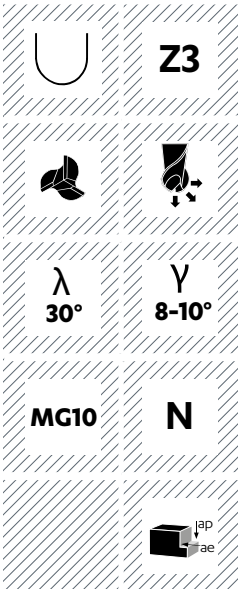
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

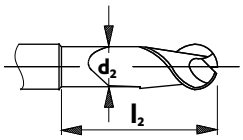
$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 \leq 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5
⌒ +0/-0.01



$ae = 0.06 \times d_1$
$ap = 0.03 \times d_1$

Upon request

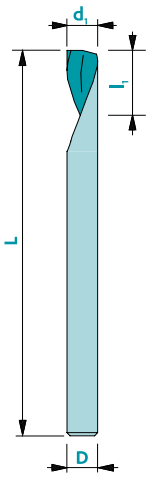


Art. n°	d_1	l_1	D	L	r
114-3d1.00	1.0	2.0	3	38	0.50
114-3d1.50	1.5	2.5	3	38	0.75
114-3d2.00	2.0	3.0	3	38	1.00
114-3d2.50	2.5	4.0	3	38	1.25
114-3d3.00	3.0	4.5	3	38	1.50
114-3d3.50	3.5	5.0	6	51	1.75
114-3d4.00	4.0	6.0	6	51	2.00
114-3d4.50	4.5	7.0	6	51	2.25
114-3d5.00	5.0	8.0	6	51	2.50
114-3d5.50	5.5	8.0	6	51	2.75
114-3d6.00	6.0	9.0	6	51	3.00
114-3d6.50	6.5	10.0	8	61	3.25
114-3d7.00	7.0	10.0	8	61	3.50
114-3d7.50	7.5	12.0	8	61	3.75
114-3d8.00	8.0	12.0	8	61	4.00
114-3d8.50	8.5	13.0	10	72	4.25
114-3d9.00	9.0	13.0	10	72	4.50
114-3d10.00	10.0	15.0	10	72	5.00
114-3d11.00	11.0	16.0	12	83	5.50
114-3d12.00	12.0	18.0	12	83	6.00
114-3d14.00	14.0	21.0	14	83	7.00
114-3d16.00	16.0	24.0	16	92	8.00
114-3d18.00	18.0	27.0	18	92	9.00
114-3d20.00	20.0	30.0	20	104	10.00

Universal end mill Z1

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	150	180	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Rico/Solo
Gold - Silver	140	180	■	□	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-
Composite	200	250	■	■	Solo

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances $d_1 < D$ ▶ +0/-0.02 D: h5
$d_1 = D$ ▶ d_1 : e8

Art. n°	d_1	l_1	D	L
107-1d1.50	1.5	5	3.0	38
107-1d2.00	2.0	6	3.0	38
107-1d3.00	3.0	9	3.0	38
107-1d4.00	4.0	12	4.0	51
107-1d5.00	5.0	15	6.0	51
107-1d6.00	6.0	18	6.0	51
107-1d8.00	8.0	24	8.0	61
107-1d10.00	10.0	30	10.0	72

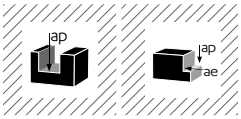
Z1

λ 30°

γ 8-10°

MG10

N

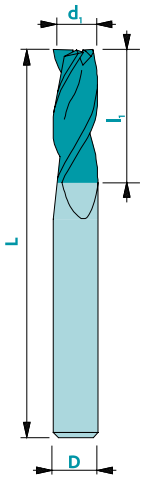


ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

107-3 Universal end mill Z3

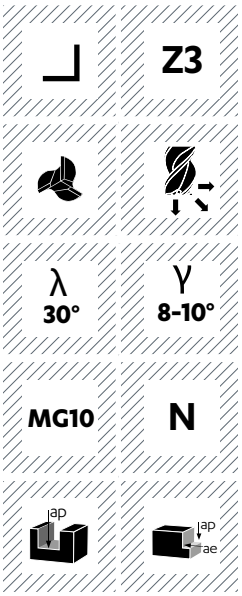
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: e8
D: h5



ap=0.25xd$_1$

ae=0.5xd$_1$
ap=0.5xd$_1$

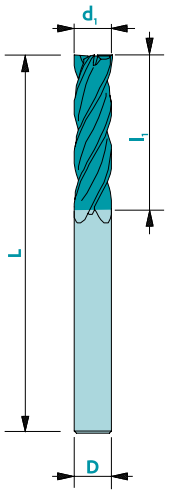
Art. n°	d_1	l_1	D	L
107-3d2.00	2.0	10	2.0	38
107-3d2.50	2.5	10	2.5	38
107-3d3.00	3.0	15	3.0	38
107-3d3.50	3.5	15	3.5	38
107-3d4.00	4.0	18	4.0	51
107-3d4.50	4.5	18	4.5	51
107-3d5.00	5.0	18	5.0	51
107-3d5.50	5.5	18	5.5	51
107-3d6.00	6.0	18	6.0	51
107-3d6.50	6.5	22	6.5	51
107-3d7.00	7.0	22	7.0	61
107-3d7.50	7.5	22	7.5	61
107-3d8.00	8.0	22	8.0	61
107-3d8.50	8.5	22	8.5	61
107-3d9.00	9.0	25	9.0	61
107-3d9.50	9.5	25	9.5	61
107-3d10.00	10.0	25	10.0	72
107-3d10.50	10.5	25	10.5	72
107-3d11.00	11.0	30	11.0	72
107-3d11.50	11.5	30	11.5	72
107-3d12.00	12.0	30	12.0	83
107-3d12.50	12.5	30	12.5	83
107-3d13.00	13.0	35	13.0	83
107-3d14.00	14.0	35	14.0	83
107-3d15.00	15.0	35	15.0	83
107-3d16.00	16.0	35	16.0	92
107-3d18.00	18.0	45	18.0	92
107-3d20.00	20.0	45	20.0	104

Universal end mill Z4

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: e8
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L
107-4d2.00	2.0	10	2.0	38
107-4d2.50	2.5	10	2.5	38
107-4d3.00	3.0	15	3.0	38
107-4d3.50	3.5	15	3.5	38
107-4d4.00	4.0	18	4.0	51
107-4d4.50	4.5	18	4.5	51
107-4d5.00	5.0	18	5.0	51
107-4d5.50	5.5	18	5.5	51
107-4d6.00	6.0	18	6.0	51
107-4d6.50	6.5	22	6.5	51
107-4d7.00	7.0	22	7.0	61
107-4d7.50	7.5	22	7.5	61
107-4d8.00	8.0	22	8.0	61
107-4d8.50	8.5	22	8.5	61
107-4d9.00	9.0	25	9.0	61
107-4d9.50	9.5	25	9.5	61
107-4d10.00	10.0	25	10.0	72
107-4d10.50	10.5	25	10.5	72
107-4d11.00	11.0	30	11.0	72
107-4d11.50	11.5	30	11.5	72
107-4d12.00	12.0	30	12.0	83
107-4d12.50	12.5	30	12.5	83
107-4d13.00	13.0	35	13.0	83
107-4d14.00	14.0	35	14.0	83
107-4d15.00	15.0	35	15.0	83
107-4d16.00	16.0	35	16.0	92
107-4d18.00	18.0	45	18.0	92
107-4d20.00	20.0	45	20.0	104

Z4

λ 30°

γ 8-10°

MG10

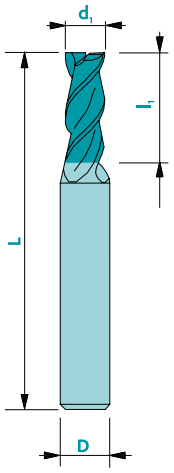
N

ap
ae

ae=0.5xd_1
ap=0.5xd_1

HSC end mill for stainless steel - sharp edge

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

Z2-3

λ 42°

γ 14°

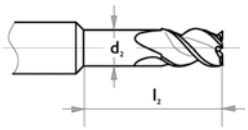
SUB-CARFINE

N HSC

ap=0.8xd1

ae=0.04xd1
ap=1xd1

Upon request



Art. n°	d_1	l_1	D	L	Z
3000d0.30	0.3	0.6	6	57	2
3000d0.40	0.4	0.8	6	57	2
3000d0.50	0.5	1.0	6	57	2
3000d0.60	0.6	1.2	6	57	2
3000d0.70	0.7	1.4	6	57	2
3000d0.80	0.8	1.6	6	57	2
3000d0.90	0.9	1.8	6	57	2
3000d1.00	1.0	2.0	6	57	2
3000d1.10	1.1	2.2	6	57	2
3000d1.20	1.2	2.4	6	57	2
3000d1.30	1.3	2.6	6	57	2
3000d1.40	1.4	2.8	6	57	2
3000d1.50	1.5	3.0	6	57	2
3000d1.60	1.6	3.2	6	57	2
3000d1.70	1.7	3.4	6	57	2
3000d1.80	1.8	3.6	6	57	2
3000d1.90	1.9	3.8	6	57	2
3000d2.00	2.0	4.0	6	57	3
3000d2.10	2.1	4.2	6	57	3
3000d2.20	2.2	4.4	6	57	3
3000d2.30	2.3	4.6	6	57	3
3000d2.40	2.4	4.8	6	57	3
3000d2.50	2.5	5.0	6	57	3
3000d3.00	3.0	6.0	6	57	3
3000d3.50	3.5	7.0	6	57	3
3000d4.00	4.0	8.0	6	57	3

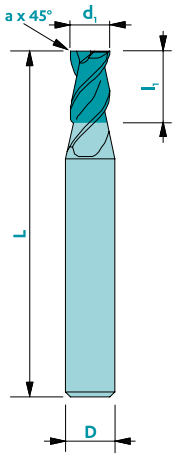
Art. n°	d_1	l_1	D	L	Z
3000d5.00	5.0	10.0	6	57	3
3000d6.00	6.0	12.0	8	63	3
3000d8.00	8.0	16.0	10	72	3
3000d10.00	10.0	20.0	10	72	3

HSC end mill for stainless steel - corner angle

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

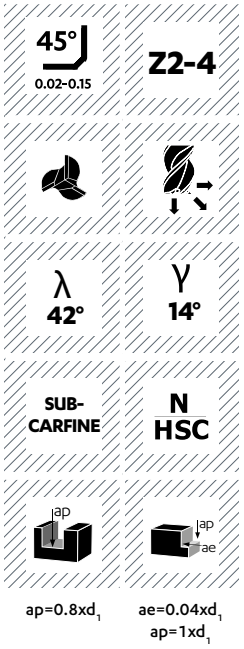
not adapted - adapted □ highly adapted ■

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



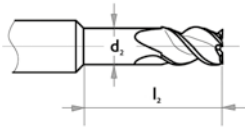
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	D	L	a	Z
3010d0.50	0.5	0.75	6	57	0.02	2
3010d0.60	0.6	0.90	6	57	0.02	2
3010d0.70	0.7	1.05	6	57	0.02	2
3010d0.80	0.8	1.20	6	57	0.03	2
3010d0.90	0.9	1.35	6	57	0.03	2
3010d1.00	1.0	1.50	6	57	0.03	2
3010d1.50	1.5	2.30	6	57	0.03	2
3010d2.00	2.0	3.00	6	57	0.03	3
3010d2.50	2.5	3.80	6	57	0.05	3
3010d3.00	3.0	4.50	6	57	0.06	3
3010d4.00	4.0	6.00	6	57	0.06	3
3010d5.00	5.0	8.00	6	57	0.08	3
3010d6.00	6.0	9.00	8	63	0.08	3
3010d8.00	8.0	12.00	10	72	0.10	3
3010d10.00	10.0	15.00	10	72	0.10	4
3010d12.00	12.0	18.00	12	83	0.15	4



ap=0.8xd$_1$ ae=0.04xd$_1$
ap=1xd$_1$

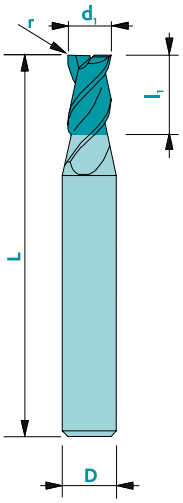
Upon request



3020

HSC end mill for stainless steel - toric

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	50	70	□	■	Trio
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02 ⌒ +0/-0.01
$d_1 = D$ ▶ d_1: e8

r 0.10-0.30

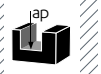
Z3-5

λ 42°

γ 14°

SUB-CARFINE

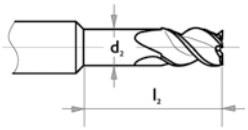
N HSC



ap=0.8xd_1

ae=0.04xd_1
ap=1xd_1

Upon request



Art. n°	d_1	l_1	D	L	r	Z
3020d1.00	1.0	1.5	6	57	0.10	3
3020d1.50	1.5	2.3	6	57	0.10	3
3020d2.00	2.0	3.0	6	57	0.15	3
3020d2.50	2.5	3.8	6	57	0.15	3
3020d2.80	2.8	4.2	6	57	0.15	3
3020d3.00	3.0	4.5	6	57	0.15	3
3020d3.50	3.5	5.3	6	57	0.20	3
3020d4.00	4.0	6.0	6	57	0.20	3
3020d4.50	4.5	7.0	6	57	0.20	3
3020d5.00	5.0	8.0	6	57	0.20	3
3020d6.00	6.0	9.0	8	63	0.20	3
3020d8.00	8.0	12.0	10	72	0.30	3
3020d10.00	10.0	15.0	10	72	0.30	4
3020d12.00	12.0	18.0	12	83	0.30	4
3020d16.00	16.0	24.0	16	92	0.30	5

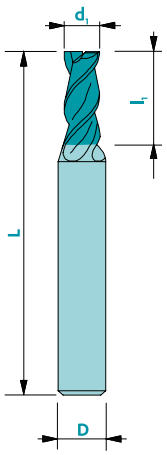
HSC EXPERT end mill titanium

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8
D: h5



Available uncoated or coated (see page 61)

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
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

Art. n°	d_1	l_1	D	L	Z
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

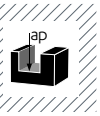
Z3-4

λ 45°

γ 8°

SUB-CARFINE

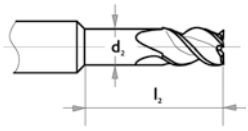
N HSC



ap=1xd1

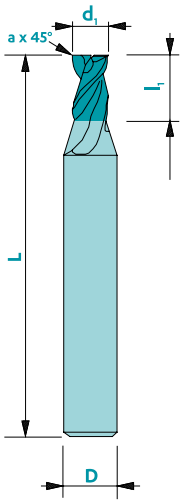
ae=0.10xd1
ap=1xd1

Upon request



HSC EXPERT end mill aluminium

Available uncoated or coated (see page 61)

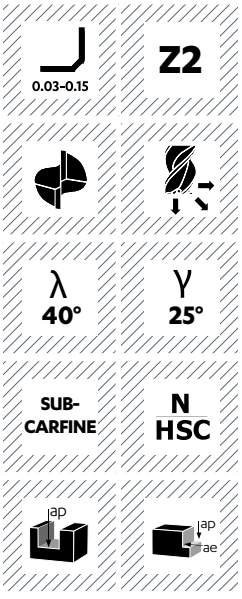


Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	170	500	□	■	Solo
Brass - Bronze	160	500	□	■	Solo
Aluminium	280	600	□	■	Solo
Gold - Silver	160	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	300	800	□	■	Trio
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

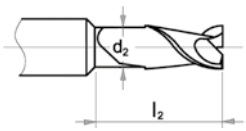
$d_1 \leq 1$ mm ▶ +0/-0.01 D: h5
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8



ap=0.5xd_1 ae=0.15xd_1 ap=1.5xd_1

Art. n°	d_1	l_1	D	L	a
3200d0.50	0.5	1.0	6	57	0.03
3200d1.00	1.0	2.0	6	57	0.03
3200d1.50	1.5	3.0	6	57	0.04
3200d2.00	2.0	4.0	6	57	0.04
3200d2.50	2.5	5.0	6	57	0.04
3200d3.00	3.0	6.0	6	57	0.04
3200d3.50	3.5	7.0	6	57	0.05
3200d4.00	4.0	8.0	6	57	0.05
3200d5.00	5.0	10.0	6	57	0.05
3200d6.00	6.0	12.0	6	57	0.07
3200d8.00	8.0	16.0	8	63	0.07
3200d10.00	10.0	20.0	10	72	0.10
3200d12.00	12.0	24.0	12	83	0.15

Upon request



HSC end mill for copper, alloys and precious metals - toric

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	170	500	□	■	Solo
Brass - Bronze	160	500	□	■	Solo
Aluminium	280	600	□	■	Solo
Gold - Silver	160	300	□	■	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	300	800	□	■	Trio
Titanium	-	-	-	-	-

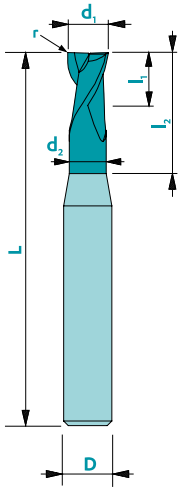
not adapted - adapted □ highly adapted ■

Tolerances

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

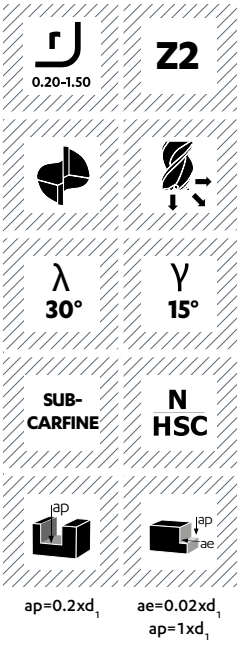
d_2: +0/-0.2
l_2: +/- 0.2

D: h5
0.01



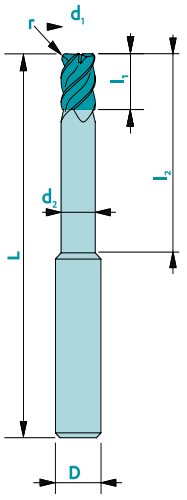
Available uncoated or coated (see page 61)

Art. n°	d_1	l_1	d_2	l_2	D	L	r
3210d1.00	1.0	1.0	0.95	3.0	6	57	0.20
3210d1.50	1.5	1.5	1.45	5.0	6	57	0.25
3210d2.00	2.0	3.0	1.95	6.0	6	57	0.30
3210d2.50	2.5	3.0	2.45	7.0	6	57	0.30
3210d3.00	3.0	4.0	2.80	9.0	6	57	0.50
3210d3.50	3.5	4.0	3.30	12.0	6	57	0.50
3210d4.00	4.0	5.0	3.70	13.5	6	57	0.50
3210d5.00	5.0	6.0	4.60	15.0	6	57	0.50
3210d6.00	6.0	7.0	5.50	20.0	6	57	1.00
3210d8.00	8.0	9.0	7.40	26.0	8	63	1.00
3210d10.00	10.0	11.0	9.20	31.0	10	72	1.50
3210d12.00	12.0	13.0	11.00	37.0	12	83	1.50



3310 HSC end mill for steel ≤ 65 HRC - toric

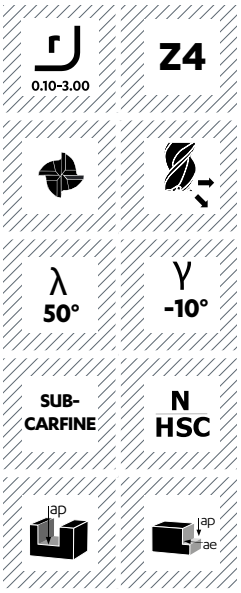
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	50	170	□	■	Trio
Tempered steel	50	170	□	■	Sumo
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

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



Art. n°	d_1	l_1	d_2	l_2	D	L	r
3310d1.00r0.10	1.0	1.5	0.95	6.0	6	57	0.10
3310d1.50r0.10	1.5	2.2	1.45	8.0	6	57	0.10
3310d2.00r0.10	2.0	3.0	1.95	10.0	6	57	0.10
3310d3.00r0.15	3.0	4.5	2.90	16.0	6	57	0.15
3310d3.50r0.15	3.5	5.2	3.30	18.0	6	57	0.15
3310d4.00r0.25	4.0	6.0	3.70	20.0	6	57	0.25
3310d4.50r0.25	4.5	6.7	4.20	20.0	6	57	0.25
3310d5.00r0.25	5.0	7.5	4.60	26.0	6	57	0.25
3310d6.00r0.50	6.0	9.0	5.50	32.0	8	63	0.50
3310d6.00r0.80	6.0	9.0	5.50	32.0	8	63	0.80
3310d6.00r1.00	6.0	9.0	5.50	32.0	8	63	1.00
3310d6.00r1.50	6.0	9.0	5.50	32.0	8	63	1.50
3310d8.00r0.50	8.0	12.0	7.40	32.0	8	63	0.50
3310d8.00r1.00	8.0	12.0	7.40	32.0	8	63	1.00
3310d8.00r1.50	8.0	12.0	7.40	32.0	8	63	1.50
3310d8.00r2.00	8.0	12.0	7.40	32.0	8	63	2.00
3310d10.00r1.00	10.0	15.0	9.20	40.0	10	72	1.00
3310d10.00r1.50	10.0	15.0	9.20	40.0	10	72	1.50
3310d10.00r2.00	10.0	15.0	9.20	40.0	10	72	2.00
3310d10.00r2.50	10.0	15.0	9.20	40.0	10	72	2.50
3310d12.00r1.00	12.0	18.0	11.00	40.0	12	83	1.00
3310d12.00r1.50	12.0	18.0	11.00	40.0	12	83	1.50
3310d12.00r2.00	12.0	18.0	11.00	40.0	12	83	2.00
3310d12.00r3.00	12.0	18.0	11.00	40.0	12	83	3.00

HSC end mill for structural steel with ball end

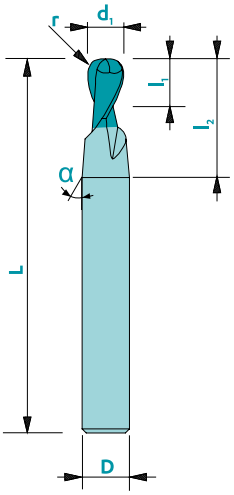
Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	140	200	□	■	Trio
Steel > 700 N/mm²	120	190	□	■	Trio
Stainless steel	-	-	-	-	-
Cast iron	50	170	□	■	Trio
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances

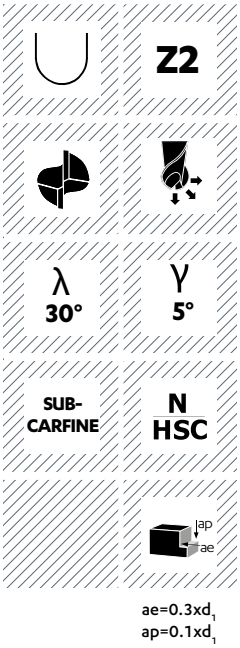
$d_1 \leq 1$ mm ▶ +0/-0.01
$d_1 > 1$ mm ▶ +0/-0.02
$d_1 = D$ ▶ d_1: e8

D: h5
0.01



Available uncoated or coated (see page 61)

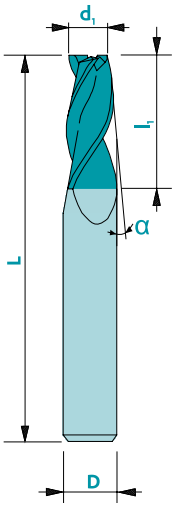
Art. n°	d_1	l_1	l_2	D	L	r	α
3320d1.00	1.0	1.5	6.0	6	57	0.50	13°
3320d1.50	1.5	2.2	6.0	6	57	0.75	13°
3320d2.00	2.0	3.0	6.5	6	57	1.00	13°
3320d2.50	2.5	3.7	6.5	6	57	1.25	13°
3320d3.00	3.0	4.5	7.0	6	57	1.50	13°
3320d3.50	3.5	5.2	10.5	6	57	1.75	13°
3320d4.00	4.0	6.0	10.5	6	57	2.00	13°
3320d4.50	4.5	6.7	14.0	6	57	2.25	13°
3320d5.00	5.0	7.5	14.0	6	57	2.50	13°
3320d6.00	6.0	9.0	20.0	8	63	3.00	5°
3320d8.00	8.0	12.0	-	8	63	4.00	-
3320d10.00	10.0	15.0	-	10	72	5.00	-
3320d12.00	12.0	18.0	-	12	83	6.00	-



ae=0.3xd_1
ap=0.1xd_1

Conical end mill

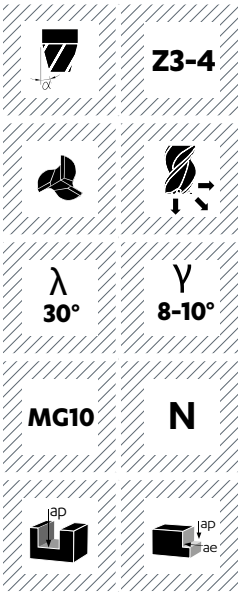
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/-0.01
D: h5



ap=0.25xd_1 ae=0.5xd_1 ap=0.5xd_1

Art. n°	d_1 min	l_1 max	D	L
112d6.00Z#	5.0	18.0	6	51
112d8.00Z#	6.0	22.0	8	61
112d10.00Z#	8.0	25.0	10	72
112d12.00Z#	10.0	30.0	12	83
112d14.00Z#	11.0	30.0	14	83
112d15.00Z#	12.0	35.0	15	83
112d16.00Z#	13.0	35.0	16	92

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ D : _____
l_1 : _____ L : _____

Angle (α) :
☐ 1/2° ☐ 1° ☐ 2° ☐ 5°
☐ Others: _____

Cut :
☐ right cut
☐ left cut

Coating :
☐ Uncoated
☐ Coated*: _____

Machined material :

Quantity :

Order No :

Company's stamp & date :

Contact person :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

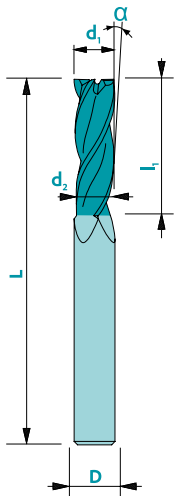
* Without information, the most suitable Coating will be applied.

Conical end mill

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

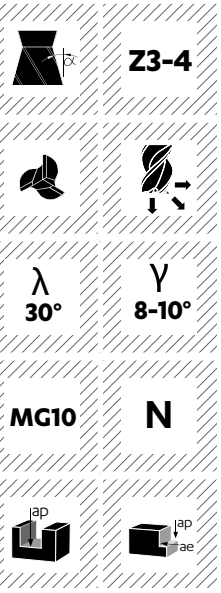
not adapted - adapted □ highly adapted ■

Tolerances d_1: -0.05/-0.10
D: h5



Available uncoated or coated (see page 61)

Art. n°	d_1	$l_{1\,max}$	$d_{2\,min}$	D	L
112-1d6.00Z#	6.0	18.0	5.0	6	51
112-1d8.00Z#	8.0	22.0	6.0	8	61
112-1d10.00Z#	10.0	25.0	8.0	10	72
112-1d12.00Z#	12.0	30.0	10.0	12	83
112-1d14.00Z#	14.0	30.0	11.0	14	83
112-1d16.00Z#	16.0	35.0	13.0	16	92



ap=0.25xd_1 ae=0.5xd_1 ap=0.5xd_1

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ D : _____
l_1 : _____ L : _____

Angle (α) :
☐ 1/2° ☐ 1° ☐ 2° ☐ 5°
☐ Others: _____

Cut :
☐ right cut
☐ left cut

Coating :
☐ Uncoated
☐ Coated*: _____

Machined material :

Quantity :

Order No :

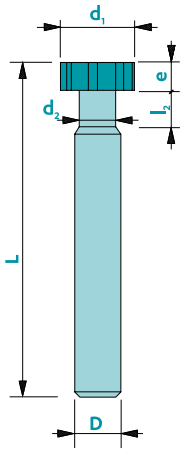
Company's stamp & date :

Contact person :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

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

T-slot cutters straight toothing - 2 cuts



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Available uncoated or coated (see page 61)

Tolerances

$d_1 < D$ ▶ d_1: +0/-0.02 l_2: +0.2/-0 D: h5
$d_1 > D$ ▶ d_1: +0/-0.02 d_2: +0/-0.5
$d_1 = D$ ▶ d_1:e8 e: +0.01/-0.01

Z3-36

λ 0°

γ 6-15°

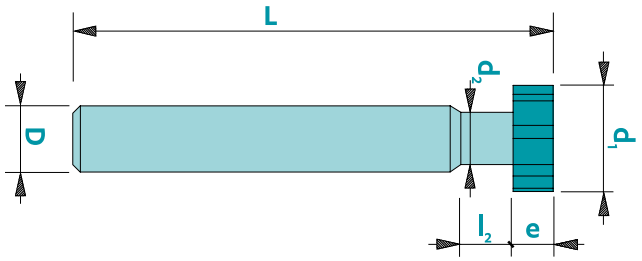
MG10

N

Art. n°	d_1	e*	d_2	l_2	D	L	Z gold	Z stainless	Z brass
117d1.00e#.##Z#	1.0	0.2 - 0.6	0.5	1	3	38	3	5	5
117d2.00e#.##Z#	2.0	0.2 - 1.0	1.0	2	4	38	3	5	6
117d3.00e#.##Z#	3.0	0.2 - 1.5	1.5	2	4	38	3	5	6
117d4.00e#.##Z#	4.0	0.2 - 1.5	2.5	3	4	38	3	5	6
117d5.00e#.##Z#	5.0	0.5 - 1.5	3.0	3	5	38	3	5	6
117d6.00e#.##Z#	6.0	0.5 - 2.5	3.5	4	6	38	4	6	8
117d8.00e#.##Z#	8.0	0.5 - 3.0	4.0	5	8	51	4 - 5	8	10
117d10.00e#.##Z#	10.0	0.5 - 4.0	5.0	5	10	51	4 - 5	10	12
117d12.00e#.##Z#	12.0	0.5 - 4.0	6.0	6	10	51	5 - 6	12 - 14	16
117d15.00e#.##Z#	15.0	0.5 - 5.0	8.0	8	10	61	5 - 8	14 - 16	18
117d16.00e#.##Z#	16.0	0.5 - 2.9	8.0	8	10	61	5 - 8	16 - 18	20
117d16.00e#.##Z#	16.0	3.0 - 6.0	8.0	8	10	61	5 - 8	16 - 18	20
117d18.00e#.##Z#	18.0	0.5 - 2.9	8.0	8	10	61	6 - 10	18 - 20	24
117d18.00e#.##Z#	18.0	3.0 - 6.0	8.0	8	10	61	6 - 10	18 - 20	24
117d20.00e#.##Z#	20.0	0.5 - 2.9	8.0	8	10	61	6 - 12	20 - 22	24
117d20.00e#.##Z#	20.0	3.0 - 6.0	8.0	8	10	61	6 - 12	20 - 22	24
117d25.00e#.##Z#	25.0	0.5 - 3.9	8.0	8	10	61	8 - 16	24 - 28	32
117d25.00e#.##Z#	25.0	4.0 - 8.0	8.0	8	10	61	8 - 16	24 - 28	32
117d30.00e#.##Z#	30.0	0.5 - 3.9	8.0	8	10	61	10 - 20	30 - 34	36
117d30.00e#.##Z#	30.0	4.0 - 8.0	8.0	8	10	61	10 - 20	30 - 34	36

* e : available thickness: every 0.1 mm
** Z: even number only

T-slot cutters straight toothing - 2 cuts



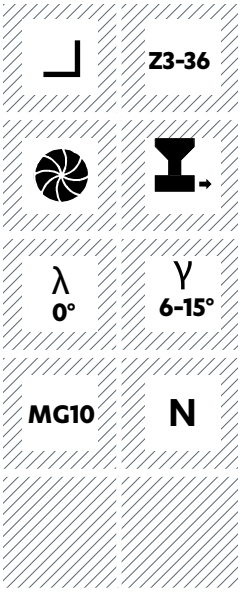
☐ **Order** ☐ **Quotation request**

Dimensions :	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____ D : _____ L : _____ Z : _____	☐ Uncoated ☐ Coated* : _____

Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut ☐ left cut	_____	_____	_____

Company's stamp & date :	**Contact person :**
_____	_____

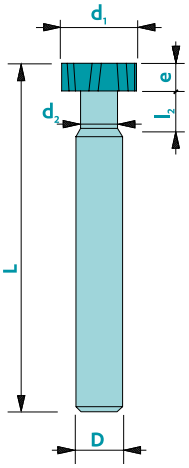
* Without information, the most suitable coating will be applied.



117-1

T-slot cutters staggered teeth - 2 cuts

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

d_1<D ▶ d_1: +0/-0.02 l_2: +0.2/-0 D: h5
d_1>D ▶ d_1: +0/-0.02 d_2: +0/-0.5
d_1=D ▶ d_1:e8 e: +0.01/-0.01

Z4-28

λ ALT

γ 6-15°

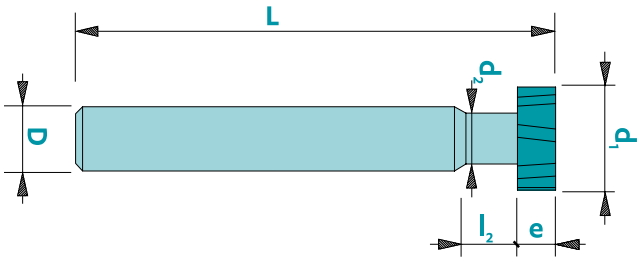
MG10

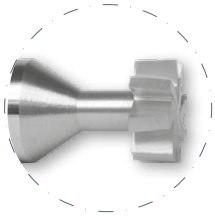
N

Art. n°	d_1	e*	d_2	l_2	D	L	Z** gold	Z** stainless	Z** Brass
117-1d2.00e#.##Z#	2.0	0.2 - 1.0	1.0	2.0	3	38	4	4	4
117-1d3.00e#.##Z#	3.0	0.2 - 2.0	1.5	3.0	3	38	4	6	6/8
117-1d3.50e#.##Z#	3.5	0.2 - 2.0	1.5	3.0	3	38	4	6	6/8
117-1d4.00e#.##Z#	4.0	0.5 - 3.0	2.5	3.0	4	38	4	6	6/8
117-1d4.50e#.##Z#	4.5	0.5 - 3.0	2.5	3.0	5	38	4	6	6/8
117-1d5.00e#.##Z#	5.0	0.5 - 3.0	3.0	3.0	5	38	4	6	6/8
117-1d6.00e#.##Z#	6.0	0.5 - 3.0	3.5	4.0	6	38	4	6	6/8
117-1d8.00e#.##Z#	8.0	1.0 - 4.0	4.0	5.0	8	51	4	6/8	8/10
117-1d10.00e#.##Z#	10.0	1.0 - 4.0	5.0	5.0	10	51	4/6	8/10	10/12
117-1d12.00e#.##Z#	12.0	1.0 - 5.0	6.0	6.0	10	51	4/6	8/10	12
117-1d15.00e#.##Z#	15.0	1.5 - 6.0	8.0	8.0	10	61	6/8	12/14	16
117-1d16.00e#.##Z#	16.0	1.5 - 3.9	8.0	8.0	10	61	6/8	12/14	16
117-1d16.00e#.##Z#	16.0	4.0 - 6.0	8.0	8.0	10	61	6/8	12/14	16
117-1d18.00e#.##Z#	18.0	1.5 - 3.9	8.0	8.0	10	61	6/8/10	14/16	18
117-1d18.00e#.##Z#	18.0	4.0 - 6.0	8.0	8.0	10	61	6/8/10	14/16	18
117-1d20.00e#.##Z#	20.0	1.5 - 3.9	8.0	8.0	10	61	6/8/10/12	16/18/20	22
117-1d20.00e#.##Z#	20.0	4.0 - 6.0	8.0	8.0	10	61	6/8/10/12	16/18/20	22
117-1d25.00e#.##Z#	25.0	1.5 - 4.9	8.0	8.0	10	61	8/10/12/14	20/22/24	28
117-1d25.00e#.##Z#	25.0	5.0 - 10.0	8.0	8.0	10	61	8/10/12/14	20/22/24	28

* e : available thickness: every 0.1 mm
** Z: even number only

T-slot cutters staggered teeth - 2 cuts





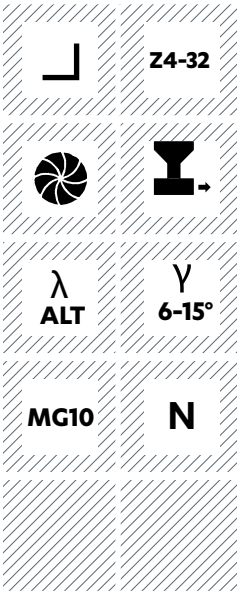
☐ **Order** ☐ **Quotation request**

Dimensions :	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____ D : _____ L : _____ Z : _____	☐ Uncoated ☐ Coated* : _____

Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut ☐ left cut	_____	_____	_____

Company's stamp & date :	**Contact person :**
_____	_____

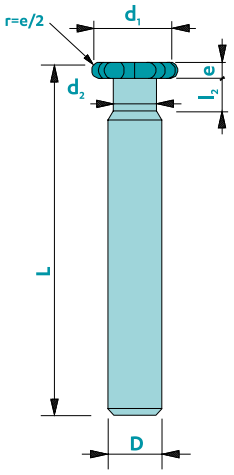
* Without information, the most suitable coating will be applied.



117-2

T-slot cutter with convex radius

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances

d_1 <D ▶ d_1: +0/-0.03
d_1 =D ▶ d_1: -0.05/-0.10
l_2: +0.2/-0
d_2: +0/-0.5

e: ±0.01
⌒ +0.01/-0.01
D: h5

Z4-12

λ 0°

γ 6-15°

MG10

N

Art. n°	d_1	r*	e**	d_2	l_2	D	L	Z
117-2d4.00e#.##	4.0	0.20 - 0.75	0.4 - 1.5	1.5	3.0	4	38	4
117-2d6.00e#.##	6.0	0.25 - 1.00	0.5 - 2.0	3.0	3.5	6	38	6
117-2d8.00e#.##	8.0	0.50 - 1.50	1.0 - 3.0	4.0	4.0	8	51	6
117-2d10.00e#.##	10.0	0.50 - 2.00	1.0 - 4.0	5.0	5.0	10	51	8
117-2d12.00e#.##	12.0	0.50 - 2.50	1.0 - 5.0	6.0	5.0	10	51	8
117-2d16.00e#.##	16.0	0.50 - 3.00	1.0 - 6.0	8.0	6.0	10	61	12

** e : available thickness: every 0.1 mm
* r : available radius : every 0.05 mm

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ e : _____ d_2 : _____ l_2 : _____

D : _____ L : _____ Z : _____ r : _____

Coating :

☐ Uncoated

☐ Coated* : _____

Cut :

☐ right cut

☐ left cut

Machined material : _____

Quantity : _____

Order No : _____

Company's stamp & date :

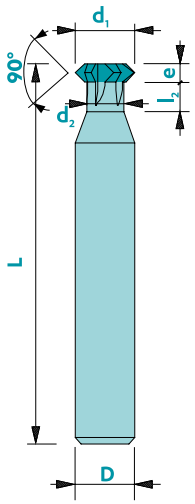
Contact person :

* Without information, the most suitable coating will be applied.

Double angle cutter 90° - T shape

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

Tolerances d_1=D ▶ 0.05/-0.10 d_2 ▶ +0/-0.5 D: h5
d_1>D ▶ +0/-0.02 e ▶ +0.01/-0.01
l_2: +0.2/-0

Art. n°	d_1	e*	d_2	l_2	D	L	Z
117-3d3.00e#.##	3.0	0.5 - 1.0	1.5	3	3	38	5
117-3d4.00e#.##	4.0	0.5 - 1.2	2.5	3	4	38	5
117-3d5.00e#.##	5.0	0.5 - 1.4	3.5	3	5	38	5
117-3d6.00e#.##	6.0	1.0 - 1.9	4.0	3	6	38	6
117-3d8.00e#.##	8.0	1.5 - 2.4	5.5	4	8	51	6
117-3d10.00e#.##	10.0	2.0 - 3.9	6.5	4	10	51	8
117-3d12.00e#.##	12.0	2.5 - 4.0	8.0	4	10	51	10
117-3d16.00e#.##	16.0	3.0 - 5.0	-	-	10	61	12

* e : available thickness: every 0.1 mm

Z5-12

λ 0°

γ 6-15°

MG10

N

☐ **Order** ☐ **Quotation request**

Dimensions :	**Angle :**	**Coating :**
d_1 : _____ e : _____ d_2 : _____ l_2 : _____	☐ 90°	☐ Uncoated
D : _____ L : _____ Z : _____	☐ Others: _____	☐ Coated* : _____

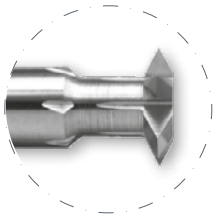
Cut :	**Machined material :**	**Quantity :**	**Order No :**
☐ right cut	_____	_____	_____
☐ left cut			

Company's stamp & date :	**Contact person :**
_____	_____

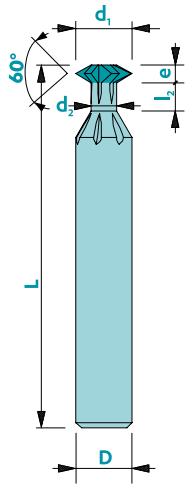
* Without information, the most suitable coating will be applied.

117-4

Double angle cutter 60° - T shape



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1=D ▶ 0.05/-0.10 d_2 +0/-0.5 D: h5
d_1>D ▶ +0/-0.02 e +0.01/-0.01
l_2: +0.2/-0

Z5-12

λ 0°

γ 6-15°

MG10

N

Art. n°	d_1	e*	d_2	l_2	D	L	Z
117-4d5.00e#.##	5.0	0.5 - 1.4	2.1	3	5	38	5
117-4d6.00e#.##	6.0	1.0 - 1.9	2.5	3	6	38	6
117-4d8.00e#.##	8.0	1.5 - 2.4	3.6	4	8	51	6
117-4d10.00e#.##	10.0	2.0 - 3.4	4.0	4	10	51	6
117-4d12.00e#.##	12.0	2.5 - 3.9	4.7	4	10	51	8
117-4d16.00e#.##	16.0	3.0 - 5.0	7.0	4	10	61	12

*e : available thickness: every 0.1 mm

☐ **Order** ☐ **Quotation request**

Dimensions :

d_1 : _____ e : _____ d_2 : _____ l_2 : _____

D : _____ L : _____ Z : _____

Coating :

☐ Uncoated

☐ Coated* : _____

Cut :

☐ right cut

☐ left cut

Machined material : _____

Quantity : _____

Order No : _____

Company's stamp & date :

Contact person :

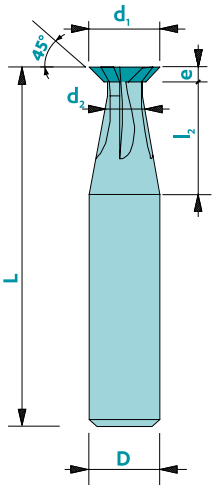
* Without information, the most suitable coating will be applied.

Dovetail cutter 45°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

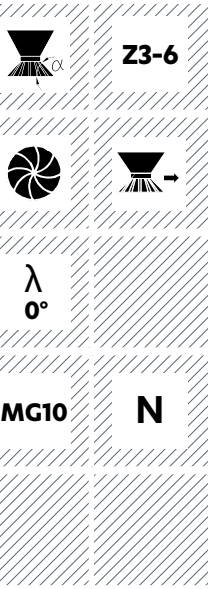
Tolerances d_1=D ▶ d_1: -0.05/-0.10 D: h5
d_1<>D ▶ d_1: +/- 0.03



Available uncoated or coated (see page 61)

Art. n°	d_1	e*	D	L	Z
118-1d1.00e#.##	1.0	0.15-0.30	3	38	3
118-1d1.50e#.##	1.5	0.25-0.40	3	38	3
118-1d2.00e#.##	2.0	0.30-0.50	3	38	5
118-1d3.00e#.##	3.0	0.50-0.75	3	38	5
118-1d4.00e#.##	4.0	0.75-1.25	4	38	5
118-1d5.00e#.##	5.0	1.00-1.50	5	38	5
118-1d6.00e#.##	6.0	1.00-2.00	6	38	5
118-1d8.00e#.##	8.0	1.50-2.50	8	51	5
118-1d10.00e#.##	10.0	2.00-3.50	10	51	5
118-1d12.00e#.##	12.0	2.50-4.00	12	51	5
118-1d15.00e#.##	15.0	3.00-5.00	10	61	5
118-1d20.00e#.##	20.0	4.00-7.00	10	61	6

* e : available thickness: every 0.05 mm



☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ e: _____ D : _____
d_2 : _____ l_2: _____ L : _____
Z: _____

Angle :
☐ 45°
☐ Other : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material :
_____

Quantity :
_____

Cut :
☐ right cut ☐ left cut

Company's stamp & date :
_____

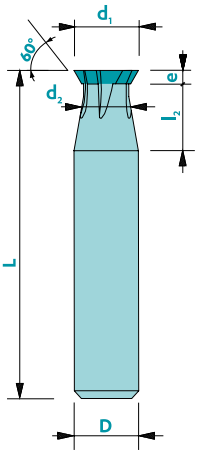
Order No :
_____

Contact person :
_____

* Without information, the most suitable coating will be applied.

118-2 Dovetail cutter 60°

Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1=D ▶ d_1: -0.05/-0.10 D: h5
d_1 <> D ▶ d_1: +/- 0.03

Z3-6

λ 0°

MG10 N

Art. n°	d_1	e*	D	L	Z
118-2d1.00e#.##	1.0	0.10-0.30	3	38	3
118-2d1.50e#.##	1.5	0.15-0.50	3	38	3
118-2d2.00e#.##	2.0	0.40-0.75	3	38	5
118-2d3.00e#.##	3.0	0.50-1.00	3	38	5
118-2d4.00e#.##	4.0	0.75-2.00	4	38	5
118-2d5.00e#.##	5.0	1.00-2.50	5	38	5
118-2d6.00e#.##	6.0	1.00-3.00	6	38	5
118-2d8.00e#.##	8.0	1.50-4.00	8	51	5
118-2d10.00e#.##	10.0	2.00-5.00	10	51	5
118-2d12.00e#.##	12.0	2.50-6.00	12	51	5
118-2d15.00e#.##	15.0	3.00-7.00	10	61	5
118-2d20.00e#.##	20.0	4.00-8.00	10	61	6

* e : available thickness: every 0.05 mm

☐ **Order** ☐ **Quotation request**

Dimensions :
d_1 : _____ e: _____ D: _____
d_2 : _____ l_2 : _____ L: _____
Z: _____

Angle :
☐ 60°
☐ Other : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Quantity : _____

Cut :
☐ right cut ☐ left cut

Company's stamp & date :

Order No : _____

Contact person : _____

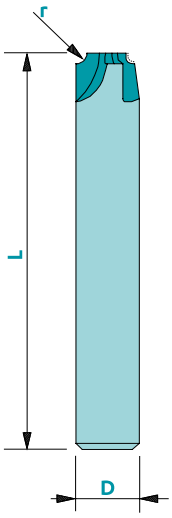
* Without information, the most suitable coating will be applied.

Quarter circle cutter concave radius

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1 <> D ▶ +0/-0.02 D: h5
d_1 = D ▶ d_1: e8 +0.01/-0.01



Available uncoated or coated (see page 61)

Art. n°	r*	D	L	Z
118d2.00r#.##Z#	0.10-0.30	2	33	3/4/5
118d3.00r#.##Z#	0.10-0.50	3	38	3/4/5
118d4.00r#.##Z#	0.20-1.00	4	38	3/4/5
118d5.00r#.##Z#	0.50-1.50	5	38	3/4/5
118d6.00r#.##Z#	0.75-2.00	6	38	3/4/5
118d8.00r#.##Z#	1.00-2.50	8	51	3/4/5
118d10.00r#.##Z#	1.50-3.50	10	51	3/4/5
118d12.00r#.##Z#	2.00-4.50	12	51	3/4/5
118d14.00r#.##Z#	3.00-5.50	14	61	3/4/5
118d16.00r#.##Z#	4.00-6.00	16	61	3/4/5

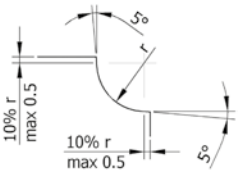
* r : available radius: every 0.05 mm

Z3-5

λ 0°

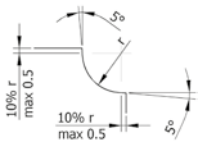
MG10

N

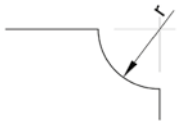


☐ **Order** ☐ **Quotation request**

☐ With exit angle



☐ Without exit angle



Dimensions :
D : _____ r : _____
L : _____ Z : _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Cut:
☐ right cut
☐ left cut

Quantity : _____

Order No : _____

Contact person : _____

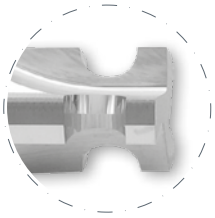
Company's stamp & date : _____

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

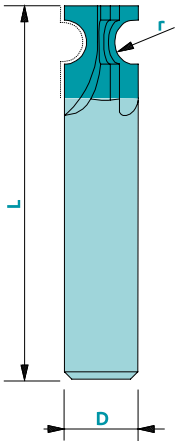
* Without information, the most suitable coating will be applied.

118-0

Form cutter with concave radius



Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: e8 D: h5 ⌒ +0.01/-0.01

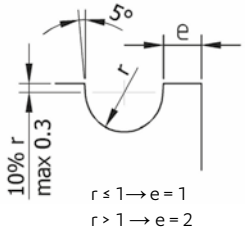
Art. n°	D	L	r*	Z
118-0d4.00r#.##Z#	4	38	0.50-0.75	3/4/5
118-0d6.00r#.##Z#	6	38	0.75-1.25	3/4/5
118-0d8.00r#.##Z#	8	51	1.00-2.00	3/4/5
118-0d10.00r#.##Z#	10	51	2.00-3.00	3/4/5
118-0d12.00r#.##Z#	12	51	2.50-3.50	3/4/5
118-0d14.00r#.##Z#	14	61	3.00-4.50	3/4/5

* r : available radius: every 0.05 mm

Z3-5

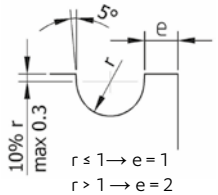
λ 0°

MG10 N

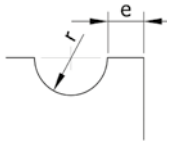


☐ Order ☐ Quotation request

☐ With exit angle



☐ Without exit angle



Dimensions :
D : _____ r : _____
L : _____ Z: _____

Coating :
☐ Uncoated
☐ Coated* : _____

Machined material : _____

Cut:
☐ right cut
☐ left cut

Quantity : _____

Order No : _____

Contact person : _____

Company's stamp & date :

Standard dimensions of the bars : Ø 3x L 38, Ø 4x L 38, Ø 6x L 38, Ø 6x L 51, Ø 8x L 61, Ø 10x L 72, Ø 12x L 83, Ø 16x L 92, Ø 20x L 104

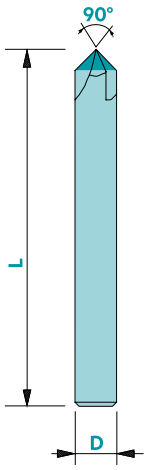
* Without information, the most suitable coating will be applied.

Countersink 90°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

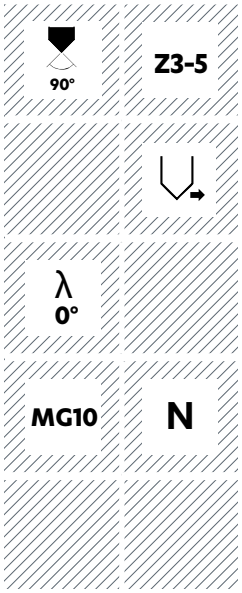
not adapted - adapted □ highly adapted ■

Tolerances D: h5



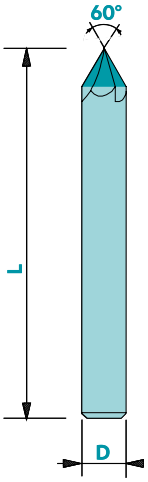
Available uncoated or coated (see page 61)

Art. n°	D	L	Z
120d1.50Z3	1.5	38	3
120d1.50Z5	1.5	38	5
120d2.00Z3	2.0	38	3
120d2.00Z5	2.0	38	5
120d3.00Z3	3.0	38	3
120d3.00Z5	3.0	38	5
120d4.00Z3	4.0	51	3
120d4.00Z5	4.0	51	5
120d5.00Z3	5.0	51	3
120d5.00Z5	5.0	51	5
120d6.00Z3	6.0	51	3
120d6.00Z5	6.0	51	5
120d8.00Z3	8.0	61	3
120d8.00Z5	8.0	61	5
120d10.00Z3	10.0	72	3
120d10.00Z5	10.0	72	5
120d12.00Z3	12.0	83	3
120d12.00Z5	12.0	83	5
120d14.00Z3	14.0	83	3
120d14.00Z5	14.0	83	5
120d15.00Z3	15.0	83	3
120d15.00Z5	15.0	83	5
120d16.00Z3	16.0	92	3
120d16.00Z5	16.0	92	5



120-1 Countersink 60°

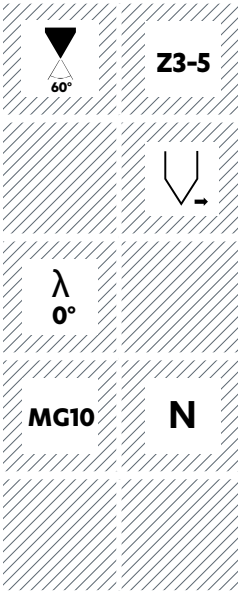
Available uncoated or coated (see page 61)



Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5



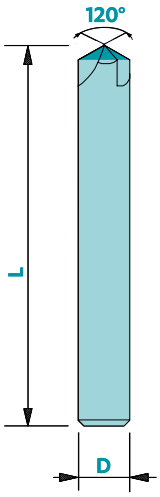
Art. n°	D	L	Z
120-1d1.50Z3	1.5	38	3
120-1d1.50Z5	1.5	38	5
120-1d2.00Z3	2.0	38	3
120-1d2.00Z5	2.0	38	5
120-1d3.00Z3	3.0	38	3
120-1d3.00Z5	3.0	38	5
120-1d4.00Z3	4.0	50	3
120-1d4.00Z5	4.0	50	5
120-1d5.00Z3	5.0	50	3
120-1d5.00Z5	5.0	50	5
120-1d6.00Z3	6.0	50	3
120-1d6.00Z5	6.0	50	5
120-1d8.00Z3	8.0	61	3
120-1d8.00Z5	8.0	61	5
120-1d10.00Z3	10.0	72	3
120-1d10.00Z5	10.0	72	5
120-1d12.00Z3	12.0	83	3
120-1d12.00Z5	12.0	83	5
120-1d14.00Z3	14.0	83	3
120-1d14.00Z5	14.0	83	5
120-1d15.00Z3	15.0	83	3
120-1d15.00Z5	15.0	83	5
120-1d16.00Z3	16.0	92	3
120-1d16.00Z5	16.0	92	5

Countersink 120°

Material	Vc uncoated	Vc coated	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	100	130	□	■	Trio
Steel > 700 N/mm²	80	100	-	■	Trio
Stainless steel	50	70	□	■	Trio
Cast iron	60	100	□	■	Nemo
Copper	130	160	□	■	Solo
Brass - Bronze	140	190	■	□	Solo
Aluminium	200	350	□	■	Solo
Gold - Silver	140	180	■	■	Solo
Platinum - Palladium	-	35	-	□	Solo
Superalloys	-	40	-	■	Trio
Titanium	40	60	■	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances D: h5



Available uncoated or coated (see page 61)

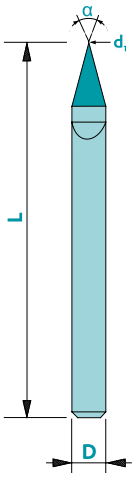
Art. n°	D	L	Z
120-2d1.50Z3	1.5	38	3
120-2d1.50Z5	1.5	38	5
120-2d2.00Z3	2.0	38	3
120-2d2.00Z5	2.0	38	5
120-2d3.00Z3	3.0	38	3
120-2d3.00Z5	3.0	38	5
120-2d4.00Z3	4.0	50	3
120-2d4.00Z5	4.0	50	5
120-2d5.00Z3	5.0	50	3
120-2d5.00Z5	5.0	50	5
120-2d6.00Z3	6.0	50	3
120-2d6.00Z5	6.0	50	5
120-2d8.00Z3	8.0	61	3
120-2d8.00Z5	8.0	61	5
120-2d10.00Z3	10.0	72	3
120-2d10.00Z5	10.0	72	5
120-2d12.00Z3	12.0	83	3
120-2d12.00Z5	12.0	83	5
120-2d14.00Z3	14.0	83	3
120-2d14.00Z5	14.0	83	5
120-2d15.00Z3	15.0	83	3
120-2d15.00Z5	15.0	83	5
120-2d16.00Z3	16.0	92	3
120-2d16.00Z5	16.0	92	5

120° Z3-5

λ 0°

MG10 N

119 Engraving mill V-shape - flat tip



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 -0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	-	-	□	■	-
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

Available uncoated or coated (see page 61)

0.02-0.20

λ 0°

SUB-CARFINE

N

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

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

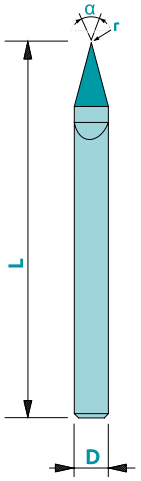
* Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
** Available diameters: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

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

Engraving mill V-shape - radius on tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■



Available uncoated or coated (see page 61)

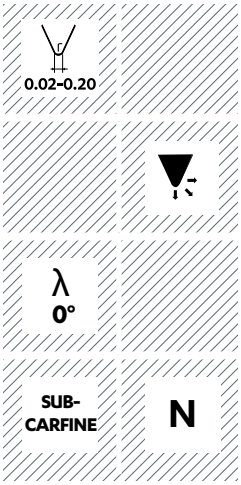
Tolerances r: +/- 0.005
D: h5

Article number : 119-Ra##r#.##
Example: End mill ref. 119-R with 25° angle and radius 0.05 mm: 119-Ra25r0.05

α*	r**	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

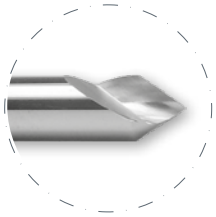
*Available angles: every 5° between 15° and 45°; every 10° between 50° and 140°
**Available radius: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

Other dimensions (angle, radius, shank) upon request

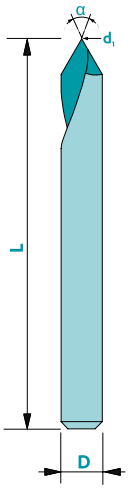


119-2

Helical engraving mill - flat tip



Available uncoated or coated (see page 61)



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

0.02-0.20

λ 24°

SUB-CARFINE

N

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

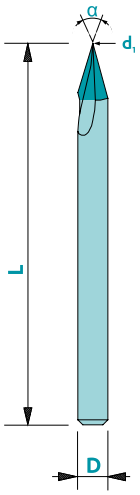
Other dimensions (angle, tip diameter, shank) upon request

Engraving mill- ¾ - flat tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances
d_1: +/- 0.01
D: h5



Available uncoated or coated (see page 61)

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

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

0.02-0.20

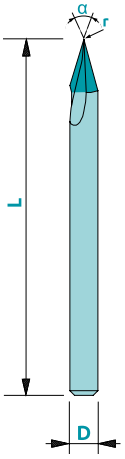
λ 0°

SUB-CARFINE

N

119-3R

Engraving mill - ¾ - radius on tip



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances r: +/- 0.005 +0.01/-0.01
D: h5

Available uncoated or coated (see page 61)

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number : 119-3Ra##r#.##
Example: End mill ref. 119-3R with 25° angle and radius 0.05 mm: 119-3Ra25r0.05

α*	r**	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 radius: every 0.01 mm between 0.02 and 0.09 mm; every 0.05 mm between 0.10 and 0.30 mm

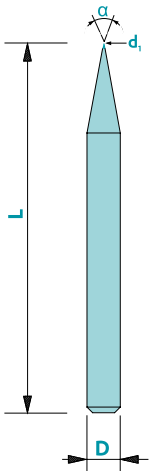
Other dimensions (angle, radius, shank) upon request

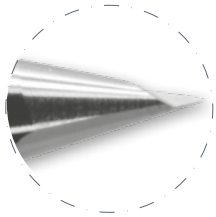
Engraving mill V-shape - reinforced

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5





Available uncoated or coated (see page 61)

Article number : 119-4a##d#.##
Example: End mill ref. 119-4 with 25° angle and tip diameter 0.05 mm: 119-4a25d0.05

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

0.02-0.20

λ 0°

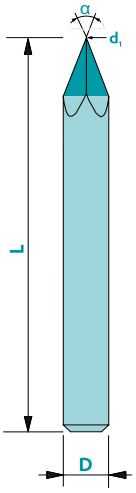
SUB-CARFINE

N

119-5

Engraving mill 4 facets - with flat tip

Available uncoated or coated (see page 61)



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 -0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	-	-	□	■	-
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

0.02-0.20

λ 0°

SUB-CARFINE

N

Article number : 119-5a##d#.##
Example: End mill ref. 119-5 with 25° angle and tip diameter 0.05 mm: 119-5a25d0.05

α*	d_1**	D	L
30-50°	0.04-0.09	3	33
30-50°	0.10-0.30	3	33
60-140°	0.02-0.09	3	33
60-140°	0.10-0.30	3	33

* Available angles: every 5° between 30° and 50°; every 10° between 60° 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

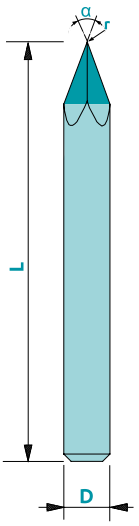
Other dimensions (angle, tip diameter, shank) upon request

Engraving mill 4 facets - radius on tip

Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	25 - 40'000	0.05 -0.40	□	■	Nemo
Steel > 700 N/mm²	20 - 40'000	0.05 -0.30	-	■	Nemo
Stainless steel	20 - 30'000	0.05 - 0.30	-	□	Nemo
Cast iron	25 - 40'000	0.05 - 0.40	□	■	Trio
Copper	20 - 40'000	0.05 - 0.40	□	■	Solo
Brass - Bronze	25 - 40'000	0.05 -0.40	□	■	Solo
Aluminium	25 - 40'000	0.05 - 0.50	□	■	Solo
Gold - Silver	20 - 40'000	0.05 -0.40	■	□	Solo
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	□	■	-
Titanium	25 - 40'000	0.05 - 0.40	□	■	Rico

not adapted - adapted □ highly adapted ■

Tolerances r: +/- 0.005
D: h5



Available uncoated or coated (see page 61)

0.02-0.20

Article number. : 119-5Ra###r#.##
Example: End mill ref. 119-5R with 25° angle and radius 0.05 mm: 119-5Ra25d0.05

α*	r**	D	L
30-50°	0.05-0.09	3	33
30-50°	0.10-0.30	3	33
60-140°	0.02-0.09	3	33
60-140°	0.10-0.30	3	33

* Available angles: every 5° between 30° and 50°; every 10° between 60° and 140°
** Available radius: 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,radius, shank) upon request

λ 0°

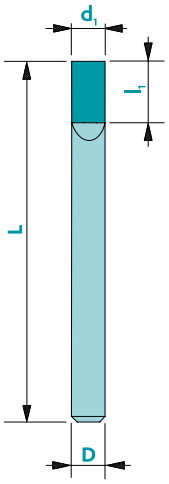
SUB-CARFINE

N

119E

Engraving mill 180° - rough version

Available uncoated only



Material	n [tr/min]	Ap	Uncoated	Coated	Rec. Coating
Steel < 700 N/mm²	-	-	-	-	-
Steel > 700 N/mm²	-	-	-	-	-
Stainless steel	-	-	-	-	-
Cast iron	-	-	-	-	-
Copper	-	-	-	-	-
Brass - Bronze	-	-	-	-	-
Aluminium	-	-	-	-	-
Gold - Silver	-	-	-	-	-
Platinum - Palladium	-	-	-	-	-
Superalloys	-	-	-	-	-
Titanium	-	-	-	-	-

not adapted - adapted □ highly adapted ■

Tolerances d_1: +/- 0.01
D: h5

λ 0°

SUB-CARFINE

N

Art. n°	d_1	l_1	D	L
119Ed3.0	**3.0**	**2.5**	3	38
119Ed4.0	**4.0**	**2.5**	4	38
119Ed5.0	**5.0**	**6.0**	5	38
119Ed6.0	**6.0**	**6.0**	6	51
119Ed7.0	**7.0**	**8.0**	7	51
119Ed8.0	**8.0**	**9.0**	8	51
119Ed9.0	**9.0**	**9.0**	9	51
119Ed10.0	**10.0**	**9.0**	10	51