



Pilana

Mills

Drills



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* NEW



PILANA KARBID s.r.o.

Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE END MILLS

2 TEETH

OR201

OR202

Recommended for use:

< 55 HRC | < 1600 N/mm² | steel | stainless steels | cast iron | copper

Applicable:

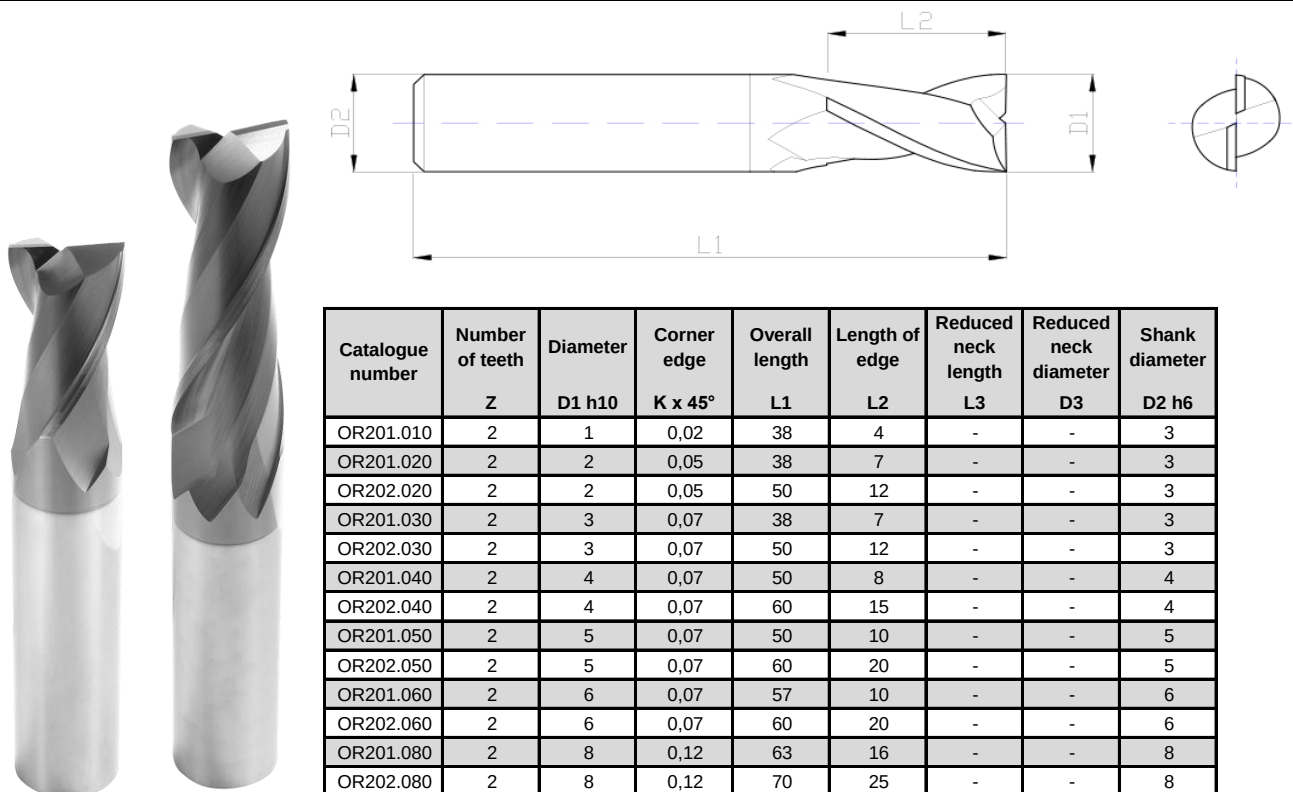
aluminium

Coating:

AlTiN

Geometry:

λ 30°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR201.010	2	1	0,02	38	4	-	-	3
OR201.020	2	2	0,05	38	7	-	-	3
OR202.020	2	2	0,05	50	12	-	-	3
OR201.030	2	3	0,07	38	7	-	-	3
OR202.030	2	3	0,07	50	12	-	-	3
OR201.040	2	4	0,07	50	8	-	-	4
OR202.040	2	4	0,07	60	15	-	-	4
OR201.050	2	5	0,07	50	10	-	-	5
OR202.050	2	5	0,07	60	20	-	-	5
OR201.060	2	6	0,07	57	10	-	-	6
OR202.060	2	6	0,07	60	20	-	-	6
OR201.080	2	8	0,12	63	16	-	-	8
OR202.080	2	8	0,12	70	25	-	-	8
OR201.100	2	10	0,2	72	19	-	-	10
OR202.100	2	10	0,2	110	30	-	-	10
OR201.120	2	12	0,2	83	22	-	-	12
OR202.120	2	12	0,2	110	30	-	-	12
OR201.140	2	14	0,2	83	22	-	-	14
OR202.140	2	14	0,2	110	40	-	-	14
OR201.160	2	16	0,2	92	26	-	-	16
OR202.160	2	16	0,2	110	50	-	-	16
OR201.180	2	18	0,2	92	26	-	-	18
OR202.180	2	18	0,2	110	50	-	-	18
OR201.200	2	20	0,3	104	32	-	-	20
OR202.200	2	20	0,3	110	55	-	-	20

Cutting conditions on page 23.



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CARBIDE END MILLS

3 TEETH

OR301

Recommended for use:

< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron | copper

Applicable:

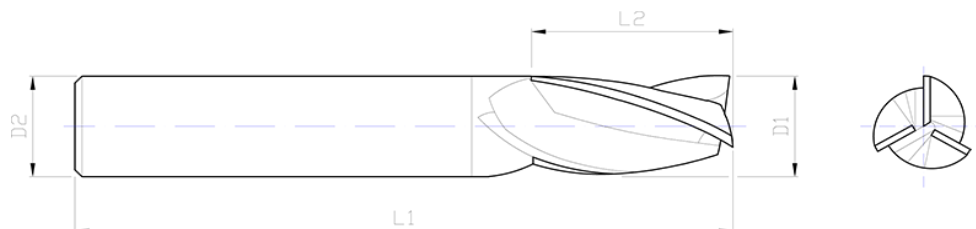
aluminium

Coating:

AlTiN

Geometry:

λ 30°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR301.030	3	3	0,07	38	7	-	-	3
OR301.040	3	4	0,07	50	8	-	-	4
OR301.050	3	5	0,07	50	10	-	-	5
OR301.060	3	6	0,07	57	10	-	-	6
OR301.080	3	8	0,12	63	16	-	-	8
OR301.100	3	10	0,2	72	19	-	-	10
OR301.120	3	12	0,2	83	22	-	-	12
OR301.140	3	14	0,2	83	22	-	-	14
OR301.160	3	16	0,2	92	26	-	-	16
OR301.180	3	18	0,2	92	26	-	-	18
OR301.200	3	20	0,3	104	32	-	-	20

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CARBIDE END MILLS

4 TEETH

OR401

OR402

Recommended for use:

< 55 HRC | < 1600 N/mm² | steel | stainless steels | cast iron | copper

Applicable:

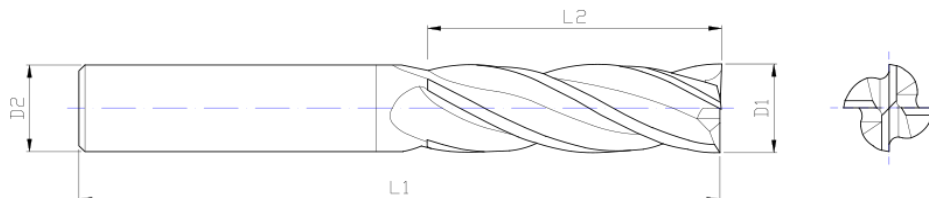
aluminium

Coating:

AlTiN

Geometry:

λ 30°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR401.030	4	3	0,07	38	10	-	-	3
OR402.030	4	3	0,07	65	20	-	-	3
OR401.040	4	4	0,07	50	11	-	-	4
OR402.040	4	4	0,07	65	25	-	-	4
OR401.050	4	5	0,07	50	13	-	-	5
OR402.050	4	5	0,07	70	30	-	-	5
OR401.060	4	6	0,07	57	13	-	-	6
OR402.060	4	6	0,07	70	30	-	-	6
OR401.080	4	8	0,12	63	19	-	-	8
OR402.080	4	8	0,12	100	40	-	-	8
OR401.100	4	10	0,2	72	22	-	-	10
OR402.100	4	10	0,2	110	40	-	-	10
OR401.120	4	12	0,2	83	26	-	-	12
OR402.120	4	12	0,2	110	45	-	-	12
OR401.140	4	14	0,2	83	26	-	-	14
OR402.140	4	14	0,2	110	45	-	-	14
OR401.160	4	16	0,2	92	32	-	-	16
OR402.160	4	16	0,2	124	65	-	-	16
OR401.180	4	18	0,2	92	32	-	-	18
OR402.180	4	18	0,2	124	65	-	-	18
OR401.200	4	20	0,3	104	38	-	-	20
OR402.200	4	20	0,3	150	65	-	-	20
OR402.250	4	25	0,3	165	80	-	-	25

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CARBIDE END MILLS

4 TEETH WITH DOUBLE HELIX

OR411

Recommended for use:

< 60 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

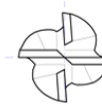
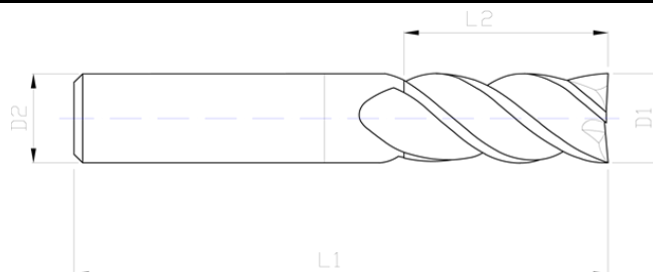
aluminium

Coating:

AlCrN

Geometry:

λ 35°/38°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR411.020	4	2	0,05	50	5	-	-	4
OR411.030	4	3	0,07	57	8	-	-	6
OR411.040	4	4	0,07	57	12	-	-	6
OR411.050	4	5	0,07	57	13	-	-	6
OR411.060	4	6	0,07	57	15	-	-	6
OR411.080	4	8	0,12	63	19	-	-	8
OR411.100	4	10	0,2	72	24	-	-	10
OR411.120	4	12	0,2	83	28	-	-	12
OR411.160	4	16	0,2	92	35	-	-	16
OR411.200	4	20	0,3	110	42	-	-	20
OR411.250	4	25	0,3	125	50	-	-	25

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Nádražní 804, Hulín 768 24, Czech Republic

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CARBIDE END MILLS

4 TEETH WITH HELIX 45°

OR452

Recommended for use:

< 60 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

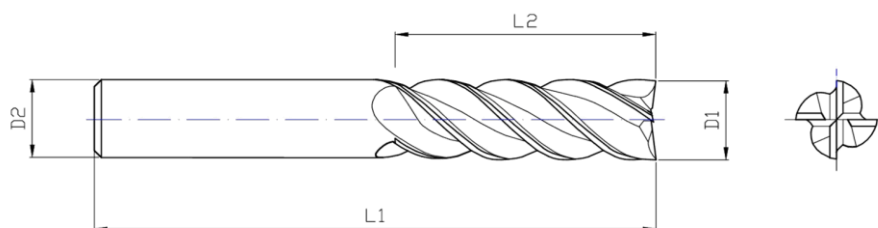
aluminium

Coating:

AlCrN

Geometry:

λ 45°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR452.040	4	4	0,07	50	10	-	-	4
OR452.060	4	6	0,07	62	18	-	-	6
OR452.080	4	8	0,12	70	24	-	-	8
OR452.100	4	10	0,2	80	30	-	-	10
OR452.120	4	12	0,2	90	36	-	-	12
OR452.140	4	14	0,2	100	42	-	-	14
OR452.160	4	16	0,2	110	48	-	-	16
OR452.200	4	20	0,3	124	65	-	-	20

Cutting conditions on page 23.



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E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE END MILLS

FOR HIGH SPEED CUTTING 4 TEETH

HSC401

Recommended for use:

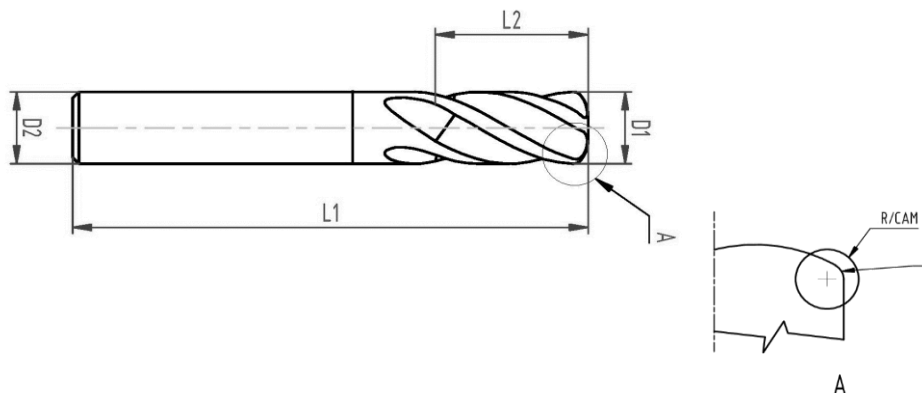
< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Coating:

AlTiN

Geometry:

$\lambda 45^\circ \gamma 4^\circ$



Catalogue number	Number of teeth Z	Diameter D1	Corner radius R	Overall length L1	Length of edge L2	Shank diameter D2 h6	R/CAM	Cutting depth a _p
HSC401.040	4	4	0,5	57	11	6	0,67	0,2
HSC401.060	4	6	0,5	57	15	6	0,76	0,3
HSC401.080	4	8	1	63	20	8	1,38	0,5
HSC401.100	4	10	1,5	72	26	10	1,99	0,7
HSC401.120	4	12	1,5	83	30	12	2,1	0,8
HSC401.160	4	16	2	92	36	16	2,75	1

Cutting conditions:

General construction steels <600Nmm ²												
D	ø 4	ø 4	ø 6	ø 6	ø 8	ø 8	ø 10	ø 10	ø 12	ø 12	ø 16	ø 16
ap (mm)	0.2	-	0.3	-	0.4	-	0.45	-	0.5	-	0.65	-
	-	0.15	-	0.2	-	0.3	-	0.4	-	0.45	-	0.5
Vc (mm/min)	65	-	65	-	65	-	65	-	65	-	65	-
	-	130	-	130	-	130	-	130	-	130	-	130
fz (mm/z)	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8	-
	-	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8

Alloyed steels <1100Nmm ²												
D	ø 4	ø 4	ø 6	ø 6	ø 8	ø 8	ø 10	ø 10	ø 12	ø 12	ø 16	ø 16
ap (mm)	0.2	-	0.3	-	0.4	-	0.45	-	0.5	-	0.65	-
	-	0.15	-	0.2	-	0.3	-	0.4	-	0.45	-	0.5
Vc (mm/min)	60	-	60	-	60	-	60	-	60	-	60	-
	-	120	-	120	-	120	-	120	-	120	-	120
fz (mm/z)	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8	-
	-	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8

Castings steels, Inconel <1400Nmm ²												
D	ø 4	ø 4	ø 6	ø 6	ø 8	ø 8	ø 10	ø 10	ø 12	ø 12	ø 16	ø 16
ap (mm)	0.15	-	0.2	-	0.25	-	0.3	-	0.35	-	0.45	-
	-	0.12	-	0.15	-	0.2	-	0.25	-	0.3	-	0.4
Vc (mm/min)	50	-	50	-	50	-	50	-	50	-	50	-
	-	95	-	95	-	95	-	95	-	95	-	95
fz (mm/z)	0.15	-	0.25	-	0.35	-	0.4	-	0.45	-	0.6	-
	-	0.15	-	0.25	-	0.35	-	0.4	-	0.45	-	0.6

High speed steels <1100Nmm ²												
D	ø 4	ø 4	ø 6	ø 6	ø 8	ø 8	ø 10	ø 10	ø 12	ø 12	ø 16	ø 16
ap (mm)	0.17	-	0.22	-	0.27	-	0.35	-	0.42	-	0.55	-
	-	0.12	-	0.17	-	0.22	-	0.28	-	0.35	-	0.45
Vc (mm/min)	55	-	55	-	55	-	55	-	55	-	55	-
	-	100	-	100	-	100	-	100	-	100	-	100
fz (mm/z)	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8	-
	-	0.2	-	0.35	-	0.45	-	0.5	-	0.6	-	0.8



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CARBIDE END MILLS

ROUGHING 4 TEETH

OH401

Recommended for use:

< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

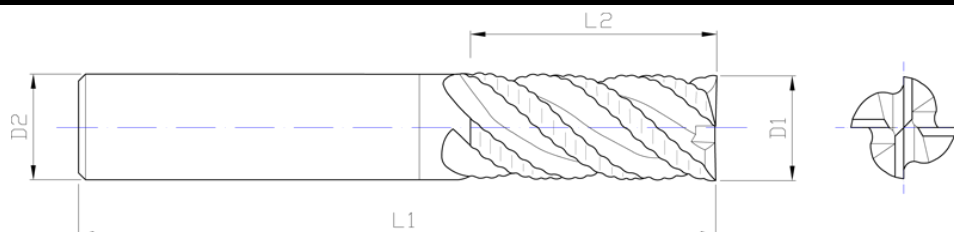
aluminium

Coating:

AlCrN

Geometry:

NR profile, λ 40°, γ 7°



Catalogue number	Number of teeth Z	Diameter D1 h11	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OH401.050	4	5	0,15	57	13	-	-	6
OH401.060	4	6	0,15	57	13	-	-	6
OH401.080	4	8	0,2	63	19	-	-	8
OH401.100	4	10	0,2	72	22	-	-	10
OH401.120	4	12	0,25	83	26	-	-	12
OH401.160	4	16	0,35	92	32	-	-	16
OH401.200	4	20	0,4	104	42	-	-	20

Cutting conditions on page 23.



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CARBIDE END MILLS

ROUGHING-FINISHING 4 TEETH

RF401

Recommended for use:

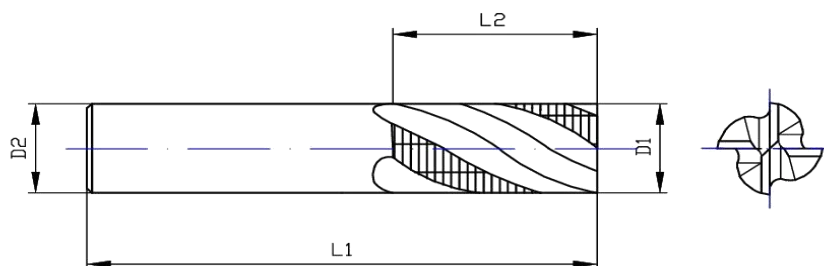
< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Coating:

AlTiN

Geometry:

NR profile, λ 40°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h11	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
RF401.060	4	6	0,15	57	15	-	-	6
RF401.080	4	8	0,2	63	22	-	-	8
RF401.100	4	10	0,2	72	26	-	-	10
RF401.120	4	12	0,25	83	30	-	-	12
RF401.160	4	16	0,35	92	36	-	-	16
RF401.200	4	20	0,4	104	42	-	-	20

Higher performance (V_c , f_z) compared to carbide end mills OH401 about 30%.

Leaving a clean surface (R_a 1,6 ÷ 3,2).



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CARBIDE END MILLS

FINISHING

OR601
OR602

Recommended for use:

< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

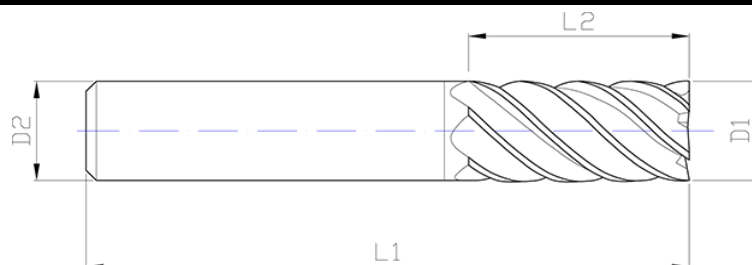
aluminium

Coating:

AlTiN

Geometry:

$\lambda 45^\circ, \gamma 7^\circ$



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OR601.050	6	5	0,02	57	13	-	-	5
OR601.060	6	6	0,03	57	13	-	-	6
OR602.060	6	6	0,03	70	26	-	-	6
OR601.080	6	8	0,04	63	19	-	-	8
OR602.080	6	8	0,04	90	36	-	-	8
OR601.100	6	10	0,05	72	22	-	-	10
OR602.100	6	10	0,05	100	46	-	-	10
OR601.120	6	12	0,05	83	26	-	-	12
OR602.120	6	12	0,05	110	56	-	-	12
OR601.160	6	16	0,06	92	32	-	-	16
OR602.160	6	16	0,06	130	66	-	-	16
OR601.180	6	18	0,06	92	32	-	-	18
OR801.200	8	20	0,07	104	38	-	-	20
OR802.200	8	20	0,07	140	76	-	-	20
OR1001.250	10	25	0,08	121	50	-	-	25
OR1002.250	10	25	0,08	180	92	-	-	25

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE BALL-NOSE END MILLS

2 TEETH

OK201

OK202

Recommended for use:

< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

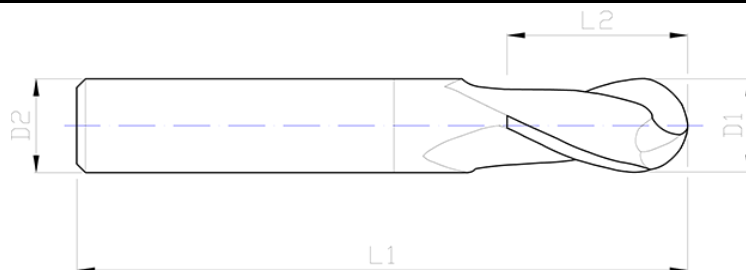
aluminium

Coating:

AlTiN

Geometry:

λ 30°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h8	Corner radius R 0/-0,02	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OK201.010	2	1	0,5	38	3	-	-	3
OK201.020	2	2	1	38	5	-	-	3
OK201.030	2	3	1,5	38	7	-	-	3
OK202.030	2	3	1,5	60	8	-	-	3
OK201.040	2	4	2	50	8	-	-	4
OK202.040	2	4	2	70	8	-	-	4
OK201.050	2	5	2,5	50	10	-	-	5
OK202.050	2	5	2,5	80	10	-	-	5
OK201.060	2	6	3	57	10	-	-	6
OK202.060	2	6	3	90	12	-	-	6
OK201.080	2	8	4	63	16	-	-	8
OK202.080	2	8	4	110	14	-	-	8
OK201.100	2	10	5	72	19	-	-	10
OK202.100	2	10	5	110	18	-	-	10
OK201.120	2	12	6	83	22	-	-	12
OK202.120	2	12	6	110	22	-	-	12
OK201.140	2	14	7	83	22	-	-	14
OK202.140	2	14	7	110	26	-	-	14
OK201.160	2	16	8	92	26	-	-	16
OK202.160	2	16	8	140	30	-	-	16
OK201.180	2	18	9	92	26	-	-	18
OK201.200	2	20	10	104	32	-	-	20
OK202.200	2	20	10	160	38	-	-	20

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

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E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE BALL-NOSE END MILLS

4 TEETH

OK401

OK402

Recommended for use:

< 55 HRc | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

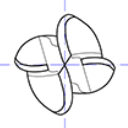
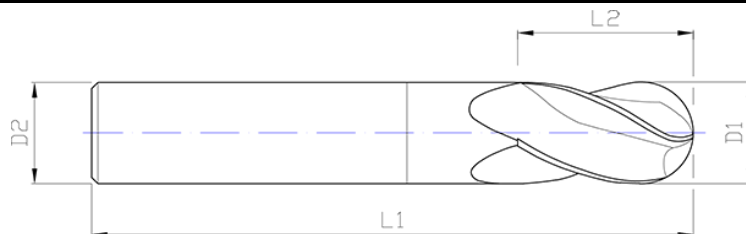
aluminium

Coating:

AlTiN

Geometry:

λ 30°, γ 8°



Catalogue number	Number of teeth Z	Diameter D1 h8	Corner radius R 0/-0,02	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
OK401.030	4	3	1,5	38	7	-	-	3
OK402.030	4	3	1,5	60	8	-	-	3
OK401.040	4	4	2	50	8	-	-	4
OK402.040	4	4	2	70	8	-	-	4
OK401.050	4	5	2,5	50	10	-	-	5
OK402.050	4	5	2,5	80	10	-	-	5
OK401.060	4	6	3	57	10	-	-	6
OK402.060	4	6	3	90	12	-	-	6
OK401.080	4	8	4	63	16	-	-	8
OK402.080	4	8	4	110	14	-	-	8
OK401.100	4	10	5	72	19	-	-	10
OK402.100	4	10	5	110	18	-	-	10
OK401.120	4	12	6	83	22	-	-	12
OK402.120	4	12	6	110	22	-	-	12
OK401.140	4	14	7	83	22	-	-	14
OK402.140	4	14	7	110	26	-	-	14
OK401.160	4	16	8	92	26	-	-	16
OK402.160	4	16	8	140	30	-	-	16
OK401.180	4	18	9	92	26	-	-	18
OK401.200	4	20	10	104	32	-	-	20
OK402.200	4	20	10	160	38	-	-	20

Cutting conditions on page 23.



PILANA KARBID s.r.o.

Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE BALL-NOSE END MILLS FOR HARD MATERIALS

KK201
KK202

Recommended for use:

< 65 HRc | hardened steel | stainless steels | cast iron

Applicable:

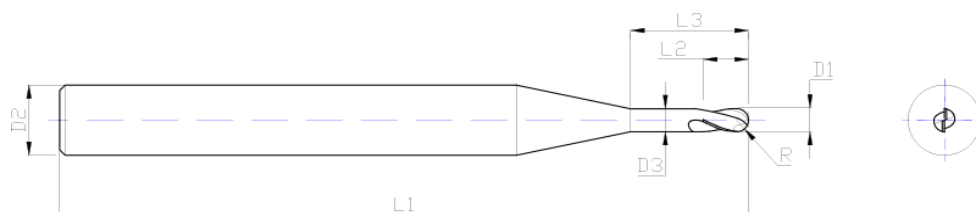
< 55 HRc

Coating:

AlCrN

Geometry:

$\lambda 20^\circ, \gamma 0^\circ$



Catalogue number	Number of teeth Z	Diameter D1 h8	Corner radius R 0/-0,02	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
KK201.010	2	1	0,5	57	2	3	0,95	6
KK201.015	2	1,5	0,75	57	2,5	4,5	1,45	6
KK201.020	2	2	1	57	3	7	1,9	6
KK202.020	2	2	1	70	3	17	1,9	6
KK201.030	2	3	1,5	57	4	8	2,8	6
KK202.030	2	3	1,5	70	4	18	2,8	6
KK201.040	2	4	2	57	5	14	3,8	6
KK202.040	2	4	2	80	5	19	3,8	6
KK201.050	2	5	2,5	57	6	21	4,8	6
KK202.050	2	5	2,5	80	6	44	4,8	6
KK201.060	2	6	3	57	7	21	5,8	6
KK202.060	2	6	3	80	7	44	5,8	6
KK201.080	2	8	4	63	9	27	7,6	8
KK202.080	2	8	4	90	9	54	7,6	8
KK201.100	2	10	5	72	11	32	9,6	10
KK202.100	2	10	5	100	11	60	9,6	10
KK201.120	2	12	6	83	13	38	11,5	12
KK202.120	2	12	6	110	13	65	11,5	12
KK401.160	4	16	8	92	17	44	15,5	16
KK402.160	4	16	8	130	17	82	15,5	16

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

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E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE BALL-NOSE END MILLS FOR EXTRA HARD MATERIALS

KK251
KK252

Recommended for use:

< 70 HRc | hardened steel

Applicable:

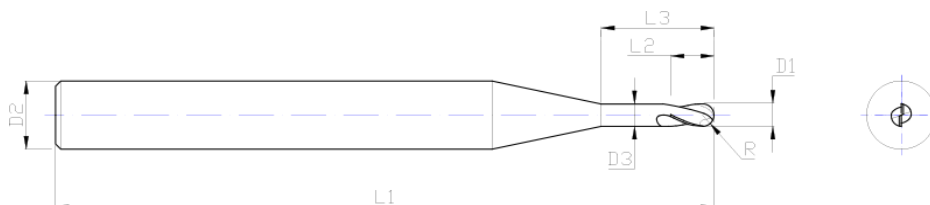
cast iron

Coating:

AlCrN

Geometry:

$\lambda 20^\circ, \gamma -2^\circ$



Catalogue number	Number of teeth Z	Diameter D1 h8	Corner radius R 0/-0,02	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h5
KK251.020	2	2	1	57	2	7	1,9	6
KK252.020	2	2	1	70	2	17	1,9	6
KK251.030	2	3	1,5	57	3	8	2,8	6
KK252.030	2	3	1,5	70	3	18	2,8	6
KK251.040	2	4	2	57	4	14	3,8	6
KK252.040	2	4	2	80	4	19	3,8	6
KK251.050	2	5	2,5	57	5	21	4,8	6
KK252.050	2	5	2,5	80	5	44	4,8	6
KK251.060	2	6	3	57	6	21	5,8	6
KK252.060	2	6	3	80	6	44	5,8	6
KK251.080	2	8	4	63	8	27	7,6	8
KK252.080	2	8	4	90	8	54	7,6	8
KK251.100	2	10	5	72	10	32	9,6	10
KK252.100	2	10	5	100	10	60	9,6	10
KK251.120	2	12	6	83	12	38	11,5	12
KK252.120	2	12	6	110	12	65	11,5	12
KK451.160	4	16	8	92	16	44	15,5	16
KK452.160	4	16	8	130	16	82	15,5	16

Cutting conditions on page 23.



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CARBIDE END MILLS WITH CORNER RADIUS

4 TEETH

KT401

KT402

Recommended for use:

< 65 HRC | hardened steel | stainless steels | cast iron

Applicable:

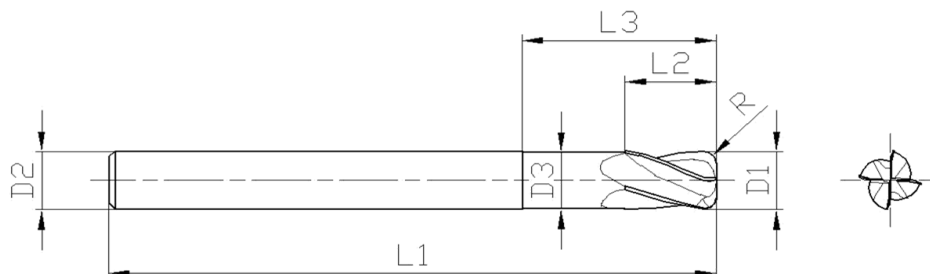
< 55 HRC

Coating:

AlCrN

Geometry:

$\lambda 30^\circ, \gamma 4^\circ$



Catalogue number	Number of teeth Z	Diameter D1 h8	Corner radius R 0/-0,02	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
KT401.030.03	4	3	0,3	57	4	14	2,9	6
KT401.040.03	4	4	0,3	57	4	14,5	3,8	6
KT402.040.03	4	4	0,3	80	4	16	3,8	6
KT401.040.05	4	4	0,5	57	4	14,5	3,8	6
KT402.040.05	4	4	0,5	80	4	16	3,8	6
KT401.060.05	4	6	0,5	57	6	21	5,8	6
KT402.060.05	4	6	0,5	90	9	21	5,8	6
KT401.060.10	4	6	1	57	6	21	5,8	6
KT402.060.10	4	6	1	90	9	21	5,8	6
KT401.080.05	4	8	0,5	63	8	27	7,6	8
KT402.080.05	4	8	0,5	100	12	27	7,6	8
KT401.080.10	4	8	1	63	8	27	7,6	8
KT402.080.10	4	8	1	100	12	27	7,6	8
KT401.080.20	4	8	2	63	8	27	7,6	8
KT401.100.05	4	10	0,5	72	10	32	9,6	10
KT402.100.05	4	10	0,5	100	15	32	9,6	10
KT401.100.10	4	10	1	72	10	32	9,6	10
KT402.100.10	4	10	1	100	15	32	9,6	10
KT401.100.20	4	10	2	72	10	32	9,6	10
KT402.100.20	4	10	2	100	15	32	9,6	10
KT401.120.05	4	12	0,5	83	12	38	11,5	12
KT402.120.05	4	12	0,5	110	18	38	11,5	12
KT401.120.10	4	12	1	83	12	38	11,5	12
KT402.120.10	4	12	1	110	18	38	11,5	12
KT401.120.15	4	12	1,5	83	12	38	11,5	12
KT401.120.20	4	12	2	83	12	38	11,5	12
KT402.120.20	4	12	2	110	18	38	11,5	12
KT401.120.30	4	12	3	83	12	38	11,5	12
KT401.160.10	4	16	1	92	16	44	15,5	16
KT401.160.15	4	16	1,5	92	16	44	15,5	16
KT401.160.20	4	16	2	92	16	44	15,5	16

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE FINISHING END MILLS

FOR HARD MATERIALS

KR

Recommended for use:

< 65 HRc | hardened steel | stainless steels | cast iron

Applicable:

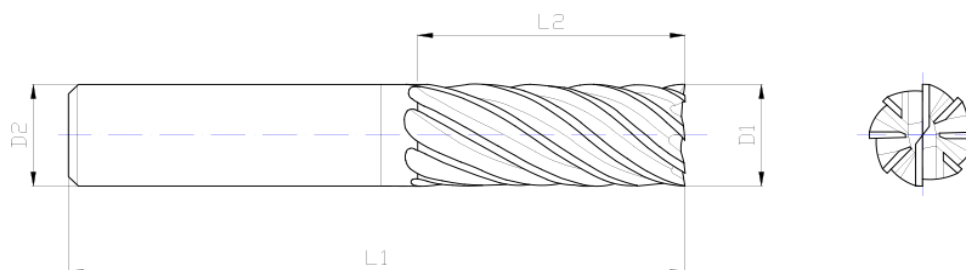
< 55 HRc

Coating:

AlCrN

Geometry:

λ 30° – 45°, γ 0°



Catalogue number	Number of teeth Z	Diameter D1 e8	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
KR401.030	4	3	0,02	57	12	-	-	6
KR401.040	4	4	0,02	57	13	-	-	6
KR601.050	6	5	0,02	57	15	-	-	6
KR601.060	6	6	0,03	57	16	-	-	6
KR601.080	6	8	0,04	70	22	-	-	8
KR601.100	6	10	0,05	72	25	-	-	10
KR601.120	6	12	0,05	83	28	-	-	12
KR601.140	6	14	0,06	83	30	-	-	14
KR801.160	8	16	0,06	92	35	-	-	16
KR1001.200	10	20	0,07	104	40	-	-	20
KR1002.200	10	20	0,07	135	70	85	17,8	20
KR1202.250	12	25	0,07	186	55	132	24	25

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE END MILLS 4 TEETH WITH DOUBLE HELIX - INOX

NR411

Recommended for use:

stainless steels | < 55 HRc | < 1600 N/mm²

Applicable:

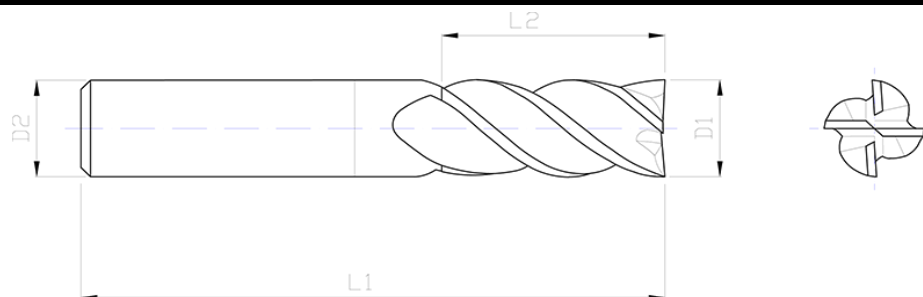
copper, aluminium

Coating:

AlCrN

Geometry:

λ 38°/40°, γ 12°



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
NR411.030	4	3	0,07	57	10	-	-	6
NR411.040	4	4	0,07	57	12	-	-	6
NR411.050	4	5	0,07	57	13	-	-	6
NR411.060	4	6	0,07	57	15	-	-	6
NR411.080	4	8	0,12	63	19	-	-	8
NR411.100	4	10	0,2	72	24	-	-	10
NR411.120	4	12	0,2	83	28	-	-	12
NR411.160	4	16	0,2	92	35	-	-	16
NR411.200	4	20	0,3	110	42	-	-	20

Cutting conditions on page 23.



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Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE END MILLS 4 TEETH WITH DOUBLE HELIX FOR ALUMINIUM

AR411

Recommended for use:

aluminium and its alloys | copper | plastics

Applicable:

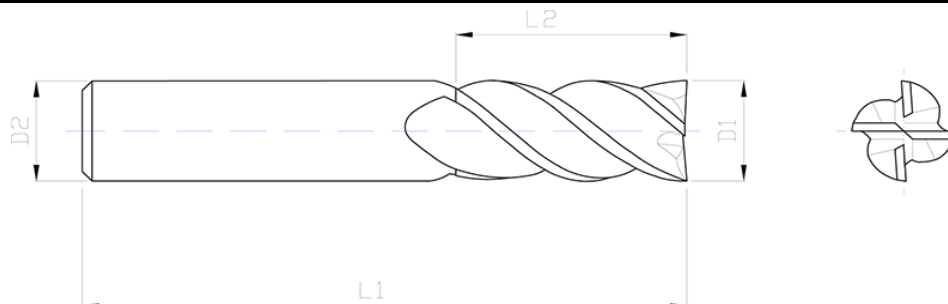
< 55 HRC

Coating:

without coating

Geometry:

$\lambda 38^\circ/40^\circ, \gamma 15^\circ$



Catalogue number	Number of teeth Z	Diameter D1 h10	Corner edge K x 45°	Overall length L1	Length of edge L2	Reduced neck length L3	Reduced neck diameter D3	Shank diameter D2 h6
AR411.030	4	3	0,07	57	10	-	-	6
AR411.040	4	4	0,07	57	12	-	-	6
AR411.050	4	5	0,07	57	13	-	-	6
AR411.060	4	6	0,07	57	15	-	-	6
AR411.080	4	8	0,12	63	19	-	-	8
AR411.100	4	10	0,2	72	24	-	-	10
AR411.120	4	12	0,2	83	28	-	-	12
AR411.160	4	16	0,2	95	35	-	-	16
AR411.200	4	20	0,3	110	42	-	-	20

Cutting conditions on page 23.



PILANA Karbid s.r.o.

Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

CARBIDE DRILLS 5xD WITH INTERNAL COOLING

VS501

Recommended for use:

< 55 HRC | < 1600 N/mm² | steel | stainless steels | cast iron

Applicable:

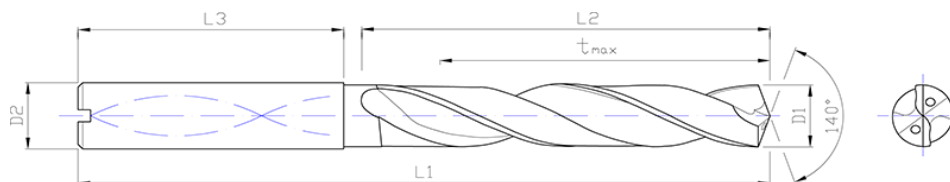
copper, aluminium

Coating:

AlCrN

Geometry:

λ 30°



Catalogue number	Diameter D1	Overall length L1	Length of helix L2	Length of shank L3	Max. drilling depth t _{max}	Diameter tolerance m7	Shank diameter D2 h6
VS501.0300 ↓ VS501.0370	3,0 - 3,7	66	28	36	23	0,004/0,016	6
VS501.0380 ↓ VS501.0470	3,8 - 4,7	74	36	36	29	0,004/0,016	6
VS501.0480 ↓ VS501.0600	4,8 - 6,0	82	44	36	35	0,004/0,016	6
VS501.0610 ↓ VS501.0800	6,1 - 8,0	91	53	36	43	0,006/0,021	8
VS501.0810 ↓ VS501.1000	8,1 - 10,0	103	61	40	49	0,006/0,021	10
VS501.1010 ↓ VS501.1200	10,1 - 12,0	118	71	45	56	0,007/0,025	12
VS501.1210 ↓ VS501.1400	12,1 - 14,0	124	77	45	60	0,007/0,025	14
VS501.1410 ↓ VS501.1600	14,1 - 16,0	133	83	48	63	0,007/0,025	16
VS501.1610 ↓ VS501.1800	16,1 - 18,0	143	93	48	71	0,007/0,025	18
VS501.1810 ↓ VS501.2000	18,1 - 20,0	153	101	50	77	0,008/0,029	20

We keep in stock only the most commonly used diameters of drills.
The current list of available items, we will provide on request.



PILANA KARBID s.r.o.

Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

E-mail: karbid@pilana.cz, www.pilanakarbid.cz

SPECIAL CARBIDE TOOLS

MILLING

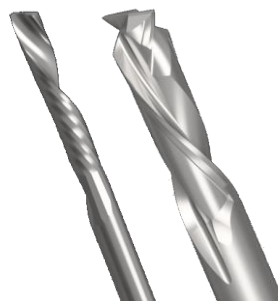
According to a tool drawing or requirement of machining.
Diameter range of tool: 0,2 mm - 40 mm.
Coating on request.



FOR GRAPHITE



FOR TROCHOIDAL
MILLING



FOR WOOD,
PLASTIC, LAMINATE



FOR THREADING



FOR DEBURRING



FOR ENGRAVING



CONCAVE



CROWN



PROFILED



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Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

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SPECIAL CARBIDE TOOLS

DRILLING



DRILLS FOR
HARDENED MATERIAL



LONG DRILLS



STEP DRILLS



COUNTERSINK



REAMERS



DRILL-REAMERS

TURNING, PLASTIC WORKING ETC.



TURNING TOOLS



ADJUSTMENT OF CUTTING INSERTS



PUNCHES



CYLINDRICAL GRINDING



PILANA Karbid s.r.o.

Nádražní 804, Hulín 768 24, Czech Republic

Tel.: +420 573 328 673, Fax: +420 576 328 558

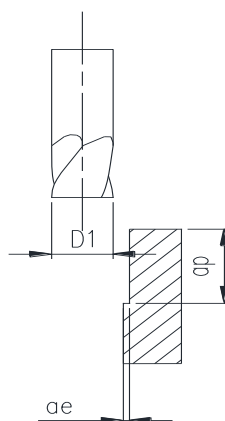
E-mail: karbid@pilana.cz, www.pilanakarbid.cz

RECOMMENDED CUTTING CONDITIONS FOR CARBIDE END MILLS

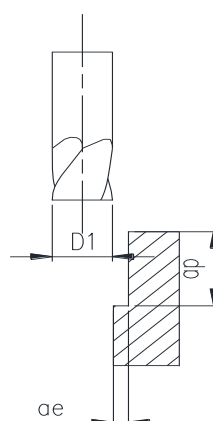
	Machined material	Material strength N/mm ²	Cutting speed Vc (m/min)	Feed per tooth fz (mm)				
				Ø 2-3	Ø 4-5	Ø 6-10	Ø 12-16	Ø 20
Cutting speed Vc:	Free cutting steels General construction steels	< 600	200	0,02	0,04	0,05	0,08	0,12
	General construction steels Non alloyed steel castings Low alloyed steel castings	< 750	180	0,02	0,03	0,04	0,07	0,08
Revolutions n:	Heat resistant steels Alloyed steel castings	< 1100	100	0,02	0,025	0,04	0,07	0,08
	Castings steels Inconel	< 1400	20	0,01	0,01	0,02	0,04	0,05
Rate of feed Vf:	Nitriding steels Cementation steels	< 950	130	0,02	0,03	0,04	0,07	0,08
	Tool steels	< 1400	90	0,01	0,01	0,02	0,035	0,05
Feed per tooth fz:	High speed steels	< 1100	110	0,015	0,02	0,035	0,07	0,08
	Heat resistant alloys	< 850	60	0,01	0,015	0,02	0,04	0,05
Feed per revolutions f:	Hardened steels	< 55 HRC	80	0,015	0,02	0,04	0,07	0,09
	Hardened steels	< 70 HRC	65	0,01	0,015	0,02	0,03	0,04
	Stainless steels	< 900	80	0,01	0,015	0,02	0,04	0,05
	Grey cast iron Malleable cast iron	< 240 HB	150	0,02	0,03	0,05	0,08	0,12
	Ductile cast iron Alloyed cast iron	< 800 HB	110	0,01	0,02	0,04	0,07	0,1
	Aluminium alloys <10%Si	< 400	800	0,02	0,03	0,055	0,085	0,12
	Aluminium alloys >10%Si	< 600	450	0,01	0,02	0,04	0,06	0,1
	Copper	< 500	280	0,01	0,02	0,04	0,07	0,1
	Copper alloys	< 700	250	0,01	0,02	0,04	0,07	0,1

Coefficients for reducing of the feed rate f1:

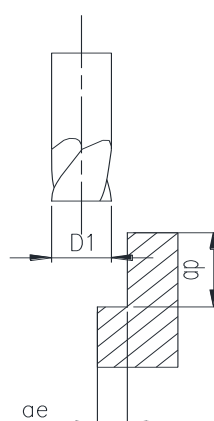
ae=0,1xD1
ap=1,5xD1
f1=1



ae=0,25xD1
ap=1,5xD1
f1=0,8



ae=0,5xD1
ap=1,5xD1
f1=0,5



ae=D1
ap=0,5xD1
f1=0,5

