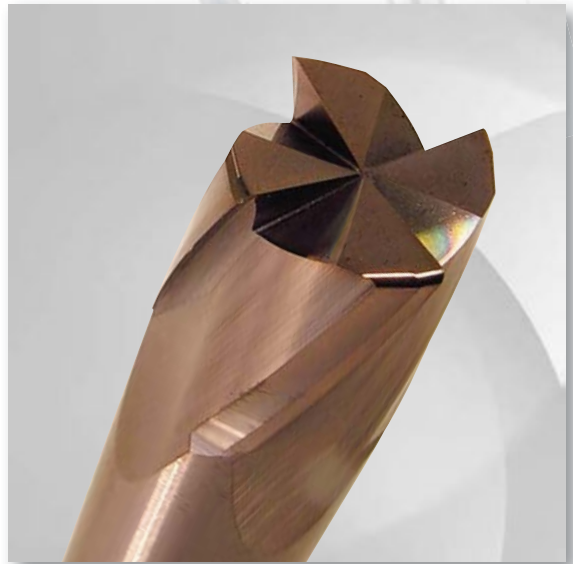
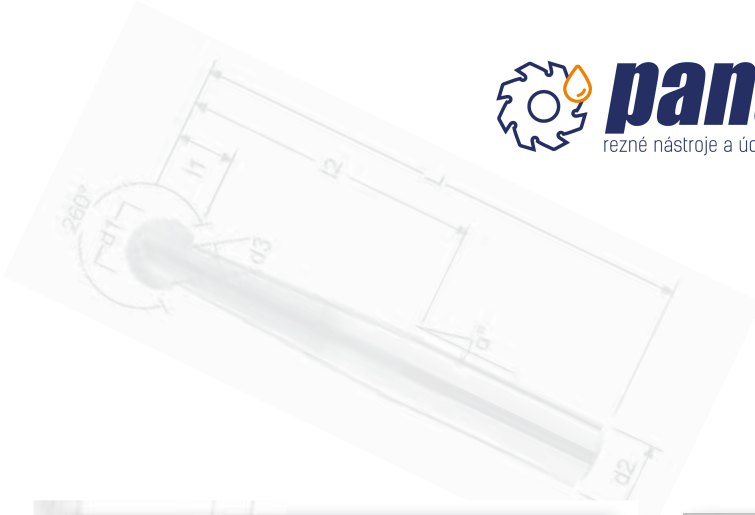


# TVRDOKOVOVÉ FRÉZY HSC A HHC DO 72HRC

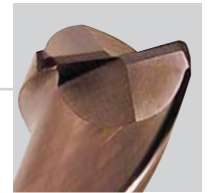


## Fresa testa torica in metallo duro integrale

### Solid carbide corner radius end mill

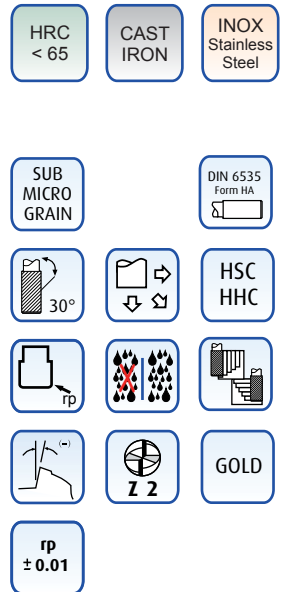
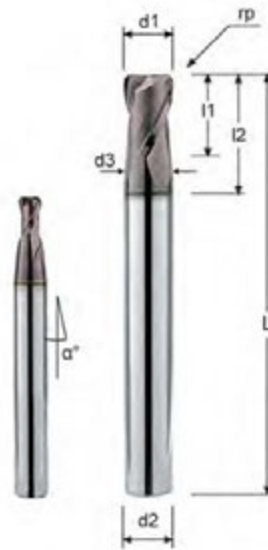
VHM - Torusfräser - Fraise carbure avec rayon d'angle

Фреза концевая твердосплавная с угловым радиусом - Sk fréza s rohovým rádiusem



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	$\alpha^\circ$
Y200R.010.02	1	6	0.2	1.5	-	75	-	2	13°30'
Y200R.015.02	1.5	6	0.2	2.5	-	75	-	2	15°
Y200R.020.03	2	6	0.3	3.0	-	75	-	2	13°30'
Y200R.030.03	3	6	0.3	5.0	-	75	-	2	10°30'
Y200R.040.05	4	6	0.5	6.0	-	75	-	2	6°
Y200R.040.1	4	6	1.0	6.0	-	75	-	2	6°
Y200R.060.05	6	6	0.5	10.0	20	100	5.8	2	-
Y200R.060.1	6	6	1.0	10.0	20	100	5.8	2	-
Y200R.080.05	8	8	0.5	12.0	24	100	7.8	2	-
Y200R.080.1	8	8	1.0	12.0	24	100	7.8	2	-
Y200R.100.05	10	10	0.5	15.0	30	100	9.8	2	-
Y200R.100.1	10	10	1.0	15.0	30	100	9.8	2	-
Y200R.100.15	10	10	1.5	15.0	30	100	9.8	2	-
Y200R.120.1	12	12	1.0	18.0	36	100	11.8	2	-
Y200R.120.15	12	12	1.5	18.0	36	100	11.8	2	-
Y200R.120.2	12	12	2.0	18.0	36	100	11.8	2	-
Y200R.160.15	16	16	1.5	25.0	40	100	15.8	2	-
Y200R.160.2	16	16	2.0	25.0	40	100	15.8	2	-

→ Help 156-157-158-159



## Fresa a palla 3D 260° in metallo duro integrale

### Solid carbide 3D 260° ball end mill

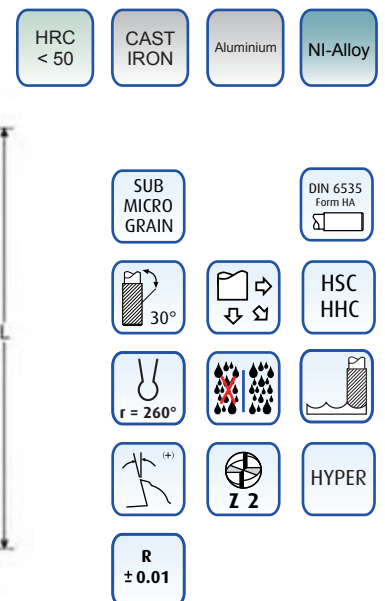
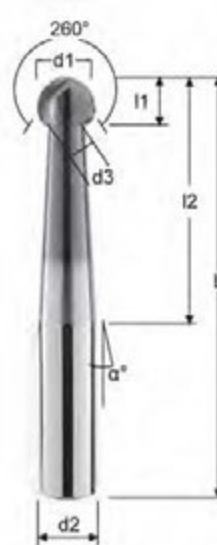
VHM - 3D 260° Radiusfräser - Fraise carbure 3D 260° a balle

Фреза концевая твердосплавная сферическая 3D 260° - Sk 3D 260° kulová fréza



CODE	d1h8 mm	d2h6 mm	l1 mm	d3 mm	l2 mm	L mm	Z no.	$\alpha^\circ$
200RB020075	2	4	1.7	1.0	17	75	2	6°
200RB030100	3	6	2.6	1.7	17	100	2	8°
200RB030150	3	6	2.6	1.7	30	150	2	4°25'
200RB040100	4	6	3.5	2.4	17	100	2	7°
200RB040150	4	6	3.5	2.4	30	150	2	3°50'
200RB060100	6	6	5.2	4.0	30	100	2	2°10'
200RB060150	6	6	5.2	4.0	45	150	2	1°20'
200RB080100	8	8	7.0	5.0	35	100	2	3°10'
200RB080150	8	8	7.0	5.0	50	150	2	1°55'
200RB100100	10	10	8.7	6.1	40	100	2	3°40'
200RB100150	10	10	8.7	6.1	60	150	2	2°10'
200RB120100	12	12	10.5	7.5	50	100	2	3°10'
200RB120150	12	12	10.5	7.5	75	150	2	1°50'

→ Help 154

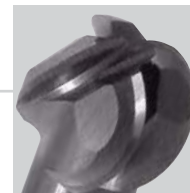


## Fresa a palla 3D 260° in metallo duro integrale

### Solid carbide 3D 260° ball end mill

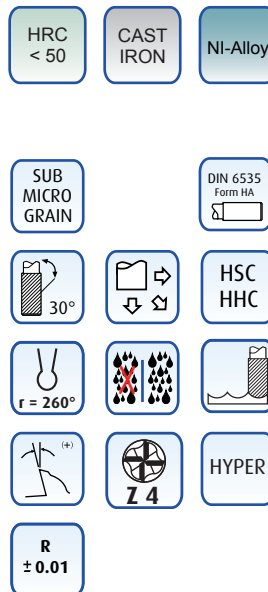
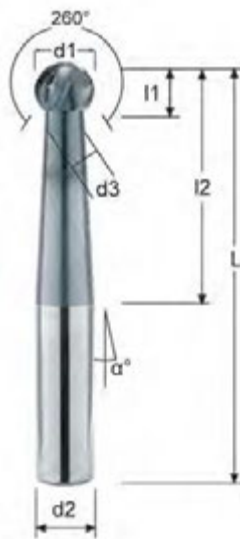
VHM - 3D 260° Radiusfräser - Fraise carbure 3D 260° a balle

Фреза концевая твердосплавная сферическая 3D 260° - Sk 3D 260° kulová fréza



CODE	d1h8 mm	d2h6 mm	l1 mm	d3 mm	l2 mm	L mm	Z no.	α°
400RB060100	6	6	5.2	4.0	30	100	4	2°10'
400RB060150	6	6	5.2	4.0	45	150	4	1°20'
400RB080100	8	8	7.0	5.0	35	100	4	3°10'
400RB080150	8	8	7.0	5.0	50	150	4	1°55'
400RB100100	10	10	8.7	6.1	40	100	4	3°40'
400RB100150	10	10	8.7	6.1	60	150	4	2°10'
400RB120100	12	12	10.5	7.5	50	100	4	3°10'
400RB120150	12	12	10.5	7.5	75	150	4	1°50'

→ Help 154



## Fresa testa sferica 3D Hard Cut in metallo duro integrale

### Solid carbide 3D ball nose end mill, Hard Cut

VHM - 3D Radiusfräser, Hard Cut - Fraise carbure 3D hémisphérique, Hard Cut

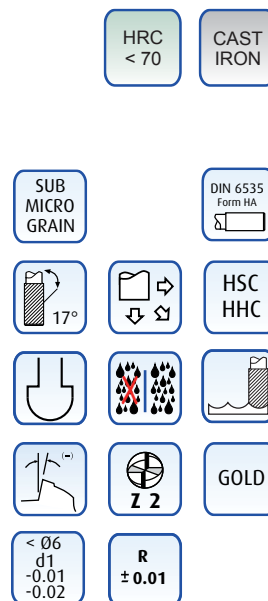
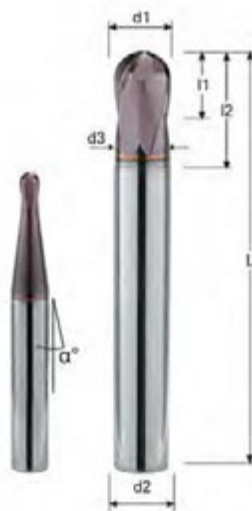
Фреза концевая твердосплавная полусферическая 3D для твердых материалов

Sk kulová fréza pro těžký řez



CODE	d1h8 mm	d2h6 mm	l1 mm	l2 mm	L mm	d3 mm	Z no.	α°
200DRJ.01050	1	6	1	3	50	0.95	2	20°
200DRJ.02050	2	6	3	6	50	1.95	2	10°
200DRJ.02057	2	6	3	6	57	1.95	2	10°
200DRJ.02075	2	6	2	6	75	1.95	2	10°
200DRJ.03050	3	6	4	9	50	2.9	2	8°
200DRJ.03057	3	6	4	9	57	2.9	2	8°
200DRJ.03075	3	6	3	9	75	2.9	2	8°
200DRJ.04050	4	6	5	12	50	3.9	2	6°
200DRJ.04057	4	6	5	12	57	3.9	2	6°
200DRJ.04075	4	6	4	12	75	3.9	2	6°
200DRJ.05057	5	6	6	16	57	4.9	2	3°
200DRJ.05075	5	6	6	16	75	4.9	2	3°
200DRJ.06057	6	6	6	20	57	5.9	2	-
200DRJ.06075	6	6	7	20	75	5.9	2	-
200DRJ.06100	6	6	6	20	100	5.9	2	-
200DRJ.06100.1	6	8	6	12	100	5.9	2	7°
200DRJ.08060	8	8	9	16	60	7.8	2	-
200DRJ.08075	8	8	9	29	75	7.8	2	-
200DRJ.08100	8	8	9	29	100	7.8	2	-
200DRJ.10070	10	10	10	20	70	9.8	2	-
200DRJ.10080	10	10	10	35	80	9.8	2	-
200DRJ.10100	10	10	10	35	100	9.8	2	-
200DRJ.12075	12	12	12	24	75	11.8	2	-
200DRJ.12100	12	12	12	37	100	11.8	2	-

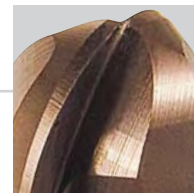
→ Help 160



## Fresa testa sferica 3D rastremata extralunga in metallo duro integrale

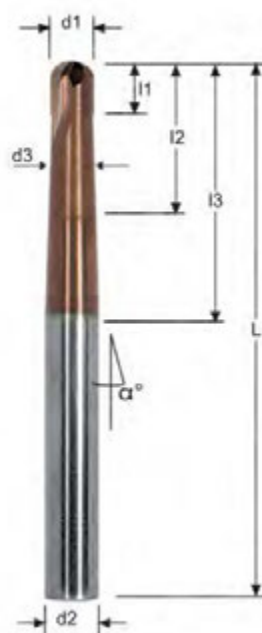
### Solid carbide 3D ball nose end mill, extra long tapered neck

VHM-3D- Radiusfräser mit Kugelstirn, überlang - Fraise carbure 3D hémisphérique, ultra-longue  
Фреза концевая твердосплавная полусферическая 3D длинная  
Sk 3D kulová fréza, extra dlouhá kuželová stopka



CODE	d1h8 mm	d2h6 mm	L1 mm	L2 mm	L3 mm	L mm	d3 mm	Z no.	$\alpha^\circ$
200DJ.010	1	6	3	5	35	100	0,95	2	4°44'
200DJ.015	1,5	6	3	6	35	100	1,45	2	4°56'
200DJ.020	2	6	3	7	35	100	1,95	2	5°
200DJ.030	3	6	4	10	35	100	2,9	2	5°43'
200DJ.040	4	6	5	13	35	100	3,8	2	6°29'
200DJ.050	5	6	6	16	35	100	4,8	2	7°30'
200DJ.060	6	8	6	18	35	100	5,8	2	3°22'
200DJ.080	8	10	8	24	58	109	7,8	2	1°40'
200DJ.100	10	12	10	30	58	109	9,8	2	2°
200DJ.120	12	14	12	36	58	109	11,8	2	1°

→ Help 160



HRC < 70  
CAST IRON

SUB  
MICRO  
GRAIN

DIN 6535  
Form HA



HSC  
HHC



Z 2

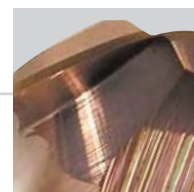
GOLD

R  
± 0.01

## Fresa testa sferica 3D in metallo duro integrale

### Solid carbide 3D ball nose end mill

VHM - 3D Radiusfräser - Fraise carbure 3D hémisphérique  
Фреза концевая твердосплавная полусферическая 3D, для твердых материалов  
Sk 3D kulová fréza



CODE	d1h8 mm	d2h6 mm	l1 mm	l2 mm	L mm	Z no.	$\alpha^\circ$
200SRJ.0105054	1	4	1.5	15	50	2	6°
200SRJ.0105056	1	6	1.5	15	50	2	10°52'
200SRJ.0155054	1.5	4	2.5	15	50	2	4°45'
200SRJ.0155056	1.5	6	2.5	15	50	2	9°49'
200SRJ.0207554	2	4	3	15	75	2	5°
200SRJ.0205056	2	6	3	15	50	2	10°
200SRJ.02550	2.5	6	3	15	50	2	9°
200SRJ.03075	3	6	4.5	20	75	2	5°30'
200SRJ.04075	4	6	6	20	75	2	4°
200SRJ.05075	5	6	7.5	20	75	2	2°
200SRJ.06050	6	6	9	-	50	2	-
200SRJ.06100	6	6	9	-	100	2	-
200SRJ.08100	8	8	12	-	100	2	-
200SRJ.10100	10	10	15	-	100	2	-
200SRJ.10150	10	10	15	-	150	2	-
200SRJ.12100	12	12	18	-	100	2	-
200SRJ.12150	12	12	18	-	150	2	-
200SRJ.16100	16	16	24	-	100	2	-
200SRJ.20100	20	20	30	-	100	2	-

→ Help 161



HRC < 55  
CAST IRON

SUB  
MICRO  
GRAIN

DIN 6535  
Form HA



HSC  
HHC



Z 2

GOLD

R  
± 0.01

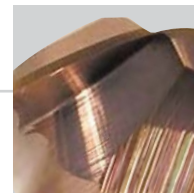
## Fresa testa sferica rastremata extralunga in metallo duro integrale

### Solid carbide 3D ball nose end mill, extra long tapered neck

VHM-3D- Radiusfräser mit Kugelstirn, überlang - Fraise carbure 3D hémisphérique, ultra-longue

Фреза концевая твердосплавная полусферическая 3D длинная

Sk 3D kulová fréza extra dlouhá kuželová stopka



CODE	d1h8 mm	d2h6 mm	l1 mm	l2 mm	L mm	Z no.	$\alpha^\circ$
200SRJ.02150	2	6	3	60	150	2	2°
200SRJ.03150	3	6	4.5	60	150	2	1°30'
200SRJ.04150	4	6	6	60	150	2	1°
200SRJ.04150.1	4	8	20	80	150	2	1°56'
200SRJ.05150	5	6	7.5	60	150	2	0°30'
200SRJ.05150.1	5	6	20	80	150	2	0°30'
200SRJ.06150	6	8	9	80	150	2	0°45'
200SRJ.06150.1	6	8	20	60	150	2	1°
200SRJ.08150	8	10	12	60	150	2	1°

→ Help 161



HRC < 55  
CAST IRON

SUB  
MICRO  
GRAIN

DIN 6535  
Form HA



HSC  
HHC



Z 2

GOLD

R  
± 0.01

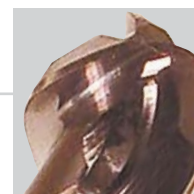
## Fresa testa sferica 3D rastremata extralunga in metallo duro integrale

### Solid carbide 3D ball nose end mill, extra long tapered neck

VHM-3D- Radiusfräser mit Kugelstirn, überlang - Fraise carbure 3D hémisphérique, ultra-longue

Фреза концевая твердосплавная полусферическая 3D, длинная

Sk 3D kulová fréza extra dlouhá kuželová stopka



CODE	d1h8 mm	d2h6 mm	l1 mm	l2 mm	L mm	Z no.	$\alpha^\circ$
400SRJ.040150	4	6	6	60	150	4	1°
400SRJ.040150.1	4	8	20	60	150	4	1°30'
400SRJ.060150	6	8	9	80	150	4	0°45'
400SRJ.060150.1	6	8	20	60	150	4	1°30'
400SRJ.080150	8	10	12	60	150	4	1°
400SRJ.100150	10	10	15	-	150	4	-
400SRJ.120150	12	12	18	-	150	4	-

→ Help 161



HRC < 55

CAST IRON

INOX  
Stainless  
Steel

SUB  
MICRO  
GRAIN

DIN 6535  
Form HA



HSC  
HHC



Z 4

GOLD

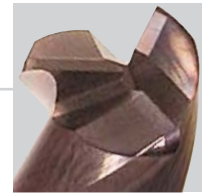
R  
± 0.01

## Fresa testa torica in metallo duro integrale

### Solid carbide corner radius end mill

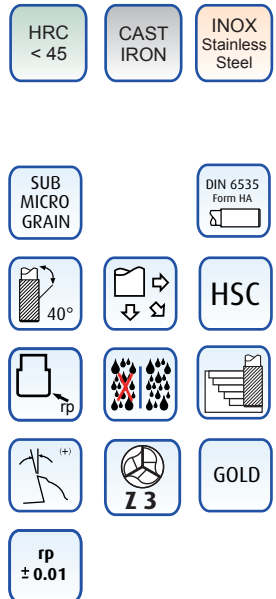
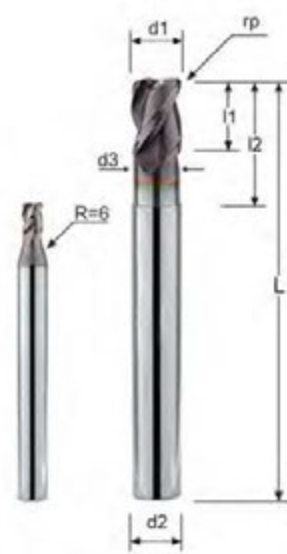
VHM - Torusfräser - Fraise carbure avec rayon d'angle

Фреза концевая твердосплавная с угловым радиусом - Sk fréza s rohovým rádiusem



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y300R.030.03	3	6	0.3	4.5	7	75	2.9	3
Y300R.040.04	4	6	0.4	6	9	75	3.9	3
Y300R.060.05	6	6	0.5	9	13	100	5.8	3
Y300R.060.1	6	6	1.0	9	13	100	5.8	3
Y300R.080.05	8	8	0.5	12	18	100	7.7	3
Y300R.080.1	8	8	1.0	12	18	100	7.7	3
Y300R.100.05	10	10	0.5	15	25	100	9.7	3
Y300R.100.1	10	10	1.0	15	25	100	9.7	3
Y300R.120.05	12	12	0.5	18	30	100	11.7	3
Y300R.120.1	12	12	1.0	18	30	100	11.7	3

→ Help 163-164

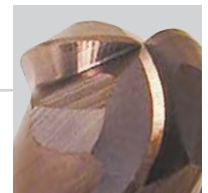


## Fresa testa sferica 3D Hard Cut in metallo duro integrale

### Solid carbide 3D ball nose end mill, Hard Cut

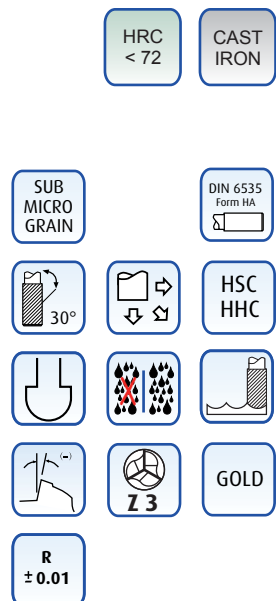
VHM - 3D Radiusfräser, Hard Cut - Fraise carbure 3D hémisphérique, Hard Cut

Фреза концевая твердосплавная полусферическая 3D для твердых материалов  
Sk 3D kulová fréza pro těžký řez



CODE	d1h8 mm	d2h6 mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
300NRJ.030	3	6	4.5	7.5	75	2.9	3
300NRJ.040	4	6	6	9	75	3.9	3
300NRJ.050	5	6	7	10	75	4.9	3
300NRJ.060	6	6	9	15	100	5.9	3
300NRJ.080	8	8	12	20	100	7.8	3
300NRJ.100	10	10	15	25	100	9.8	3
300NRJ.120	12	12	18	25	100	11.8	3

→ Help 162

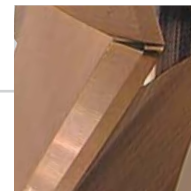




## Fresa ad Alta velocità in metallo duro integrale

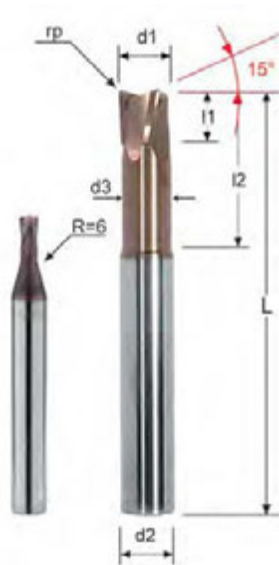
### Solid carbide High speed end mill

VHM - Torusfräser High speed - Fraise carbure avec rayon d'angle pour haute vitesse  
Фреза твердосплавная концевая для высокоскоростной обработки - Sk vysoko rychlostní fréza



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y303.030.02	3	6	0.2	4	9	60	2.95	4
Y303.030.05	3	6	0.5	4	9	60	2.95	4
Y303.040.05	4	6	0.5	5	12	60	3.95	4
Y303.040.1	4	6	1	5	12	60	3.95	4
Y303.060.05	6	6	0.5	6	18	60	5.8	4
Y303.060.1	6	6	1	6	18	60	5.8	4
Y303.060.15	6	6	1.5	6	18	60	5.8	4
Y303.080.05	8	8	0.5	8	24	75	7.8	4
Y303.080.1	8	8	1	8	24	75	7.8	4
Y303.080.15	8	8	1.5	8	24	75	7.8	4
Y303.100.05	10	10	0.5	10	30	80	9.8	4
Y303.100.1	10	10	1	10	30	80	9.8	4
Y303.100.15	10	10	1.5	10	30	80	9.8	4
Y303.100.2	10	10	2	10	30	80	9.8	4
Y303.120.05	12	12	0.5	12	36	100	11.8	4
Y303.120.1	12	12	1	12	36	100	11.8	4
Y303.120.15	12	12	1.5	12	36	100	11.8	4
Y303.120.2	12	12	2	12	36	100	11.8	4

→ Help 171



HRC  
< 70

SUB  
MICRO  
GRAIN

DIN 6535  
Form HA

10°

HSC  
HHC

rp

Z 4

GOLD

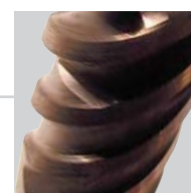
LAPPED

rp  
± 0.01

## Fresa per lavorazioni estreme in metallo duro integrale

### Solid carbide extreme milling end mill

VHM-Fräser für extremerspannung - Fraise carbure pour fraisages extrême  
Фреза концевая твердосплавная для тяжелого фрезерования - Sk fréza pro extrémní frézování



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	L mm	Z no.	α°
406.02057	2	6	-	4	57	3	15°
406.025057	2.5	6	-	5	57	3	15°
406.03057	3	6	-	8	57	4	15°
406.035057	3.5	6	-	7	57	4	15°
406.04057	4	6	-	12	57	4	15°
406.045057	4.5	6	-	9	57	4	15°
406.05057	5	6	-	15	57	4	15°
406.06057	6	6	-	18	57	4	-
406.06075	6	6	-	18	75	4	-
406.08063	8	8	-	16	63	4	-
406.08075	8	8	-	20	75	4	-
406.08100	8	8	-	24	100	4	-
406.09072	9	10	-	18	72	4	15°
406.10080	10	10	-	25	80	4	-
406.10100	10	10	-	30	100	4	-
406.12083	12	12	-	24	83	4	-
406.12100	12	12	-	30	100	4	-
406.12120	12	12	-	40	120	4	-
406.16092	16	16	-	32	92	4	-
406.16140	16	16	-	48	140	4	-
406.20100	20	20	-	40	100	4	-
406.20150	20	20	-	60	150	4	-

→ Help 169-170



HRC  
< 70

INOX  
Stainless  
Steel

SUB  
MICRO  
GRAIN

DIN  
NORM

DIN 6535  
Form HA

50°

HSC  
HHC

rp

Z 4

GOLD

LAPPED

rp  
± 0.01

## Fresa testa torica per lavorazioni estreme in metallo duro integrale

### Solid carbide extreme milling corner radius end mill

VHM-Eckenradius fräser für extremerspannung - Fraise carbure avec rayon pour fraisages extrême  
Фреза концевая твердосплавная с угловым радиусом для тяжелого фрезерования  
Sk fréza pro extrémní frézování



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	L mm	Z no.	$\alpha^\circ$
Y406.03057.02	3	6	0.2	8	57	4	15°
Y406.04057.02	4	6	0.2	12	57	4	15°
Y406.05057.02	5	6	0.2	15	57	4	15°
Y406.06057.02	6	6	0.2	18	57	4	-
Y406.06057.03	6	6	0.3	18	57	4	-
Y406.06057.05	6	6	0.5	18	57	4	-
Y406.06057.1	6	6	1.0	18	57	4	-
Y406.06075.02	6	6	0.2	18	75	4	-
Y406.06075.05	6	6	0.5	18	75	4	-
Y406.06075.1	6	6	1.0	18	75	4	-
Y406.08075.02	8	8	0.2	20	75	4	-
Y406.08075.05	8	8	0.5	20	75	4	-
Y406.08075.1	8	8	1.0	20	75	4	-
Y406.08100.02	8	8	0.2	24	100	4	-
Y406.08100.05	8	8	0.5	24	100	4	-
Y406.08100.1	8	8	1.0	24	100	4	-
Y406.10072.05	10	10	0.5	20	72	4	-
Y406.10080.02	10	10	0.2	25	80	4	-
Y406.10080.05	10	10	0.5	25	80	4	-
Y406.10080.1	10	10	1	25	80	4	-
Y406.10100.02	10	10	0.2	30	100	4	-
Y406.10100.05	10	10	0.5	30	100	4	-
Y406.10100.1	10	10	1	30	100	4	-
Y406.12100.05	12	12	0.5	30	100	4	-
Y406.12100.1	12	12	1	30	100	4	-
Y406.16100.05	16	16	0.5	40	100	4	-
Y406.16100.1	16	16	1	40	100	4	-
Y406.16140.1	16	16	1	60	140	4	-
Y406.20100.05	20	20	0.5	40	100	4	-
Y406.20100.1	20	20	1	40	100	4	-
Y406.20150.1	20	20	1	60	150	4	-

→ Help 169-170





## Fresa testa torica in metallo duro integrale Hard Cut

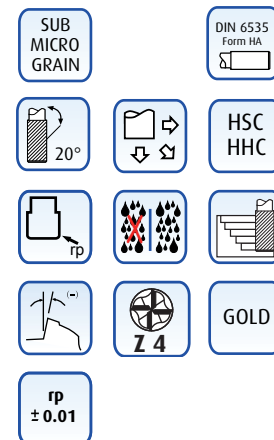
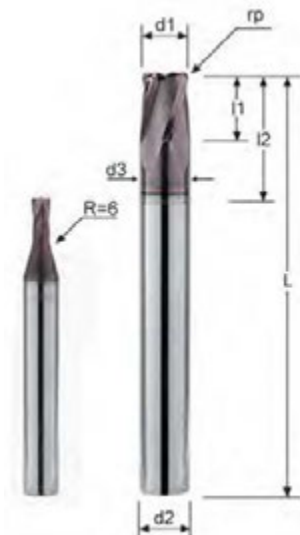
### Solid carbide corner radius end mill Hard Cut

VHM-Gesenkräfer mit Eckenradius Hard Cut - Fraise carbure avec rayon d'angle Hard Cut  
Фреза концевая твердосплавная с угловым радиусом для тяжелого фрезерования  
Sk fréza s rohovým rádiusem pro těžký řez



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y400RS.02057.02	2	6	0.2	3	6	57	1.95	4
Y400RS.0257.05	2	6	0.5	3	6	57	1.95	4
Y400RS.02075.02	2	6	0.2	3	6	75	1.95	4
Y400RS.0275.05	2	6	0.5	3	6	75	1.95	4
Y400RS.03057.02	3	6	0.2	4	9	57	2.95	4
Y400RS.03057.05	3	6	0.5	4	9	57	2.95	4
Y400RS.03075.03	3	6	0.3	4	9	75	2.95	4
Y400RS.03075.1	3	6	1	4	9	75	2.95	4
Y400RS.04057.02	4	6	0.2	5	12	57	3.9	4
Y400RS.04057.05	4	6	0.5	5	12	57	3.9	4
Y400RS.04075.05	4	6	0.5	5	12	75	3.9	4
Y400RS.04075.1	4	6	1	5	12	75	3.9	4
Y400RS.05057.05	5	6	0.5	6	16	57	4.9	4
Y400RS.05057.1	5	6	1	6	16	57	4.9	4
Y400RS.05075.05	5	6	0.5	6	16	75	4.9	4
Y400RS.05075.1	5	6	1	6	16	75	4.9	4
Y400RS.06057.05	6	6	0.5	7	20	57	5.8	4
Y400RS.06057.1	6	6	1	7	20	57	5.8	4
Y400RS.06057.15	6	6	1.5	7	20	57	5.8	4
Y400RS.06075.05	6	6	0.5	7	20	75	5.8	4
Y400RS.06075.1	6	6	1	7	20	75	5.8	4
Y400RS.06075.15	6	6	1.5	7	20	75	5.8	4
Y400RS.06100.05	6	6	0.5	7	20	100	5.8	4
Y400RS.06100.1	6	6	1	7	20	100	5.8	4
Y400RS.06100.15	6	6	1.5	7	20	100	5.8	4
Y400RS.08075.03	8	8	0.3	10	29	75	7.8	4
Y400RS.08075.05	8	8	0.5	10	29	75	7.8	4
Y400RS.08075.1	8	8	1	10	29	75	7.8	4
Y400RS.08075.15	8	8	1.5	10	29	75	7.8	4
Y400RS.08075.2	8	8	2	10	29	75	7.8	4
Y400RS.08100.05	8	8	0.5	10	29	100	7.8	4
Y400RS.08100.1	8	8	1	10	29	100	7.8	4
Y400RS.08100.15	8	8	1.5	10	29	100	7.8	4
Y400RS.08100.2	8	8	2	10	29	100	7.8	4
Y400RS.10080.05	10	10	0.5	11	35	80	9.8	4
Y400RS.10080.1	10	10	1	11	35	80	9.8	4
Y400RS.10080.15	10	10	1.5	11	35	80	9.8	4
Y400RS.10100.05	10	10	0.5	11	35	100	9.8	4
Y400RS.10100.1	10	10	1	11	35	100	9.8	4
Y400RS.10100.15	10	10	1.5	11	35	100	9.8	4
Y400RS.10100.2	10	10	2	11	35	100	9.8	4
Y400RS.12100.05	12	12	0.5	15	37	100	11.8	4
Y400RS.12100.1	12	12	1	15	37	100	11.8	4
Y400RS.12100.15	12	12	1.5	15	37	100	11.8	4
Y400RS.12100.2	12	12	2	15	37	100	11.8	4

HRC < 70  
CAST IRON



→ Help 168

## Fresa testa torica per lavorazioni estreme in metallo duro integrale

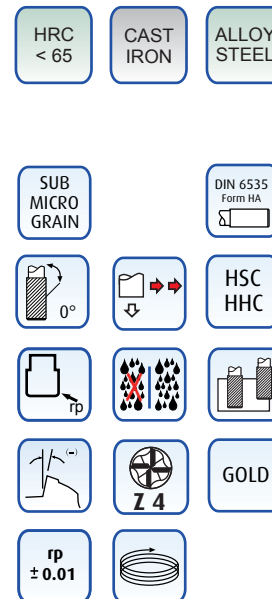
### Solid carbide extreme milling corner radius end mill

VHM-Eckenradius fräser für extremerspannung - Fraise carbure avec rayon pour fraisages extrême  
Фреза концевая твердосплавная с угловым радиусом для тяжелого фрезерования  
Sk fréza s rohovým rádiusem pro extrémní frézování



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y400D.02060.03	2	6	0.3	0.8	5	60	1.8	4
Y400D.02060.05	2	6	0.5	0.8	5	60	1.8	4
Y400D.03060.05	3	6	0.5	1.2	6	60	2.7	4
Y400D.03060.075	3	6	0.75	1.2	6	60	2.7	4
Y400D.03060.1	3	6	1	1.2	6	60	2.7	4
Y400D.04075.05	4	6	0.5	1.6	9	75	3.6	4
Y400D.04075.1	4	6	1	1.6	9	75	3.6	4
Y400D.05075.05	5	6	0.5	2	12	75	4.6	4
Y400D.05075.1	5	6	1	2	12	75	4.6	4
Y400D.05075.12	5	6	1.2	2	12	75	4.6	4
Y400D.06100.05	6	6	0.5	2.5	13	100	5.4	4
Y400D.06100.1	6	6	1	2.5	13	100	5.4	4
Y400D.06100.15	6	6	1.5	2.5	13	100	5.4	4
Y400D.08100.05	8	8	0.5	3.5	16	100	7.2	4
Y400D.08100.1	8	8	1	3.5	16	100	7.2	4
Y400D.08100.15	8	8	1.5	3.5	16	100	7.2	4
Y400D.08100.2	8	8	2	3.5	16	100	7.2	4
Y400D.10100.05	10	10	0.5	4	20	100	9	4
Y400D.10100.1	10	10	1	4	20	100	9	4
Y400D.10100.15	10	10	1.5	4	20	100	9	4
Y400D.10100.2	10	10	2	4	20	100	9	4
Y400D.12100.05	12	12	0.5	5	25	100	11	4
Y400D.12100.1	12	12	1	5	25	100	11	4
Y400D.12100.15	12	12	1.5	5	25	100	11	4
Y400D.12100.2	12	12	2	5	25	100	11	4
Y400D.16100.05	16	16	0.5	7	32	100	15	4
Y400D.16100.1	16	16	1	7	32	100	15	4
Y400D.16100.15	16	16	1.5	7	32	100	15	4
Y400D.16100.2	16	16	2	7	32	100	15	4
Y400D.16100.3	16	16	3	7	32	100	15	4

→ Help 171



## Fresa testa torica alto avanzamento in metallo duro integrale

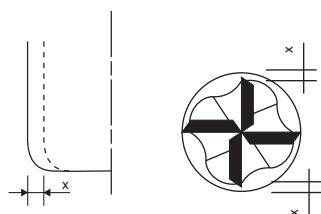
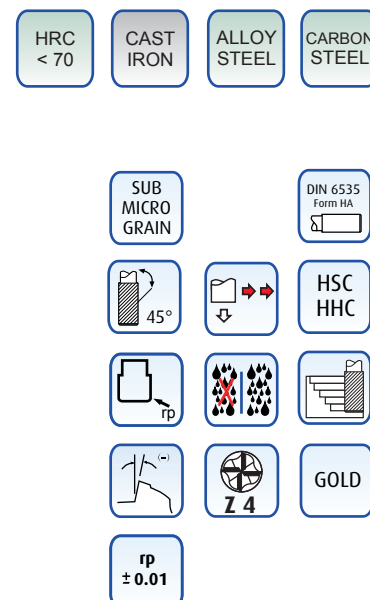
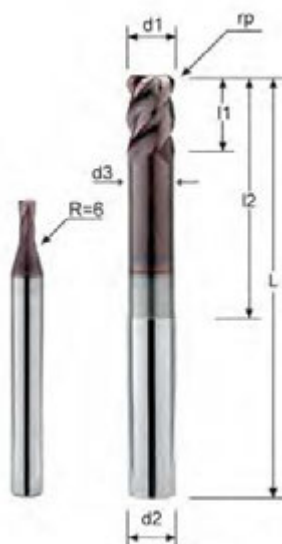
### Solid carbide corner radius end mill, High Feed

VHM - Gesenkräser mit Eckenradius High Feed - Fraise carbure avec rayon d'angle, High Feed  
Фреза концевая твердосплавная с угловым радиусом  
Sk rychloposuvová fréza s rohovým rádiusem



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y400R.040	4	6	1	8	12	75	3.95	4
Y400R.050	5	6	1.2	10	15	75	-	4
Y400R.060	6	6	1.5	12	-	100	-	4
Y400R.060.1	6	6	1.5	9	30	75	5.85	4
Y400R.080	8	8	2	16	-	100	-	4
Y400R.080.1	8	8	2	12	40	100	7.8	4
Y400R.100	10	10	2	20	-	100	-	4
Y400R.100.1	10	10	2	15	50	100	9.75	4
Y400R.120	12	12	2	24	-	100	-	4
Y400R.120.1	12	12	2	18	50	100	11.75	4

→ Help 172-173-174



## Fresa testa piana per superfinitura in metallo duro integrale

### Solid carbide flat nose end mill for superfine finish

VHM - Schaftfräser für superfine finish - Fraise carbure pour superfinition

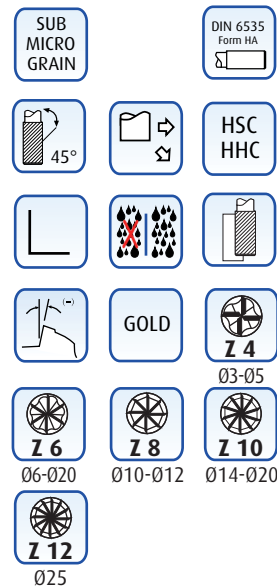
Фреза концевая твердосплавная для чистовой обработки - Sk rohová fréza pro super dokončování



CODE	d1h8 mm	d2h6 mm	l1 mm	L mm	Z no.
506.030	3	3	10	40	4
506.030.1	3	6	10	60	4
50603060	3	3	30	60	4
506.040	4	4	12	50	4
506.040.1	4	6	12	60	4
50604060	4	4	30	60	4
506.050	5	5	12	50	4
506.050.1	5	6	15	60	4
50605070	5	5	35	70	4
506.060	6	6	16	50	6
506.060.1	6	6	25	75	6
50606100	6	6	40	100	6
506.080	8	8	20	60	6
506.080.1	8	8	24	75	6
50608100	8	8	40	100	6
506.100.1	10	10	25	75	6
50610100.1	10	10	45	100	6
506.120.1	12	12	27	83	6
50612100.1	12	12	55	109	6
50616100.1	16	16	45	100	6
50616150.1	16	16	65	150	6
50620100	20	20	45	100	6
50620150.2	20	20	75	150	6

CODE	d1h8 mm	d2h6 mm	l1 mm	L mm	Z no.
506.100	10	10	22	70	8
50610100	10	10	45	100	8
506.120	12	12	27	75	8
50612100	12	12	45	100	8
506.140	14	14	27	85	10
50614100	14	14	45	100	10
506.160	16	16	30	85	10
50616100	16	16	45	100	10
50616150	16	16	65	150	10
506.180	18	18	38	100	10
506.200	20	20	38	100	10
50620150	20	20	65	150	10
50620150.1	20	20	75	150	10
50625150	25	25	75	150	12

→ Help 167-178



In questa sezione viene utilizzato esclusivamente Metallo duro Sub Micrograno al 9-12% Co, 0,5 Micron, specifico per lavorazione a secco ad alta velocità degli acciai temperati.

On this section we use only solid carbide grade with 9-12% Co, 0.5 Microns, specifically designed for high speed machining of hardened steels. Dry cutting.

Dieser Abschnitt ist ausschließlich Sub Micro Grain Hartmetall 9-12% Co, 0,5 Micron, die speziell für High-Speed-trockenen Bearbeitung von gehärteten Stählen verwendet.

Cette section utilise seulement carbure Sub Micrograin avec 9-12 % Co, 0.5 Micron, convenant sec coupe, haute vitesse des aciers trempés.

Твердый сплав 9-12% Co, 0,5 микрон, специальная разработка для высокоскоростной обработки закаленной стали. Сухая резка.

V této části budeme používat pouze slinutý karbid s 9-12% CO, 0,5 mikronů, speciálně navržen pro vysokorychlostní obrábění kalené oceli. Bez chlazení.

# Fresa testa torica Hard Cut in metallo duro integrale

## Solid carbide corner radius end mill, Hard Cut

VHM - Schaftfräser mit Eckenradius, Hard Cut - Fraise carbure avec rayon d'angle, Hard Cut

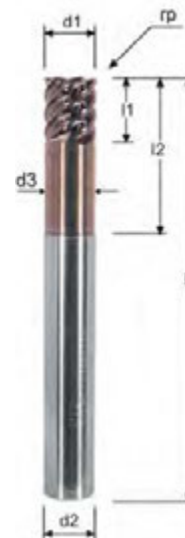
Фреза концевая твердосплавная с угловым радиусом для труднообрабатываемых материалов  
Sk fréza s rohovým rádiusem pro těžký řez



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y508.06057.02	6	6	0.2	7	20	57	5.8	6
Y508.06057.05	6	6	0.5	7	20	57	5.8	6
Y508.062057.05	6	6	0.5	20	-	57	-	6
Y508.06057.1	6	6	1	7	20	57	5.8	6
Y508.06075.02	6	6	0.2	7	20	75	5.8	6
Y508.06075.05	6	6	0.5	7	20	75	5.8	6
Y508.062575.05	6	6	0.5	25	-	75	-	6
Y508.06075.1	6	6	1	7	20	75	5.8	6
Y508.06100.02	6	6	0.2	7	20	100	5.8	6
Y508.06100.05	6	6	0.5	7	20	100	5.8	6
Y508.08075.02	8	8	0.2	9	29	75	7.8	6
Y508.08075.05	8	8	0.5	9	29	75	7.8	6
Y508.082575.05	8	8	0.5	25	-	75	-	6
Y508.08075.1	8	8	1	9	29	75	7.8	6
Y508.08100.02	8	8	0.2	8	29	100	7.8	6
Y508.08100.05	8	8	0.5	8	29	100	7.8	6
Y508.0840100.05	8	8	0.5	40	-	100	-	6
Y508.08100.1	8	8	1	8	29	100	7.8	6
Y508.10080.02	10	10	0.2	11	35	80	9.8	6
Y508.10080.05	10	10	0.5	11	35	80	9.8	6
Y508.103280.05	10	10	0.5	32	-	80	-	6
Y508.10080.1	10	10	1	11	35	80	9.8	6
Y508.10100.02	10	10	0.2	10	35	100	9.8	6
Y508.10100.05	10	10	0.5	10	35	100	9.8	6
Y508.1050100.05	10	10	0.5	50	-	100	-	6
Y508.10100.1	10	10	1	10	35	100	9.8	6
Y508.12100.02	12	12	0.2	13	37	100	11.7	6
Y508.12100.05	12	12	0.5	13	37	100	11.7	6
Y508.12100.1	12	12	1	13	37	100	11.7	6
Y508.1250109.05	12	12	0.5	50	-	109	-	8
Y508.1260109.05	12	12	0.5	60	-	109	-	8
Y508.16100.05	16	16	0.5	16	37	100	15.7	6
Y508.16100.1	16	16	1	16	37	100	15.7	6
Y508.1650100.05	16	16	0.5	50	-	100	-	10
Y508.1675150.05	16	16	0.5	75	-	150	-	10
Y508.20100.05	20	20	0.5	20	40	100	19.7	6
Y508.20100.1	20	20	1	20	40	100	19.7	6
Y508.2063109.05	20	20	0.5	63	-	109	-	12
Y508.20100150.05	20	20	0.5	100	-	150	-	12
Y508.2580150.05	25	25	0.5	80	-	150	-	15
Y508.25110160.05	25	25	0.5	110	-	160	-	15

→ Help 178

HRC < 72  
CAST IRON

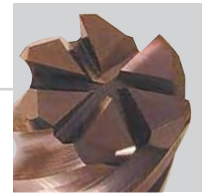


Ø12    Ø16    Ø20  
 06-020

## Fresa testa torica Hard Cut in metallo duro integrale

### Solid carbide corner radius end mill, Hard Cut

VHM - Schaftfräser mit Eckenradius, Hard Cut - Fraise carbure avec rayon d'angle, Hard Cut  
 Фреза концевая твердосплавная с угловым радиусом для труднообрабатываемых материалов  
 Sk fréza s rohovým rádiusem pro těžký řez



CODE	d1h8 mm	d2h6 mm	rp mm	l1 mm	l2 mm	L mm	d3 mm	Z no.
Y506.060.02	6	6	0.2	6	12	100	5.8	5
Y506.060.05	6	6	0.5	6	12	100	5.8	5
Y506.080.02	8	8	0.2	8	16	100	7.8	5
Y506.080.05	8	8	0.5	8	16	100	7.8	5
Y506.100.03	10	10	0.3	10	20	100	9.7	6
Y506.100.1	10	10	1.0	10	20	100	9.7	6
Y506.120.05	12	12	0.5	12	25	100	11.7	6
Y506.120.1	12	12	1.0	12	25	100	11.7	6
Y506.160.05	16	16	0.5	16	32	100	15.7	6
Y506.160.1	16	16	1.0	16	32	100	15.7	6
Y506.200.05	20	20	0.5	20	40	100	19.7	6
Y506.200.1	20	20	1.0	20	40	100	19.7	6

→ Help 178

Ad esaurimento  
 By exaustion  
 S odsáváním



HRC < 65  
 CAST IRON

SUB MICRO GRAIN

DIN 6535 Form HA

45°

HSC HHC

TP

GOLD

Z 5

Z 6

06 - 08

010 - 020



## Formule

### Formulas

Formel - Formules

Формулы

**Fz (mm) =** Avanzamento per Dente  
Feed per tooth  
Vorschub pro Zain  
Avance par dent  
Подача на зуб  
Posuv na zub

**N (1/min) =** Velocità di rotazione  
Rotation number  
Drehzahl  
Frequence de rotation  
Частота вращения шпинделя  
Otáčky

**Vc (m/min) =** Velocità di taglio  
Cutting speed  
Schnittgeschwindigkeit  
Vitesse de coupe  
Скорость резания  
Řezná rychlost

**Vf (mm/min) =** Velocità di avanzamento  
Feed Speed  
Vorschubgeschwindigkeit  
Vitesse d'avance  
Скорость подачи  
Rychlost posuvu

**Q (cm<sup>3</sup>/min) =** Volume truciolo asportato  
Quantity of removed chip  
Swarf Volumen  
Coupeau volume  
Количество снимаемой стружки  
Množství odebraného materiálu

$$Fz = \frac{Vf}{Z \times N} \text{ mm}$$

$$N = \frac{Vc \times 1000}{\pi \times \emptyset} \text{ 1/min.}$$

$$Vf = Z \times N \times fz \text{ mm/min.}$$

$$Vc = \frac{\pi \times \emptyset \times N}{1000} \text{ m/min.}$$

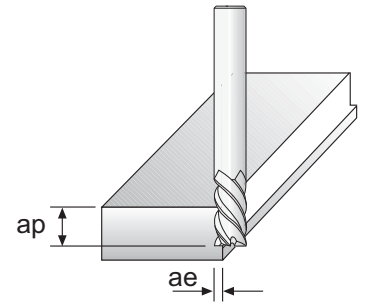
$$Q = \frac{a_e \times a_p \times V_f}{1000} \text{ cm}^3/\text{min.}$$



# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost



### CODE: 506 - Y506 - Y508 ROUGHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< HRC 48-60				< HRC 72			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
6	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d
8	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d
10	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d
12	275	0.128	0.033 x d	0.820 x d	125	0.100	0.028 x d	0.750 x d
16	275	0.128	0.033 x d	0.820 x d	125	0.100	0.028 x d	0.750 x d
20	275	0.170	0.033 x d	0.820 x d	125	0.144	0.028 x d	0.750 x d

### CODE: 506 - Y506 - Y508 FINISHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< HRC 48-60				< HRC 72			
Ø	Vc	Fz	ae	ap	Vc	Fz	ae	ap
6	340	0.045	0.020 x d	0.650 x d	140	0.030	0.010 x d	0.450 x d
8	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d
10	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d
12	340	0.135	0.020 x d	0.650 x d	140	0.115	0.010 x d	0.450 x d
16	340	0.135	0.020 x d	0.650 x d	140	0.115	0.010 x d	0.450 x d
20	340	0.180	0.020 x d	0.650 x d	140	0.165	0.010 x d	0.450 x d

### CODE: T2204

MATERIAL	Hardness	Applications			Vc	Fz(mm/Tooth)						
		Side Milling	Slot Milling	Slot Milling		m/min	Ø 6	Ø 8	Ø 10	Ø 12	Ø 16	Ø 20
	ap	ae	ap									
Steels СТАЛЬ	35-45	1.5 x d	0.40 x d	0.50 x d	150	0.020	0.025	0.030	0.040	0.050	0.065	0.070
	45-55	1.5 x d	0.33 x d	0.50 x d	110	0.015	0.020	0.025	0.030	0.040	0.050	0.055
	55-60	1.5 x d	0.25 x d	0.30 x d	90	0.010	0.015	0.020	0.025	0.030	0.040	0.045
Titanium ТИТАН	<40	1.5 x d	0.33 x d	0.50 x d	70	0.030	0.035	0.040	0.050	0.070	0.080	0.085
	>40	1.5 x d	0.25 x d	0.30 x d	60	0.025	0.030	0.035	0.045	0.060	0.075	0.080
Cast Iron ЧУГУН	-	1.5 x d	0.20 x d	0.25 x d	30	0.015	0.020	0.025	0.030	0.040	0.050	0.055
Inox	<900N	1.5 x d	0.20 x d	0.30 x d	25	0.014	0.020	0.032	0.044	0.053	0.059	0.065
	>900N	1.5 x d	0.20 x d	0.30 x d	20	0.014	0.020	0.032	0.044	0.053	0.059	0.065

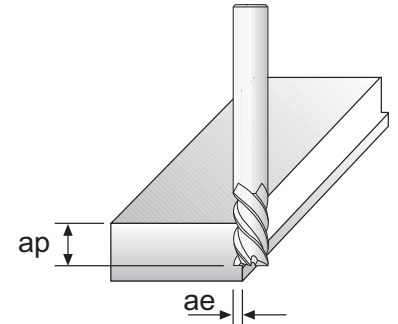
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y400R LOW REVOLUTION, HIGH DEPTH OF CUT

MATERIAL	Cast Iron -ЧУГУНн			Steel - СТАЛЬ		
HARDNESS	HB 150-250			HRC 25-35		
Ø	Vc	Fz	RPM	Vc	Fz	RPM
4.0	6.000	0.120	2.920	5.600	0.110	2.550
5.0	4.800	0.150	2.920	4.500	0.140	2.570
6.0	4.000	0.190	3.070	3.700	0.180	2.660
8.0	3.000	0.260	3.070	2.800	0.240	2.690
10.0	2.400	0.320	3.070	2.200	0.300	2.640
12.0	2.000	0.360	2.920	1.900	0.340	2.600

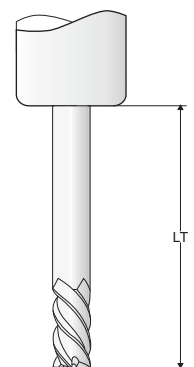


### CODE: Y400R LOW REVOLUTION, HIGH DEPTH OF CUT

MATERIAL	Steel - СТАЛЬ								
HARDNESS	HRC 35-45			HRC 45-55			<HRC 72		
Ø	n	FZ	VF	n	FZ	VF	n	FZ	VF
4	5.200	0.100	1.980	4.000	0.100	1.520	4.000	0.050	730
5	4.100	0.120	1.950	3.200	0.120	1.520	3.200	0.060	730
6	3.400	0.150	2.040	2.700	0.150	1.620	2.700	0.070	780
8	2.600	0.200	2.080	2.000	0.200	1.600	2.000	0.100	770
10	2.100	0.250	2.100	1.600	0.250	1.600	1.600	0.120	770
12	1.700	0.290	1.940	1.300	0.290	1.480	1.300	0.140	710

Ø d x L ap = depth of cut

MATERIAL		Cast Iron -ЧУГУНн		Steel - СТАЛЬ							
HARDNESS		HB 150-250		HRC 25-35		HRC 35-45		HRC 45-55		<HRC 72	
Ø	LТ	ap	ae	ap	ae	ap	ae	ap	ae	ap	ae
4	5 x d	0.600	1	0.540	1	0.480	1	0.360	1	0.210	1
	8 x d	0.460	1	0.414	1	0.368	1	0.276	1	0.161	1
5	5 x d	0.720	1.3	0.648	1.3	0.576	1.3	0.432	1.3	0.252	1.3
	8 x d	0.552	1.3	0.497	1.3	0.442	1.3	0.331	1.3	0.193	1.3
6	5 x d	0.900	1.5	0.810	1.5	0.720	1.5	0.540	1.5	0.315	1.5
	8 x d	0.690	1.5	0.621	1.5	0.552	1.5	0.414	1.5	0.242	1.5
8	5 x d	1.200	2	1.080	2	0.960	2	0.720	2	0.420	2
	8 x d	0.920	2	0.828	2	0.736	2	0.552	2	0.322	2
10	5 x d	1.200	3	1.080	3	0.960	3	0.720	3	0.420	3
	8 x d	0.920	3	0.828	3	0.736	3	0.552	3	0.322	3
12	5 x d	1.200	4	1.080	4	0.960	4	0.720	4	0.420	4
	8 x d	0.920	4	0.828	4	0.736	4	0.552	4	0.322	4



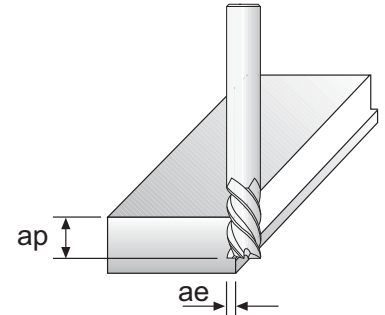
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y400R LOW REVOLUTION, HIGH FEED

MATERIAL	Cast Iron -ЧУГУНn			Steel - СТАЛЬ		
HARDNESS	HB 150-250			HRC 25-35		
Ø	n	FZ	VF	n	FZ	VF
4.0	6.000	0.270	6.380	5.600	0.240	5.450
5.0	4.800	0.330	6.380	4.500	0.300	5.470
6.0	4.000	0.420	6.720	3.700	0.380	6.680
8.0	3.000	0.560	6.720	2.800	0.510	5.730
10.0	2.400	0.700	6.720	2.200	0.640	5.630
12.0	2.000	0.800	6.380	1.900	0.730	5.540

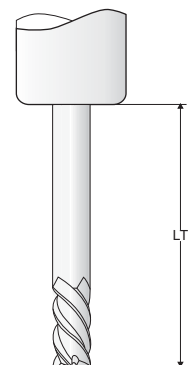


### CODE: Y400R LOW REVOLUTION, HIGH FEED

MATERIAL	Steel - СТАЛЬ								
HARDNESS	HRC 35-45			HRC 45-55			<HRC 72		
Ø	n	FZ	VF	n	FZ	VF	n	FZ	VF
4.0	5.200	0.190	3.950	4.000	0.190	3.040	4.000	0.080	1.220
5.0	4.100	0.240	3.900	3.200	0.240	3.040	3.200	0.100	1.220
6.0	3.400	0.300	4.080	2.700	0.300	3.240	2.700	0.120	1.300
8.0	2.600	0.400	4.160	2.000	0.400	3.200	2.000	0.160	1.280
10.0	2.100	0.500	4.200	1.600	0.500	3.200	1.600	0.200	1.280
12.0	1.700	0.570	3.880	1.300	0.570	2.960	1.300	0.230	1.190

Ø d x L ap = deep of cut

MATERIAL		Cast Iron -ЧУГУНn		Steel - СТАЛЬ							
HARDNESS		HB 150-250		HRC 25-35		HRC 35-45		HRC 45-55		<HRC 72	
Ø	Lt	ap	ae	ap	ae	ap	ae	ap	ae	ap	ae
4.0	5 x d	0.300	1	0.300	1	0.300	1	0.210	1	0.150	1
	8 x d	0.230	1	0.230	1	0.230	1	0.161	1	0.115	1
5.0	5 x d	0.360	1.3	0.360	1.3	0.360	1.3	0.252	1.3	0.180	1.3
	8 x d	0.276	1.3	0.276	1.3	0.276	1.3	0.193	1.3	0.138	1.3
6.0	5 x d	0.450	1.5	0.450	1.5	0.450	1.5	0.315	1.5	0.300	1.5
	8 x d	0.345	1.5	0.345	1.5	0.345	1.5	0.242	1.5	0.230	1.5
8.0	5 x d	0.600	2	0.600	2	0.600	2	0.420	2	0.300	2
	8 x d	0.460	2	0.460	2	0.460	2	0.322	2	0.230	2
10.0	5 x d	0.600	3	0.600	3	0.600	3	0.420	3	0.300	3
	8 x d	0.460	3	0.460	3	0.460	3	0.322	3	0.230	3
12.0	5 x d	0.600	4	0.600	4	0.600	4	0.420	4	0.300	4
	8 x d	0.460	4	0.460	4	0.460	4	0.322	4	0.230	4



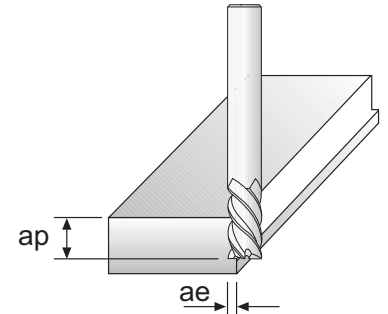
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y400R HIGH SPEED CONDITION - HIGH REVOLUTION, HIGH FEED

MATERIAL	Cast Iron -ЧУГУНn			Steel - СТАЛЬ		
HARDNESS	HB 150-250			HRC 25-35		
Ø	n	FZ	VF	n	FZ	VF
4.0	9.900	0.270	10.530	8.800	0.240	8.560
5.0	8.000	0.330	10.640	7.000	0.300	8.510
6.0	6.600	0.420	11.090	5.800	0.380	8.910
8.0	5.000	0.560	11.200	4.400	0.510	9.010
10.0	4.000	0.700	11.200	3.500	0.640	8.960
12.0	3.300	0.800	10.530	2.900	0.730	8.460

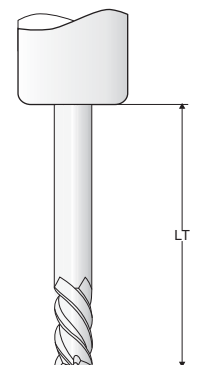


### CODE: Y400R HIGH SPEED CONDITION - HIGH REVOLUTION, HIGH FEED

MATERIAL	Steel - СТАЛЬ								
HARDNESS	HRC 35-45			HRC 45-55			<HRC 72		
Ø	n	FZ	VF	n	FZ	VF	n	FZ	VF
4.0	8.000	0.190	6.080	6.400	0.190	4.860	5.600	0.080	1.700
5.0	6.400	0.240	6.080	5.100	0.240	4.850	4.500	0.100	1.710
6.0	5.300	0.300	6.360	4.200	0.300	5.040	3.700	0.120	1.780
8.0	4.000	0.400	6.400	3.200	0.400	5.120	2.800	0.160	1.790
10.0	3.200	0.500	6.400	2.500	0.500	5.000	2.200	0.200	1.760
12.0	2.700	0.570	6.160	2.100	0.570	4.790	1.900	0.230	1.730

Ø d x L ap = deep of cut

MATERIAL		Cast Iron -ЧУГУНn		Steel - СТАЛЬ							
HARDNESS		HB 150-250		HRC 25-35		HRC 35-45		HRC 45-55		<HRC 72	
Ø	LT	ap	ae	ap	ae	ap	ae	ap	ae	ap	ae
4.0	5 x d	0.240	1	0.240	1	0.210	1	0.180	1	0.120	1
	8 x d	0.184	1	0.184	1	0.161	1	0.138	1	0.092	1
5.0	5 x d	0.288	1.3	0.288	1.3	0.252	1.3	0.216	1.3	0.144	1.3
	8 x d	0.221	1.3	0.221	1.3	0.193	1.3	0.166	1.3	0.110	1.3
6.0	5 x d	0.360	1.5	0.360	1.5	0.315	1.5	0.270	1.5	0.180	1.5
	8 x d	0.276	1.5	0.276	1.5	0.242	1.5	0.207	1.5	0.138	1.5
8.0	5 x d	0.480	2	0.480	2	0.420	2	0.360	2	0.240	2
	8 x d	0.368	2	0.368	2	0.322	2	0.276	2	0.184	2
10.0	5 x d	0.480	3	0.480	3	0.420	3	0.360	3	0.240	3
	8 x d	0.368	3	0.368	3	0.322	3	0.276	3	0.184	3
12.0	5 x d	0.480	4	0.480	4	0.420	4	0.360	4	0.240	4
	8 x d	0.368	4	0.368	4	0.322	4	0.276	4	0.184	4



# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řečná rychlost

### CODE: Y303 - Y400D LOW SPEED, HIGH FEED

MATERIAL	Carbon Steel-Cast Iron			Alloy Steel-Tool Steel - ЛЕГИРОВАННАЯ СТАЛЬ			Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ		
HARDNESS	750 N/mm2			<30 HRC			<45 HRC		
Ø	RPM	Vf	Fz	RPM	Vf	Fz	RPM	Vf	Fz
	R<2 ap=0.2XR ae=0.5xD 2<R ap=0.4mm ae=0.5xD								
2	15200	4990	0.08	15200	4510	0.07	10450	3180	0.07
3	9970	5940	0.14	9970	5320	0.13	7080	3705	0.13
4	7550	6270	0.20	7550	5700	0.19	5270	3990	0.19
5	6030	6650	0.28	6030	6030	0.25	4230	4230	0.25
6	5030	6650	0.33	5030	6030	0.30	3510	4230	0.30
8	3800	6650	0.43	3800	6030	0.39	2660	4230	0.40
10	3040	6650	0.54	3040	6030	0.49	2140	4230	0.50
12	2520	6650	0.66	2520	6030	0.59	1760	4230	0.60

MATERIAL	Carbon Steel-Cast Iron			Heat Resistant Steel-Ti Alloy - ЛЕГИРОВАННАЯ СТАЛЬ			Steel - СТАЛЬ		
HARDNESS	<40HRC			<55 HRC			<65 HRC		
Ø	RPM	Vf	Fz	RPM	Vf	Fz	RPM	Vf	Fz
	R<2 ap=0.2XR ae=0.5xD 2<R ap=0.4mm ae=0.5xD						R<2 ap=0.1XR ae=0.5xD 2<R ap=0.2mm ae=0.5xD		
2	11870	3610	0.07	7550	2040	0.06	4510	820	0.04
3	8070	4270	0.13	5030	2470	0.12	3040	940	0.08
4	6030	4560	0.19	3800	2610	0.17	2280	1000	0.11
5	4840	4840	0.25	3040	2710	0.22	1800	1090	0.15
6	4040	4840	0.30	2530	2710	0.26	1520	1090	0.18
8	3040	4840	0.40	1900	2710	0.36	1140	1090	0.23
10	2420	4840	0.50	1520	2710	0.44	910	1090	0.30
12	2000	4840	0.60	1280	2710	0.53	750	1090	0.36

The cutting speeds are referred to milling by interpolation. In case to milling without interpolation, reduce the parameters 50%60% (ONLY FOR Y400D).  
Y303: +30%

### CODE: Y303 - Y400D HIGH SPEED

MATERIAL	Carbon Steel-Cast Iron			Alloy Steel-Tool Steel - ЛЕГИРОВАННАЯ СТАЛЬ			Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ		
HARDNESS	750 N/mm2			<30 HRC			<45 HRC		
Ø	RPM	Vf	Fz	RPM	Vf	Fz	RPM	Vf	Fz
	R<2 ap=0.2XR ae=0.5xD 2<R ap=0.4mm ae=0.5xD								
2	30250	9970	0.08	30400	9070	0.07	22800	6800	0.07
3	19950	11870	0.14	19950	11400	0.14	15200	7980	0.13
4	15200	12350	0.20	15200	11400	0.18	11400	8550	0.18
5	11870	13300	0.28	11870	11870	0.25	9070	9070	0.25
6	10070	13300	0.33	10070	12060	0.30	7550	9070	0.30
8	7550	13300	0.44	7550	12060	0.40	5650	9070	0.40
10	6030	13300	0.55	6030	12060	0.50	4510	9070	0.50
12	5030	13300	0.66	5030	12060	0.60	3800	9070	0.60

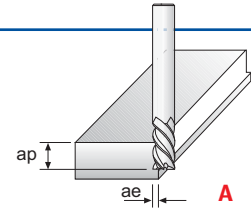
MATERIAL	Carbon Steel-Cast Iron			Heat Resistant Steel-Ti Alloy - ЛЕГИРОВАННАЯ СТАЛЬ			Steel - СТАЛЬ		
HARDNESS	<40HRC			<55 HRC			<60 HRC		
Ø	RPM	Vf	Fz	RPM	Vf	Fz	RPM	Vf	Fz
ap	ap=0.1xR ae=0.3xD			R<2 ap=0.2XR ae=0.5xD 2<R ap=0.4mm ae=0.5xD			R<2 ap=0.1XR ae=0.5xD 2<R ap=0.2mm ae=0.5xD		
2	30400	9070	0.07	22800	6130	0.06	15200	2710	0.04
3	19950	11400	0.14	15200	7450	0.12	9980	3130	0.07
4	15200	11400	0.18	11400	7790	0.17	7550	3370	0.11
5	11870	11870	0.25	9070	8170	0.22	6030	3610	0.15
6	10070	12060	0.30	7550	8170	0.27	5030	3610	0.18
8	7550	12060	0.40	5650	8170	0.36	3800	3610	0.23
10	6030	12060	0.50	4510	8170	0.45	3040	3610	0.30
12	5030	12060	0.60	3800	8170	0.53	2520	3610	0.36

The cutting speeds are referred to milling by interpolatin. In case to milling without interpolation, reduce the parameters 50%60% (ONLY FOR Y400D).  
Y303: +30%

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost



### CODE: 406 - Y406 ROUGHING

MATERIAL	Free Machining Steel ЛЕГКООБРАБАТЫВАЕМАЯ СТАЛЬ		Normal tool Steel ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ		Tool Steel & Steel Castings ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ И ЛИТЬЕВАЯ ФОРМА		Steel СТАЛЬ	
HARDNESS							< 50 HRC	
Ø	VC	FZ	VC	FZ	VC	FZ	VC	FZ
2	150 - 250	0.05 - 0.09	150 - 220	0.05 - 0.09	120 - 170	0.05 - 0.09	100 - 160	0.03 - 0.06
3 - 4	150 - 250	0.09 - 0.12	150 - 220	0.09 - 0.12	120 - 170	0.09 - 0.12	100 - 160	0.07 - 0.10
5 - 6	150 - 250	0.12 - 0.18	150 - 220	0.12 - 0.18	120 - 170	0.12 - 0.18	100 - 160	0.10 - 0.15
8	150 - 250	0.12 - 0.18	150 - 220	0.12 - 0.18	120 - 170	0.12 - 0.18	100 - 160	0.10 - 0.15
10	150 - 250	0.15 - 0.20	150 - 220	0.15 - 0.20	120 - 170	0.15 - 0.20	100 - 160	0.12 - 0.17
12	150 - 250	0.15 - 0.20	150 - 220	0.15 - 0.20	120 - 170	0.15 - 0.20	100 - 160	0.12 - 0.17
16	150 - 250	0.20 - 0.25	150 - 220	0.20 - 0.25	120 - 170	0.20 - 0.25	100 - 160	0.17 - 0.22
20	150 - 250	0.20 - 0.25	150 - 220	0.20 - 0.25	120 - 170	0.20 - 0.25	100 - 160	0.20 - 0.25

MATERIAL	Cast Iron - ЧУГУН						Stainless Steel	
HARDNESS	Grey - СЕРЫЙ		Spheroidal - СФЕРОИД		Tempered Casting - ТЕРМО ФОРМОВКА			
Ø	VC	FZ	VC	FZ	VC	FZ	VC	FZ
2	250 - 300	0.05 - 0.09	150 - 200	0.05 - 0.09	100 - 160	0.05 - 0.09	70 - 110	0.05 - 0.09
3 - 4	250 - 300	0.05 - 0.09	150 - 200	0.09 - 0.12	100 - 160	0.09 - 0.12	70 - 110	0.09 - 0.12
5 - 6	250 - 300	0.09 - 0.12	150 - 200	0.12 - 0.18	100 - 160	0.12 - 0.18	70 - 110	0.12 - 0.18
8	250 - 300	0.12 - 0.18	150 - 200	0.12 - 0.18	100 - 160	0.12 - 0.18	70 - 110	0.12 - 0.18
10	250 - 300	0.12 - 0.18	150 - 200	0.15 - 0.20	100 - 160	0.15 - 0.20	70 - 110	0.15 - 0.20
12	250 - 300	0.15 - 0.20	150 - 200	0.15 - 0.20	100 - 160	0.15 - 0.20	70 - 110	0.15 - 0.20
16	250 - 300	0.15 - 0.20	150 - 200	0.20 - 0.25	100 - 160	0.20 - 0.25	70 - 110	0.15 - 0.20
20	250 - 300	0.20 - 0.25	150 - 200	0.25 - 0.30	100 - 160	0.25 - 0.30	70 - 110	0.20 - 0.25

### CODE: 406 - Y406 FINISHING

MATERIAL	Free Machining Steel ЛЕГКООБРАБАТЫВАЕМАЯ СТАЛЬ		Normal tool Steel ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ		Tool Steel & Steel Castings ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ И ЛИТЬЕВАЯ ФОРМА		Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ	
HARDNESS								
Ø	VC	FZ	VC	FZ	VC	FZ	VC	FZ
2	250 - 350	0.05 - 0.09	220 - 300	0.05 - 0.09	170 - 250	0.05 - 0.09	110 - 150	0.05 - 0.09
3 - 4	250 - 350	0.09 - 0.12	220 - 300	0.09 - 0.12	170 - 250	0.09 - 0.12	110 - 150	0.09 - 0.12
5 - 6	250 - 350	0.12 - 0.18	220 - 300	0.12 - 0.18	170 - 250	0.12 - 0.18	110 - 150	0.12 - 0.18
8	250 - 350	0.12 - 0.18	220 - 300	0.12 - 0.18	170 - 250	0.12 - 0.18	110 - 150	0.12 - 0.18
10	250 - 350	0.15 - 0.20	220 - 300	0.15 - 0.20	170 - 250	0.15 - 0.20	110 - 150	0.15 - 0.20
12	250 - 350	0.15 - 0.20	220 - 300	0.15 - 0.20	170 - 250	0.15 - 0.20	110 - 150	0.15 - 0.20
16	250 - 350	0.20 - 0.25	220 - 300	0.20 - 0.25	170 - 250	0.20 - 0.25	110 - 150	0.20 - 0.25
20	250 - 350	0.20 - 0.25	220 - 300	0.20 - 0.25	170 - 250	0.20 - 0.25	110 - 150	0.20 - 0.25

MATERIAL	Steel - СТАЛЬ					
HARDNESS	< 50 HRC		< 60 HRC		< 70 HRC	
Ø	VC	FZ	VC	FZ	VC	FZ
2	190 - 250	0.03 - 0.06	120 - 250	0.03 - 0.06	80 - 120	0.03 - 0.06
3 - 4	190 - 250	0.07 - 0.10	120 - 250	0.07 - 0.10	80 - 120	0.07 - 0.10
5 - 6	190 - 250	0.10 - 0.15	120 - 250	0.10 - 0.15	80 - 120	0.10 - 0.15
8	190 - 250	0.10 - 0.15	120 - 250	0.10 - 0.15	80 - 120	0.10 - 0.15
10	190 - 250	0.12 - 0.17	120 - 250	0.12 - 0.17	80 - 120	0.12 - 0.17
12	190 - 250	0.12 - 0.17	120 - 250	0.12 - 0.17	80 - 120	0.12 - 0.17
16	190 - 250	0.17 - 0.22	120 - 250	0.17 - 0.22	80 - 120	0.17 - 0.22
20	190 - 250	0.20 - 0.25	120 - 250	0.20 - 0.25	80 - 120	0.20 - 0.25

MATERIAL	Cast Iron - ЧУГУН					
HARDNESS	Grey - СЕРЫЙ		Spheroidal - СФЕРОИД		Tempered Casting - ТЕРМО ФОРМОВКА	
Ø	VC	FZ	VC	FZ	VC	FZ
2	300 - 400	0.05 - 0.09	200 - 250	0.05 - 0.09	160 - 200	0.05 - 0.09
3 - 4	300 - 400	0.05 - 0.09	200 - 250	0.09 - 0.12	160 - 200	0.09 - 0.12
5 - 6	300 - 400	0.09 - 0.12	200 - 250	0.12 - 0.18	160 - 200	0.12 - 0.18
8	300 - 400	0.12 - 0.18	200 - 250	0.12 - 0.18	160 - 200	0.12 - 0.18
10	300 - 400	0.12 - 0.18	200 - 250	0.15 - 0.20	160 - 200	0.15 - 0.20
12	300 - 400	0.15 - 0.20	200 - 250	0.15 - 0.20	160 - 200	0.15 - 0.20
16	300 - 400	0.15 - 0.20	200 - 250	0.20 - 0.25	160 - 200	0.20 - 0.25
20	300 - 400	0.20 - 0.25	200 - 250	0.25 - 0.30	160 - 200	0.25 - 0.30

ap = up to 100%  
of Cutting Length

ae = up to 20%  
of the diameter  
for non-hardened materials

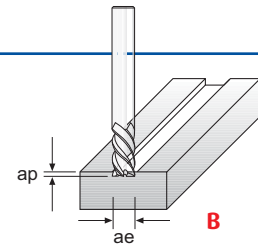
ae = up to 5%  
of the diameter  
for hardened materials



# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řežná rychlost



### CODE: 406 - Y406 ROUGHING

MATERIAL	Free Machining Steel ЛЕГКООБРАБАТЫВАЕМАЯ СТАЛЬ			Normal tool Steel ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ			Tool Steel & Steel Castings ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ И ЛИТЬЕВАЯ ФОРМА			Steel СТАЛЬ		
HARDNESS	< 50 HRC			< 50 HRC			< 50 HRC			< 50 HRC		
Ø	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap
2	150 - 250	0.02 - 0.04	1.0 - 1.5	150 - 220	0.02 - 0.04	1.0 - 1.5	120 - 170	0.02 - 0.04	1.0 - 1.5	150 - 190	0.02 - 0.04	0.04 - 0.1
3 - 4	150 - 250	0.03 - 0.06	1.5 - 2.0	150 - 220	0.03 - 0.06	1.5 - 2.0	120 - 170	0.03 - 0.06	1.5 - 2.0	150 - 190	0.03 - 0.06	0.08 - 0.2
5 - 6	150 - 250	0.05 - 0.08	2.5 - 3.0	150 - 220	0.05 - 0.08	2.5 - 3.0	120 - 170	0.05 - 0.08	2.5 - 3.0	150 - 190	0.05 - 0.08	0.1 - 0.3
8	150 - 250	0.05 - 0.08	3.5 - 4.0	150 - 220	0.05 - 0.08	3.5 - 4.0	120 - 170	0.05 - 0.08	3.5 - 4.0	150 - 190	0.05 - 0.08	0.15 - 0.4
10	150 - 250	0.06 - 0.10	4.5 - 5.0	150 - 220	0.06 - 0.10	4.5 - 5.0	120 - 170	0.06 - 0.10	4.5 - 5.0	150 - 190	0.06 - 0.10	0.2 - 0.5
12	150 - 250	0.07 - 0.12	5.0 - 6.0	150 - 220	0.07 - 0.12	5.0 - 6.0	120 - 170	0.07 - 0.12	5.0 - 6.0	150 - 190	0.07 - 0.12	0.2 - 0.6
16	150 - 250	0.08 - 0.12	6.0 - 8.0	150 - 220	0.08 - 0.12	6.0 - 8.0	120 - 170	0.08 - 0.12	6.0 - 8.0	150 - 190	0.08 - 0.12	0.2 - 0.8
20	150 - 250	0.08 - 0.12	6.0 - 8.0	150 - 220	0.08 - 0.12	6.0 - 8.0	120 - 170	0.08 - 0.12	6.0 - 8.0	150 - 190	0.08 - 0.12	0.2 - 0.8

MATERIAL	Cast Iron ЧУГУН									Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ		
HARDNESS	Grey - СЕРЫЙ			Spheroidal - СФЕРОИД			Tempered Casting - ТЕРМО ФОРМОВКА			< 50 HRC		
Ø	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap
2	250 - 300	0.02 - 0.04	1.0 - 1.5	150 - 220	0.02 - 0.04	1.0 - 1.5	100 - 160	0.02 - 0.04	1.0 - 1.5	70 - 110	0.02 - 0.04	0.3 - 0.7
3 - 4	250 - 300	0.03 - 0.06	1.5 - 2.0	150 - 220	0.03 - 0.06	1.5 - 2.0	100 - 160	0.03 - 0.06	1.5 - 2.0	70 - 110	0.03 - 0.06	0.7 - 1.2
5 - 6	250 - 300	0.05 - 0.08	2.5 - 3.0	150 - 220	0.05 - 0.08	2.5 - 3.0	100 - 160	0.05 - 0.08	2.5 - 3.0	70 - 110	0.05 - 0.08	1.5 - 1.8
8	250 - 300	0.05 - 0.08	3.5 - 4.0	150 - 220	0.05 - 0.08	3.5 - 4.0	100 - 160	0.05 - 0.08	3.5 - 4.0	70 - 110	0.05 - 0.08	2.0 - 2.5
10	250 - 300	0.06 - 0.10	4.5 - 5.0	150 - 220	0.06 - 0.10	4.5 - 5.0	100 - 160	0.06 - 0.10	4.5 - 5.0	70 - 110	0.06 - 0.10	2.5 - 3.0
12	250 - 300	0.07 - 0.12	5.0 - 6.0	150 - 220	0.07 - 0.12	5.0 - 6.0	100 - 160	0.07 - 0.12	5.0 - 6.0	70 - 110	0.07 - 0.12	3.0 - 3.5
16	250 - 300	0.08 - 0.12	6.0 - 8.0	150 - 220	0.08 - 0.12	6.0 - 8.0	100 - 160	0.08 - 0.12	6.0 - 8.0	70 - 110	0.08 - 0.12	4.0 - 4.5
20	250 - 300	0.08 - 0.12	6.0 - 8.0	150 - 220	0.08 - 0.12	6.0 - 8.0	100 - 160	0.08 - 0.12	6.0 - 8.0	70 - 110	0.08 - 0.12	4.0 - 4.5

### CODE: 406 - Y406 FINISHING

MATERIAL	Free Machining Steel ЛЕГКООБРАБАТЫВАЕМАЯ СТАЛЬ			Normal tool Steel ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ			Tool Steel & Steel Castings ИНСТРУМЕНТАЛЬНАЯ СТАЛЬ И ЛИТЬЕВАЯ ФОРМА			Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ		
HARDNESS	< 50 HRC			< 50 HRC			< 50 HRC			< 50 HRC		
Ø	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap
2	250 - 300	0.02 - 0.04	1.0 - 1.5	220-300	0.02 - 0.04	1.0 - 1.5	170-250	0.02 - 0.04	1.0 - 1.5	110-150	0.02 - 0.04	0.3 - 0.7
3 - 4	250 - 300	0.03 - 0.06	1.5 - 2.0	220-300	0.03 - 0.06	1.5 - 2.0	170-250	0.03 - 0.06	1.5 - 2.0	110-150	0.03 - 0.06	0.7 - 1.2
5 - 6	250 - 300	0.05 - 0.08	2.5 - 3.0	220-300	0.05 - 0.08	2.5 - 3.0	170-250	0.05 - 0.08	2.5 - 3.0	110-150	0.05 - 0.08	1.5 - 1.8
8	250 - 300	0.05 - 0.08	3.5 - 4.0	220-300	0.05 - 0.08	3.5 - 4.0	170-250	0.05 - 0.08	3.5 - 4.0	110-150	0.05 - 0.08	2.0 - 2.5
10	250 - 300	0.06 - 0.10	4.5 - 5.0	220-300	0.06 - 0.10	4.5 - 5.0	170-250	0.06 - 0.10	4.5 - 5.0	110-150	0.06 - 0.10	2.5 - 3.0
12	250 - 300	0.07 - 0.12	5.0 - 6.0	220-300	0.07 - 0.12	5.0 - 6.0	170-250	0.07 - 0.12	5.0 - 6.0	110-150	0.07 - 0.12	3.0 - 3.5
16	250 - 300	0.08 - 0.12	6.0 - 8.0	220-300	0.08 - 0.12	6.0 - 8.0	170-250	0.08 - 0.12	6.0 - 8.0	110-150	0.08 - 0.12	4.0 - 4.5
20	250 - 300	0.08 - 0.12	6.0 - 8.0	220-300	0.08 - 0.12	6.0 - 8.0	170-250	0.08 - 0.12	6.0 - 8.0	110-150	0.08 - 0.12	4.0 - 4.5

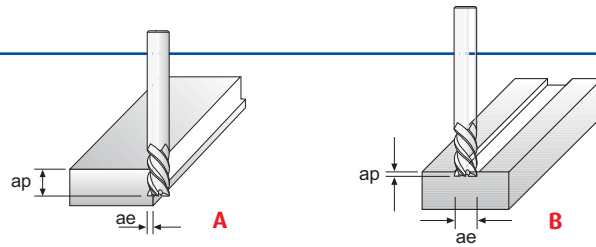
MATERIAL	Steel - СТАЛЬ								
HARDNESS	< 50 HRC			< 60 HRC			< 70 HRC		
Ø	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap
2	190 - 250	0.02 - 0.04	0.04 - 0.1	120 - 250	0.02 - 0.04	0.04 - 0.1	80 - 120	0.02 - 0.04	0.04 - 0.1
3 - 4	190 - 250	0.03 - 0.06	0.08 - 0.2	120 - 250	0.03 - 0.06	0.08 - 0.2	80 - 120	0.03 - 0.06	0.08 - 0.2
5 - 6	190 - 250	0.05 - 0.08	0.1 - 0.3	120 - 250	0.05 - 0.08	0.1 - 0.3	80 - 120	0.05 - 0.08	0.1 - 0.3
8	190 - 250	0.05 - 0.08	0.15 - 0.4	120 - 250	0.05 - 0.08	0.15 - 0.4	80 - 120	0.05 - 0.08	0.15 - 0.35
10	190 - 250	0.06 - 0.10	0.2 - 0.5	120 - 250	0.06 - 0.10	0.2 - 0.5	80 - 120	0.06 - 0.10	0.2 - 0.45
12	190 - 250	0.07 - 0.12	0.2 - 0.6	120 - 250	0.07 - 0.12	0.2 - 0.6	80 - 120	0.07 - 0.12	0.2 - 0.5
16	190 - 250	0.08 - 0.12	0.2 - 0.8	120 - 250	0.08 - 0.12	0.2 - 0.8	80 - 120	0.08 - 0.12	0.2 - 0.6
20	190 - 250	0.08 - 0.12	0.2 - 0.8	120 - 250	0.08 - 0.12	0.2 - 0.8	80 - 120	0.08 - 0.12	0.2 - 0.6

MATERIAL	Cast Iron - ЧУГУН								
HARDNESS	Grey - СЕРЫЙ			Spheroidal - СФЕРОИД			Tempered Casting - ТЕРМО ФОРМОВКА		
Ø	VC	FZ	ap	VC	FZ	ap	VC	FZ	ap
2	300 - 400	0.02 - 0.04	1.0 - 1.5	200 - 250	0.02 - 0.04	1.0 - 1.5	160 - 200	0.02 - 0.04	1.0 - 1.5
3 - 4	300 - 400	0.03 - 0.06	1.5 - 2.0	200 - 250	0.03 - 0.06	1.5 - 2.0	160 - 200	0.03 - 0.06	1.5 - 2.0
5 - 6	300 - 400	0.05 - 0.08	2.5 - 3.0	200 - 250	0.05 - 0.08	2.5 - 3.0	160 - 200	0.05 - 0.08	2.5 - 3.0
8	300 - 400	0.05 - 0.08	3.5 - 4.0	200 - 250	0.05 - 0.08	3.5 - 4.0	160 - 200	0.05 - 0.08	3.5 - 4.0
10	300 - 400	0.06 - 0.10	4.5 - 5.0	200 - 250	0.06 - 0.10	4.5 - 5.0	160 - 200	0.06 - 0.10	4.5 - 5.0
12	300 - 400	0.07 - 0.12	5.0 - 6.0	200 - 250	0.07 - 0.12	5.0 - 6.0	160 - 200	0.07 - 0.12	5.0 - 6.0
16	300 - 400	0.08 - 0.12	6.0 - 8.0	200 - 250	0.08 - 0.12	6.0 - 8.0	160 - 200	0.08 - 0.12	6.0 - 8.0
20	300 - 400	0.08 - 0.12	6.0 - 8.0	200 - 250	0.08 - 0.12	6.0 - 8.0	160 - 200	0.08 - 0.12	6.0 - 8.0

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres  
Режимы обработки - Řežná rychlost



### CODE: Y400RS ROUGHING - HIGH SPEED (B)

MATERIAL	Steel - СТАЛЬ								Cast Iron -ЧУГУ/Н			
	HRC 48-60				<HRC 70				VC	FZ	ae	ap
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap				
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
2	160	0.014	1 x d	0.044 x d	75	0.010	1 x d	0.028 x d	150	0.014	1 x d	0.042 x d
3	160	0.014	1 x d	0.044 x d	75	0.010	1 x d	0.028 x d	150	0.014	1 x d	0.042 x d
4	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d	150	0.028	1 x d	0.042 x d
5	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d	150	0.028	1 x d	0.042 x d
6	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d	150	0.028	1 x d	0.042 x d
8	160	0.055	1 x d	0.044 x d	75	0.043	1 x d	0.028 x d	150	0.058	1 x d	0.042 x d
10	160	0.055	1 x d	0.044 x d	75	0.043	1 x d	0.028 x d	150	0.058	1 x d	0.042 x d
12	160	0.083	1 x d	0.044 x d	75	0.065	1 x d	0.028 x d	150	0.084	1 x d	0.042 x d

### CODE: Y400RS FINISHING (B)

MATERIAL	Steel - СТАЛЬ								Cast Iron -ЧУГУ/Н			
	HRC 48-60				<HRC 70				VC	FZ	ae	ap
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap				
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
2	200	0.014	1 x d	0.020 x d	85	0.012	1 x d	0.010 x d	175	0.015	1 x d	0.020 x d
3	200	0.014	1 x d	0.020 x d	85	0.012	1 x d	0.010 x d	175	0.015	1 x d	0.020 x d
4	200	0.029	1 x d	0.020 x d	85	0.023	1 x d	0.010 x d	175	0.031	1 x d	0.020 x d
5	200	0.029	1 x d	0.020 x d	85	0.023	1 x d	0.010 x d	175	0.031	1 x d	0.020 x d
6	200	0.029	1 x d	0.020 x d	85	0.049	1 x d	0.010 x d	175	0.031	1 x d	0.020 x d
8	200	0.059	1 x d	0.020 x d	85	0.049	1 x d	0.010 x d	175	0.062	1 x d	0.020 x d
10	200	0.059	1 x d	0.020 x d	85	0.075	1 x d	0.010 x d	175	0.062	1 x d	0.020 x d
12	200	0.088	1 x d	0.020 x d	85	0.075	1 x d	0.010 x d	175	0.091	1 x d	0.020 x d

### CODE: Y400RS ROUGHING (A)

MATERIAL	Steel - СТАЛЬ								Cast Iron -ЧУГУ/Н			
	HRC 48-60				<HRC 70				VC	FZ	ae	ap
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap				
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
2	275	0.021	0.033 x d	0.820 x d	125	0.015	0.028 x d	0.750 x d	250	0.021	0.021 x d	0.850 x d
3	275	0.021	0.033 x d	0.820 x d	125	0.015	0.028 x d	0.750 x d	250	0.021	0.021 x d	0.850 x d
4	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d	250	0.043	0.021 x d	0.850 x d
5	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d	250	0.043	0.021 x d	0.850 x d
6	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d	250	0.043	0.021 x d	0.850 x d
8	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d	250	0.088	0.021 x d	0.850 x d
10	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d	250	0.088	0.021 x d	0.850 x d
12	275	0.128	0.033 x d	0.820 x d	125	0.100	0.028 x d	0.750 x d	250	0.129	0.021 x d	0.850 x d

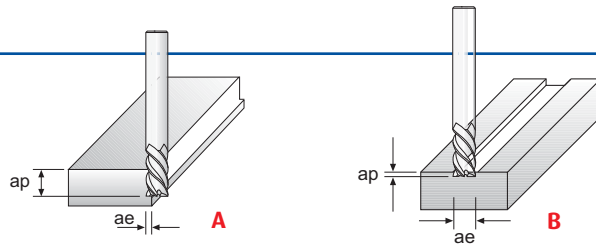
### CODE: Y400RS FINISHING (A)

MATERIAL	Steel - СТАЛЬ								Cast Iron -ЧУГУ/Н			
	HRC 48-60				<HRC 70				VC	FZ	ae	ap
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap				
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
2	340	0.022	0.020 x d	0.650 x d	140	0.018	0.010 x d	0.450 x d	285	0.023	0.010 x d	0.640 x d
3	340	0.022	0.020 x d	0.650 x d	140	0.018	0.010 x d	0.450 x d	285	0.023	0.010 x d	0.640 x d
4	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d	285	0.047	0.010 x d	0.640 x d
5	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d	285	0.047	0.010 x d	0.640 x d
6	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d	285	0.047	0.010 x d	0.640 x d
8	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d	285	0.095	0.010 x d	0.640 x d
10	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d	285	0.095	0.010 x d	0.640 x d
12	340	0.135	0.020 x d	0.650 x d	140	0.115	0.010 x d	0.450 x d	285	0.140	0.010 x d	0.640 x d

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres  
Режимы обработки - Режимы обработки



### CODE: Y401 SIDE MILLING (A)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm
6	80	0.025	4250	425	2.4	9	40	0.025	2120	210	2.40	9	25	0.020	1330	105	2.4	9	15	0.020	800	65	2.4	9
8	80	0.035	3200	445	3.2	12	40	0.035	1600	225	3.20	12	25	0.030	1000	120	3.2	12	15	0.030	600	70	3.2	12
10	80	0.045	2550	460	4.0	15	40	0.045	1300	230	4.00	15	25	0.035	800	110	4	15	15	0.035	480	65	4	15
12	80	0.050	2120	425	4.8	18	40	0.050	1060	210	4.80	18	25	0.040	670	105	4.8	18	15	0.040	400	65	4.8	18
16	80	0.075	1600	475	3.2	24	40	0.075	800	240	6.40	24	25	0.060	500	120	6.4	24	15	0.060	300	70	6.4	24

### CODE: Y401 SLOT MILLING (B)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm
6	60	0.030	3200	380	6	3	30	0.030	1600	190	6	3	20	0.025	1060	105	6	3	10	0.025	530	55	6	3
8	60	0.040	2390	380	8	4	30	0.040	1200	190	8	4	20	0.035	800	110	8	4	10	0.035	400	55	8	4
10	60	0.055	1910	420	10	5	30	0.055	960	210	10	5	20	0.045	640	115	10	5	10	0.045	320	60	10	5
12	60	0.055	1600	350	12	6	30	0.055	800	175	12	6	20	0.050	530	105	12	6	10	0.050	265	55	12	6
16	60	0.085	1200	405	16	8	30	0.085	600	200	16	8	20	0.075	400	120	16	8	10	0.075	200	60	16	8

### CODE: 506 - Y507 SIDE MILLING (A)

MATERIAL	Steel - СТАЛЬ																		Cast Iron - ЧУГУН					
	< 850						< HRC 52						< HRC 56											
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm
1	170	0.010	19100	764	0.10	1	110	0.010	35000	1400	0.05	1.5	90	0.010	28660	1146	0.1	1.5	130	0.010	41400	1656	0.1	1
2	170	0.010	19100	764	0.15	2	110	0.010	35000	1400	0.05	3	90	0.010	14330	573	0.1	3	130	0.010	20700	828	0.1	2
3	170	0.010	18046	721	0.15	3	110	0.015	11670	700	0.05	4.5	90	0.010	9550	380	0.1	4.5	130	0.010	13795	550	0.2	3
4	170	0.010	13535	541	0.20	4	110	0.020	8755	700	0.1	6	90	0.015	7160	430	0.1	6	130	0.010	10345	415	0.2	4
5	170	0.015	10828	650	0.25	5	110	0.025	7000	875	0.1	7.5	90	0.020	5730	575	0.1	7.5	130	0.015	8275	495	0.3	5
6	170	0.015	9020	810	0.30	9	110	0.030	5835	1050	0.1	9	90	0.025	4775	715	0.1	9	130	0.015	6895	620	0.3	9
8	170	0.025	6765	1015	0.40	12	110	0.040	4375	1050	0.1	12	90	0.030	3580	645	0.1	12	130	0.025	5175	775	0.4	12
10	170	0.030	5410	975	0.50	15	110	0.050	3500	1050	0.1	15	90	0.040	2865	690	0.1	15	130	0.030	4140	745	0.5	15
12	170	0.035	4510	945	0.60	18	110	0.060	2920	1050	0.1	18	90	0.050	2385	715	0.1	18	130	0.035	3450	725	0.6	18
16	170	0.045	3380	912	0.80	24	110	0.080	2190	1050	0.1	24	90	0.065	1790	700	0.1	24	130	0.045	2585	930	0.8	24
20	170	0.055	2705	892	1.0	30	110	0.100	1750	1050	0.1	30	90	0.080	1430	687	0.1	30	130	0.055	2070	683	1.00	30
25	170	0.070	2165	1818	1.25	37	110	0.120	1410	2030	0.1	37	90	0.100	1146	1375	0.1	37	130	0.060	1656	1192	1.25	37

### CODE: 506 - Y507 SIDE MILLING (A)

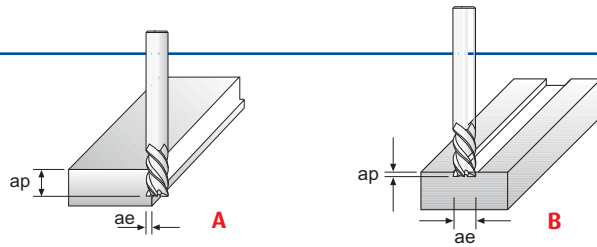
MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ					
HARDNESS												
Ø	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/'	Vf mm/min	ae mm	ap mm
1	90	0.010	28662	1720	0.50	1	130	0.010	41401	2484	0.05	1.5
2	90	0.010	14331	860	1.00	2	130	0.010	20701	1242	0.05	3
3	90	0.015	9554	860	1.50	3	130	0.020	13800	1656	0.05	4.5
4	90	0.020	7166	860	2.00	4	130	0.025	10350	1553	0.1	6
5	90	0.025	5732	860	2.50	5	130	0.030	8280	1490	0.1	7.5
6	90	0.030	4777	860	3.00	6	130	0.040	6900	1656	0.1	8
8	90	0.040	3583	860	4.00	8	130	0.055	5175	1708	0.1	12
10	90	0.055	2866	946	5.00	10	130	0.065	4140	1615	0.1	15
12	90	0.055	2389	788	6.00	12	130	0.070	3450	1449	0.12	18
16	90	0.085	1791	914	8.00	16	130	0.080	2588	1242	0.16	24
20	90	0.100	1433	860	10.0	20	130	0.100	2070	1242	0.20	30
25	90	0.120	1146	1651	12.00	25	130	0.120	1656	2384	0.25	37

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres

Режимы обработки - Режимы обработки



### CODE: 302 - 404 SIDE MILLING (A)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm
3	80	0.015	8490	380	1.2	3	40	0.015	4250	190	1.2	3	25	0.015	2650	120	1.2	3	15	0.015	1600	70	1.2	3
4	80	0.020	6365	380	1.6	4	40	0.020	3200	190	1.6	4	25	0.020	2000	120	1.6	4	15	0.020	1200	70	1.6	4
5	80	0.025	5095	380	2	5	40	0.025	2560	190	2	5	25	0.025	1600	120	2	5	15	0.025	960	70	2	5
6	80	0.030	4245	380	2.4	6	40	0.030	2120	190	2.4	6	25	0.030	1330	120	2.4	6	15	0.030	800	70	2.4	6
8	80	0.040	3185	380	3.2	8	40	0.040	1600	190	3.2	8	25	0.035	1000	105	3.2	8	15	0.035	600	60	3.2	8
10	80	0.055	2545	420	4	10	40	0.055	1280	210	4	10	25	0.045	800	105	4	10	15	0.045	480	65	4	10
12	80	0.065	2120	415	4.8	12	40	0.065	1050	205	4.8	12	25	0.050	670	100	4.8	12	15	0.050	410	60	4.8	12
16	80	0.085	1590	405	6.4	16	40	0.085	800	205	6.4	16	25	0.060	500	90	6.4	16	15	0.060	305	55	6.4	16

### CODE: 302 - 404 SLOT MILLING (B)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm
3	60	0.015	6370	285	3.00	1.5	30	0.015	3190	145	3	1.5	20	0.015	2120	95	3	1.5	10	0.015	1060	50	3	1.5
4	60	0.020	4780	285	4.00	2	30	0.020	2390	145	4	2	20	0.020	1600	95	4	2	10	0.020	800	50	4	2
5	60	0.025	3800	285	5.00	2.5	30	0.025	1900	145	5	2.5	20	0.025	1280	95	5	2.5	10	0.025	640	50	5	2.5
6	60	0.030	3200	285	6.00	3	30	0.030	1600	145	6	3	20	0.030	1080	95	6	3	10	0.030	530	50	6	3
8	60	0.040	3390	285	8.00	4	30	0.040	1200	145	8	4	20	0.035	800	95	8	4	10	0.035	401	40	8	4
10	60	0.055	1900	315	10.00	5	30	0.055	960	160	10	5	20	0.045	640	95	10	5	10	0.045	320	45	10	5
12	60	0.065	1600	310	12.00	6	30	0.065	800	155	12	6	20	0.050	540	95	12	6	10	0.050	270	40	12	6
16	60	0.085	1200	305	16.00	8	30	0.085	600	150	16	8	20	0.060	400	95	16	8	10	0.060	200	35	16	8

### CODE: Y401 SIDE MILLING (A)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm
3	80	0.015	8500	510	1.20	4.5	40	0.015	4250	260	1.20	4.5	25	0.010	2660	105	1.2	4.5	15	0.01	1600	65	1.2	4.5
4	80	0.020	6370	510	1.60	6	40	0.020	3190	260	1.60	6	25	0.015	2000	120	1.6	6	15	0.015	1200	70	1.6	6
5	80	0.025	5100	510	2.00	7.5	40	0.025	2550	260	2.00	7.5	25	0.020	1600	125	2	7.5	15	0.02	1000	75	2	7.5
6	80	0.025	4250	425	2.40	9	40	0.025	2120	210	2.40	9	25	0.020	1325	105	2.4	9	15	0.02	800	65	2.4	9
8	80	0.035	3190	445	3.20	12	40	0.035	1600	230	3.20	12	25	0.030	1000	120	3.2	12	15	0.03	600	70	3.2	12
10	80	0.045	2550	460	4.00	15	40	0.045	1280	230	4.00	15	25	0.035	800	110	4	15	15	0.035	480	65	4	15
12	80	0.050	2120	425	4.80	18	40	0.050	1060	210	4.80	18	25	0.040	665	105	4.8	18	15	0.04	400	65	4.8	18
16	80	0.075	1600	475	6.4	24	40	0.075	800	240	6.4	24	25	0.060	500	120	6.4	24	15	0.06	300	70	6.4	24

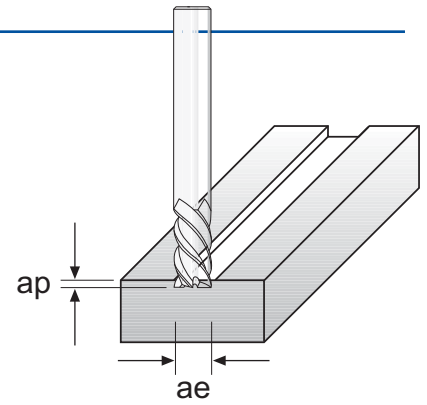
### CODE: Y401 SLOT MILLING (B)

MATERIAL	Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Stainless Steel НЕРЖАВЕЮЩАЯ СТАЛЬ						Super Alloy СУПЕР СПЛАВ						Inconel 718 ИНКОНЕЛЬ					
	Cr-Ni						Cr-Ni-Mo																	
HARDNESS																								
Ø	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm	Vc m/min	Fz mm	n min/°	Vf mm/min	ae mm	ap mm
3	60	0.015	6400	380	3	1.5	30	0.015	3185	190	3	1.5	20	0.015	2120	125	3	1.5	10	0.015	1060	65	3	1.5
4	60	0.020	4780	380	4	2	30	0.020	2385	190	4	2	20	0.020	1600	125	4	2	10	0.020	800	65	4	2
5	60	0.025	3820	380	5	2.5	30	0.025	1910	190	5	2.5	20	0.025	1280	130	5	2.5	10	0.025	640	65	5	2.5
6	60	0.030	3200	380	6	3	30	0.030	1590	190	6	3	20	0.025	1060	105	6	3	10	0.025	530	65	6	3
8	60	0.040	2390	380	8	4	30	0.040	1200	190	8	4	20	0.035	800	110	8	4	10	0.035	400	65	8	4
10	60	0.055	1910	420	10	5	30	0.055	960	190	10	5	20	0.045	640	115	10	5	10	0.045	320	65	10	5
12	60	0.055	1600	350	12	6	30	0.055	800	190	12	6	20	0.050	530	115	12	6	10	0.050	265	65	12	6
16	60	0.085	1200	410	16	8	30	0.085	600	190	16	8	20	0.075	400	120	16	8	10	0.075	200	65	16	8

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost



### CODE: Y300R ROUGHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУН			
	< 170 HB				< HRC 45							
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
Ø 3	180	0.015	1 x d	0.096 x d	165	0.014	1 x d	0.046 x d	150	0.014	1 x d	0.042 x d
Ø 4	180	0.029	1 x d	0.096 x d	165	0.027	1 x d	0.046 x d	150	0.028	1 x d	0.042 x d
Ø 6	180	0.029	1 x d	0.096 x d	165	0.055	1 x d	0.046 x d	150	0.028	1 x d	0.042 x d
Ø 8	180	0.060	1 x d	0.096 x d	165	0.055	1 x d	0.046 x d	150	0.058	1 x d	0.042 x d
Ø 10	180	0.060	1 x d	0.096 x d	165	0.083	1 x d	0.046 x d	150	0.058	1 x d	0.042 x d
Ø 12	180	0.092	1 x d	0.096 x d	165	0.083	1 x d	0.046 x d	150	0.084	1 x d	0.042 x d

MATERIAL	Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
Ø 3	85	0.010	1 x d	0.030 x d	85	0.011	1 x d	0.040 x d	25	0.009	1 x d	0.030 x d
Ø 4	85	0.021	1 x d	0.030 x d	85	0.022	1 x d	0.040 x d	25	0.018	1 x d	0.030 x d
Ø 6	85	0.021	1 x d	0.030 x d	85	0.022	1 x d	0.040 x d	25	0.018	1 x d	0.030 x d
Ø 8	85	0.042	1 x d	0.030 x d	85	0.044	1 x d	0.040 x d	25	0.034	1 x d	0.030 x d
Ø 10	85	0.042	1 x d	0.030 x d	85	0.044	1 x d	0.040 x d	25	0.034	1 x d	0.030 x d
Ø 12	85	0.063	1 x d	0.030 x d	85	0.065	1 x d	0.040 x d	25	0.054	1 x d	0.030 x d

### CODE: Y300R FINISHING - HIGH SPEED CUTTING

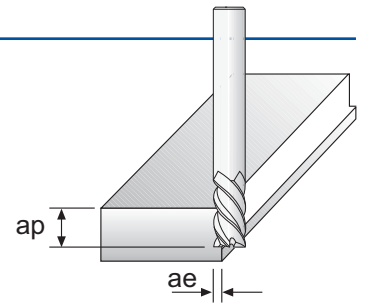
MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУН			
	< 170 HB				< HRC 45							
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
Ø 3	270	0.016	1 x d	0.032 x d	210	0.015	1 x d	0.020 x d	175	0.015	1 x d	0.020 x d
Ø 4	270	0.032	1 x d	0.032 x d	210	0.032	1 x d	0.020 x d	175	0.031	1 x d	0.020 x d
Ø 6	270	0.032	1 x d	0.032 x d	210	0.032	1 x d	0.020 x d	175	0.031	1 x d	0.020 x d
Ø 8	270	0.065	1 x d	0.032 x d	210	0.065	1 x d	0.020 x d	175	0.062	1 x d	0.020 x d
Ø 10	270	0.065	1 x d	0.032 x d	210	0.065	1 x d	0.020 x d	175	0.062	1 x d	0.020 x d
Ø 12	270	0.095	1 x d	0.032 x d	210	0.097	1 x d	0.020 x d	175	0.091	1 x d	0.020 x d

MATERIAL	Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
Ø 3	95	0.012	1 x d	0.010 x d	110	0.013	1 x d	0.010 x d	30	0.011	1 x d	0.010 x d
Ø 4	95	0.024	1 x d	0.010 x d	110	0.025	1 x d	0.010 x d	30	0.021	1 x d	0.010 x d
Ø 6	95	0.024	1 x d	0.010 x d	110	0.025	1 x d	0.010 x d	30	0.021	1 x d	0.010 x d
Ø 8	95	0.048	1 x d	0.010 x d	110	0.051	1 x d	0.010 x d	30	0.039	1 x d	0.010 x d
Ø 10	95	0.048	1 x d	0.010 x d	110	0.051	1 x d	0.010 x d	30	0.039	1 x d	0.010 x d
Ø 12	95	0.072	1 x d	0.010 x d	110	0.075	1 x d	0.010 x d	30	0.063	1 x d	0.010 x d

# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost



### CODE: Y300R ROUGHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУН			
	< 170 HB				< HRC 45							
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
3	310	0.024	0.046 x d	1.120 x d	285	0.022	0.035 x d	0.820 x d	250	0.021	0.021 x d	0.850 x d
4	310	0.048	0.046 x d	1.120 x d	285	0.044	0.035 x d	0.820 x d	250	0.043	0.021 x d	0.850 x d
6	310	0.048	0.046 x d	1.120 x d	285	0.044	0.035 x d	0.820 x d	250	0.043	0.021 x d	0.850 x d
8	310	0.097	0.046 x d	1.120 x d	285	0.089	0.035 x d	0.820 x d	250	0.088	0.021 x d	0.850 x d
10	310	0.097	0.046 x d	1.120 x d	285	0.089	0.035 x d	0.820 x d	250	0.088	0.021 x d	0.850 x d
12	310	0.145	0.046 x d	1.120 x d	285	0.134	0.035 x d	0.820 x d	250	0.129	0.021 x d	0.850 x d

MATERIAL	Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
3	140	0.017	0.020 x d	0.750 x d	140	0.018	0.020 x d	0.830 x d	40	0.015	0.020 x d	0.520 x d
4	140	0.035	0.020 x d	0.750 x d	140	0.036	0.020 x d	0.830 x d	40	0.030	0.020 x d	0.520 x d
6	140	0.035	0.020 x d	0.750 x d	140	0.036	0.020 x d	0.830 x d	40	0.030	0.020 x d	0.520 x d
8	140	0.070	0.020 x d	0.750 x d	140	0.073	0.020 x d	0.830 x d	40	0.056	0.020 x d	0.520 x d
10	140	0.070	0.020 x d	0.750 x d	140	0.073	0.020 x d	0.830 x d	40	0.056	0.020 x d	0.520 x d
12	140	0.104	0.020 x d	0.750 x d	140	0.108	0.020 x d	0.830 x d	40	0.090	0.020 x d	0.520 x d

### CODE: Y300R FINISHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУН			
	< 170 HB				< HRC 45							
HARDNESS	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
3	415	0.025	0.030 x d	0.850 x d	355	0.024	0.020 x d	0.650 x d	285	0.023	0.010 x d	0.640 x d
4	415	0.050	0.030 x d	0.850 x d	355	0.050	0.020 x d	0.650 x d	285	0.047	0.010 x d	0.640 x d
6	415	0.050	0.030 x d	0.850 x d	355	0.050	0.020 x d	0.650 x d	285	0.047	0.010 x d	0.640 x d
8	415	0.100	0.030 x d	0.850 x d	355	0.099	0.020 x d	0.650 x d	285	0.095	0.010 x d	0.640 x d
10	415	0.100	0.030 x d	0.850 x d	355	0.099	0.020 x d	0.650 x d	285	0.095	0.010 x d	0.640 x d
12	415	0.150	0.030 x d	0.850 x d	355	0.149	0.020 x d	0.650 x d	285	0.140	0.010 x d	0.640 x d

MATERIAL	Titanium - ТИТАН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
3	160	0.020	0.010 x d	0.430 x d	180	0.021	0.010 x d	0.580 x d	60	0.018	0.010 x d	0.350 x d
4	160	0.040	0.010 x d	0.430 x d	180	0.042	0.010 x d	0.580 x d	60	0.035	0.010 x d	0.350 x d
6	160	0.040	0.010 x d	0.430 x d	180	0.042	0.010 x d	0.580 x d	60	0.035	0.010 x d	0.350 x d
8	160	0.080	0.010 x d	0.430 x d	180	0.085	0.010 x d	0.580 x d	60	0.065	0.010 x d	0.350 x d
10	160	0.080	0.010 x d	0.430 x d	180	0.085	0.010 x d	0.580 x d	60	0.065	0.010 x d	0.350 x d
12	160	0.120	0.010 x d	0.430 x d	180	0.125	0.010 x d	0.580 x d	60	0.105	0.010 x d	0.350 x d



# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: 300NRJ MINIMUM CONDITION

Ø	< 20 HRC		20 - 30 HRC		30 - 40 HRC	
	VC m/min	200	VC m/min	200	VC m/min	200
	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)
3	21.000	3.80	21.000	3.10	21.000	3.10
4	16.000	3.70	16.000	3.50	16.000	3.50
5	13.000	4.00	13.000	3.80	13.000	3.80
6	11.000	4.10	11.000	4.00	11.000	4.00
8	8.000	4.00	8.000	3.90	8.000	3.90
10	6.400	3.80	6.400	3.80	6.400	3.80
12	5.300	3.70	5.300	3.60	5.300	3.60

Ø	40 - 50 HRC		50 - 60 HRC		< 72 HRC	
	VC m/min	200	VC m/min	200	VC m/min	200
	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)
3	21.000	3.00	21.000	2.30	21.000	1.50
4	16.000	3.40	16.000	2.60	16.000	1.72
5	13.000	3.70	13.000	2.75	13.000	1.83
6	11.000	3.80	11.000	2.90	11.000	1.91
8	8.000	3.70	8.000	2.80	8.000	1.86
10	6.400	3.70	6.400	2.80	6.400	1.86
12	5.300	3.40	5.300	2.60	5.300	1.72

Cutting depth: d x 0.05

### CODE: 300NRJ MAXIMUM CONDITION

Ø	< 20 HRC		20 - 30 HRC		30 - 40 HRC	
	VC m/min	300	VC m/min	300	VC m/min	300
	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)
3	32.000	4.90	32.000	4.70	32.000	4.70
4	24.000	5.50	24.000	5.30	24.000	5.30
5	19.000	5.50	19.000	5.70	19.000	5.70
6	16.000	6.20	16.000	5.90	16.000	5.90
8	12.000	6.00	12.000	5.80	12.000	5.80
10	9.500	5.90	9.500	5.70	9.500	5.70
12	8.000	5.50	8.000	5.30	8.000	5.30

Ø	40 - 50 HRC		50 - 60 HRC		< 72 HRC	
	VC m/min	300	VC m/min	300	VC m/min	300
	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)	RPM (min.-1)	vf (m/min.)
3	32.000	4.50	32.000	3.40	32.000	2.10
4	24.000	5.10	24.000	3.80	24.000	2.40
5	19.000	5.50	19.000	4.10	19.000	2.60
6	16.000	5.70	16.000	4.30	16.000	2.70
8	12.000	5.50	12.000	4.10	12.000	2.60
10	9.500	5.50	9.500	4.10	9.500	2.60
12	8.000	5.10	8.000	3.80	8.000	2.45

Cutting depth: d x 0.05

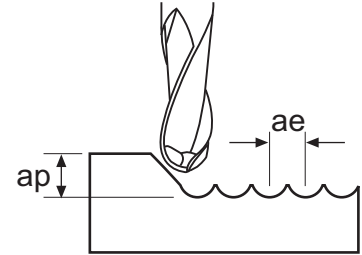
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: 200SRJ - 400SRJ ROUGHING - HIGH SPEED CUTTING

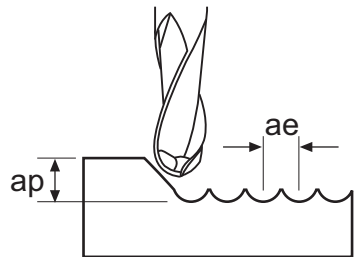
MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	240	0.045	0.400 x d	0.100 x d	225	0.040	0.300 x d	0.080 x d
4 - 6	240	0.080	0.400 x d	0.100 x d	225	0.070	0.300 x d	0.080 x d
8 - 10	240	0.160	0.400 x d	0.100 x d	225	0.130	0.300 x d	0.080 x d
12 - 16	240	0.220	0.400 x d	0.100 x d	225	0.200	0.300 x d	0.080 x d
20	240	0.300	0.400 x d	0.100 x d	225	0.260	0.300 x d	0.080 x d



MATERIAL	Steel - СТАЛЬ				Cast Iron - ЧУГУН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ			
HARDNESS	< HRC 48 - 60											
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	215	0.035	0.250 x d	0.060 x d	200	0.035	0.300 x d	0.080 x d	110	0.019	0.150 x d	0.080 x d
4 - 6	215	0.060	0.250 x d	0.060 x d	200	0.060	0.300 x d	0.080 x d	110	0.039	0.150 x d	0.080 x d
8 - 10	215	0.120	0.250 x d	0.060 x d	200	0.120	0.300 x d	0.080 x d	110	0.077	0.150 x d	0.080 x d
12 - 16	215	0.170	0.250 x d	0.060 x d	200	0.170	0.300 x d	0.080 x d	110	0.114	0.150 x d	0.080 x d
20	215	0.220	0.250 x d	0.060 x d	200	0.220	0.300 x d	0.080 x d	110	0.192	0.150 x d	0.080 x d

### CODE: 200SRJ - 400SRJ FINISHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	500	0.028	0.010 x d	0.020 x d	390	0.026	0.020 x d	0.010 x d
4 - 6	500	0.055	0.010 x d	0.020 x d	390	0.055	0.020 x d	0.010 x d
8 - 10	500	0.110	0.010 x d	0.020 x d	390	0.109	0.020 x d	0.010 x d
12 - 16	500	0.165	0.010 x d	0.020 x d	390	0.164	0.020 x d	0.010 x d
20	500	0.220	0.010 x d	0.020 x d	390	0.218	0.020 x d	0.010 x d



MATERIAL	Steel - СТАЛЬ				Cast Iron - ЧУГУН				Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ			
HARDNESS	< HRC 48 - 60											
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	375	0.024	0.010 x d	0.020 x d	325	0.025	0.020 x d	0.020 x d	215	0.022	0.010 x d	0.020 x d
4 - 6	375	0.050	0.010 x d	0.020 x d	325	0.025	0.020 x d	0.020 x d	215	0.045	0.010 x d	0.020 x d
8 - 10	375	0.099	0.010 x d	0.020 x d	325	0.105	0.020 x d	0.020 x d	215	0.090	0.010 x d	0.020 x d
12 - 16	375	0.149	0.010 x d	0.020 x d	325	0.154	0.020 x d	0.020 x d	215	0.133	0.010 x d	0.020 x d
20	375	0.198	0.010 x d	0.020 x d	325	0.209	0.020 x d	0.020 x d	215	0.223	0.010 x d	0.020 x d

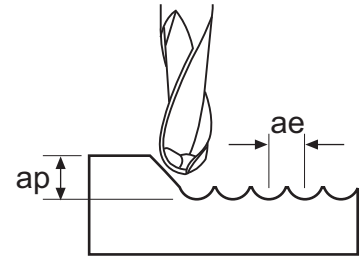
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: 200DRJ - 200DJ ROUGHING

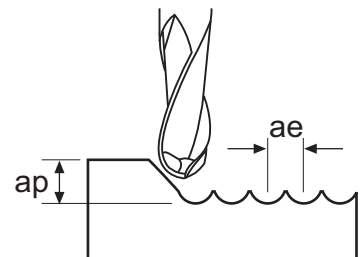
MATERIAL	Steel - СТАЛЬ							
HARDNESS	< HRC 48				< HRC 55			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1	150-250	0.02-0.04	0.100 x d	0.100 x d	100-180	0.02-0.03	0.100 x d	0.100 x d
2 - 3	150-250	0.04-0.07	0.100 x d	0.100 x d	100-180	0.03-0.06	0.100 x d	0.100 x d
4 - 6	150-250	0.08-0.11	0.100 x d	0.100 x d	100-180	0.07-0.10	0.100 x d	0.100 x d
8 - 10	150-250	0.11-0.14	0.100 x d	0.100 x d	100-180	0.10-0.13	0.100 x d	0.100 x d
12	150-250	0.12-0.15	0.100 x d	0.100 x d	100-180	0.12-0.14	0.100 x d	0.100 x d
16	150-250	0.14-0.16	0.100 x d	0.100 x d	100-180	0.14-0.16	0.100 x d	0.100 x d
20	150-250	0.17-0.20	0.100 x d	0.100 x d	100-180	0.16-0.18	0.100 x d	0.100 x d



MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУНн			
HARDNESS	< HRC 60				< HRC 65							
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
1	80-120	0.02-0.03	0.060 x d	0.060 x d	70-100	0.02-0.03	0.060 x d	0.060 x d	150-300	0.02-0.04	0.200 x d	0.200 x d
2 - 3	80-120	0.03-0.05	0.060 x d	0.060 x d	70-100	0.03-0.05	0.060 x d	0.060 x d	150-300	0.04-0.07	0.200 x d	0.200 x d
4 - 6	80-120	0.07-0.08	0.060 x d	0.060 x d	70-100	0.07-0.08	0.060 x d	0.060 x d	150-300	0.08-0.11	0.200 x d	0.200 x d
8 - 10	80-120	0.09-0.11	0.060 x d	0.060 x d	70-100	0.09-0.11	0.060 x d	0.060 x d	150-300	0.11-0.14	0.200 x d	0.200 x d
12	80-120	0.09-0.11	0.060 x d	0.060 x d	70-100	0.09-0.11	0.060 x d	0.060 x d	150-300	0.12-0.15	0.200 x d	0.200 x d
15	80-120	0.10-0.13	0.060 x d	0.060 x d	70-100	0.10-0.13	0.060 x d	0.060 x d	150-300	0.14-0.16	0.200 x d	0.200 x d
20	80-120	0.12-0.15	0.060 x d	0.060 x d	70-100	0.12-0.15	0.060 x d	0.060 x d	150-300	0.17-0.20	0.200 x d	0.200 x d

### CODE: 200DRJ - 200DJ FINISHING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< HRC 48				< HRC 55			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1	200-300	0.02-0.03	0.03-0.05	0.03-0.05	150-200	0.02-0.03	0.03-0.05	0.03-0.05
2 - 3	200-300	0.02-0.03	0.07-0.10	0.07-0.10	150-200	0.02-0.03	0.07-0.10	0.07-0.10
4 - 6	200-300	0.05-0.06	0.10-0.15	0.10-0.15	150-200	0.05-0.06	0.10-0.15	0.10-0.15
8 - 10	200-300	0.06-0.07	0.15-0.20	0.15-0.20	150-200	0.06-0.07	0.15-0.20	0.15-0.20
12	200-300	0.07-0.08	0.20-0.24	0.20-0.24	150-200	0.07-0.08	0.20-0.24	0.20-0.24
16	200-300	0.08-0.10	0.24-0.28	0.24-0.28	150-200	0.08-0.09	0.24-0.28	0.24-0.28
20	200-300	0.10-0.12	0.28-0.32	0.28-0.32	150-200	0.09-0.10	0.28-0.32	0.28-0.32



MATERIAL	Steel - СТАЛЬ								Cast Iron - ЧУГУНн			
HARDNESS	< HRC 60				< HRC 65							
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap	VC	FZ	ae	ap
1	100-130	0.01-0.02	0.03-0.05	0.03-0.05	80-120	0.01-0.02	0.03-0.05	0.03-0.05	200-300	0.02-0.03	0.100 x d	0.100 x d
2 - 3	100-130	0.01-0.03	0.07-0.10	0.07-0.10	80-120	0.01-0.03	0.07-0.10	0.07-0.10	200-300	0.02-0.03	0.100 x d	0.100 x d
4 - 6	100-130	0.03-0.05	0.10-0.15	0.10-0.15	80-120	0.03-0.05	0.10-0.15	0.10-0.15	200-300	0.05-0.06	0.100 x d	0.100 x d
8 - 10	100-130	0.05-0.07	0.15-0.20	0.15-0.20	80-120	0.05-0.07	0.15-0.20	0.15-0.20	200-300	0.06-0.07	0.100 x d	0.100 x d
12	100-130	0.06-0.07	0.20-0.24	0.20-0.24	80-120	0.06-0.07	0.20-0.24	0.20-0.24	200-300	0.07-0.08	0.100 x d	0.100 x d
15	100-130	0.07-0.08	0.24-0.28	0.24-0.28	80-120	0.07-0.08	0.24-0.28	0.24-0.28	200-300	0.08-0.10	0.100 x d	0.100 x d
20	100-130	0.08-0.10	0.28-0.32	0.28-0.32	80-120	0.08-0.10	0.28-0.32	0.28-0.32	200-300	0.10-0.12	0.100 x d	0.100 x d

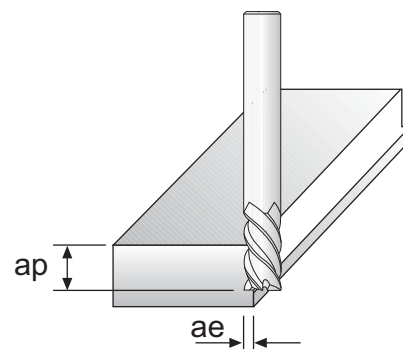
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y200R FINISHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	415	0.025	0.030 x d	0.850 x d	355	0.024	0.020 x d	0.650 x d
4	415	0.050	0.030 x d	0.850 x d	355	0.050	0.020 x d	0.650 x d
5	415	0.050	0.030 x d	0.850 x d	355	0.050	0.020 x d	0.650 x d
6	415	0.050	0.030 x d	0.850 x d	355	0.050	0.020 x d	0.650 x d
8	415	0.100	0.030 x d	0.850 x d	355	0.099	0.020 x d	0.650 x d
10	415	0.100	0.030 x d	0.850 x d	355	0.099	0.020 x d	0.650 x d
12 - 16	415	0.150	0.030 x d	0.850 x d	355	0.149	0.020 x d	0.650 x d



MATERIAL	Steel - СТАЛЬ							
HARDNESS	HRC 48-56				< HRC 65			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	340	0.022	0.020 x d	0.650 x d	140	0.018	0.010 x d	0.450 x d
4	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d
5	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d
6	340	0.045	0.020 x d	0.650 x d	140	0.035	0.010 x d	0.450 x d
8	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d
10	340	0.090	0.020 x d	0.650 x d	140	0.075	0.010 x d	0.450 x d
12 - 16	340	0.135	0.020 x d	0.650 x d	140	0.115	0.010 x d	0.450 x d

MATERIAL	Cast Iron - ЧУГУН				Titanium - ТИТАН			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	285	0.023	0.010 x d	0.640 x d	160	0.020	0.010 x d	0.430 x d
4	285	0.047	0.010 x d	0.640 x d	160	0.040	0.010 x d	0.430 x d
5	285	0.047	0.010 x d	0.640 x d	160	0.040	0.010 x d	0.430 x d
6	285	0.047	0.010 x d	0.640 x d	160	0.040	0.010 x d	0.430 x d
8	285	0.095	0.010 x d	0.640 x d	160	0.080	0.010 x d	0.430 x d
10	285	0.095	0.010 x d	0.640 x d	160	0.080	0.010 x d	0.430 x d
12 - 16	285	0.140	0.010 x d	0.640 x d	160	0.120	0.010 x d	0.430 x d

MATERIAL	Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	180	0.021	0.010 x d	0.580 x d	60	0.018	0.010 x d	0.350 x d
4	180	0.042	0.010 x d	0.580 x d	60	0.035	0.010 x d	0.350 x d
5	180	0.042	0.010 x d	0.580 x d	60	0.035	0.010 x d	0.350 x d
6	180	0.042	0.010 x d	0.580 x d	60	0.035	0.010 x d	0.350 x d
8	180	0.085	0.010 x d	0.580 x d	60	0.065	0.010 x d	0.350 x d
10	180	0.085	0.010 x d	0.580 x d	60	0.065	0.010 x d	0.350 x d
12 - 16	180	0.125	0.010 x d	0.580 x d	60	0.105	0.010 x d	0.350 x d

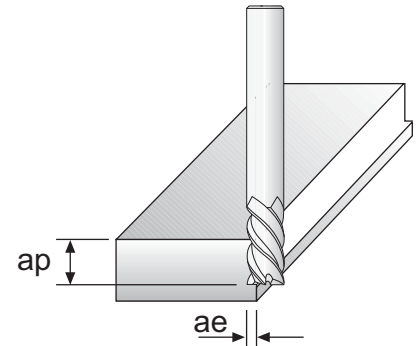
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y200R ROUGHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	310	0.024	0.046 x d	1.120 x d	285	0.022	0.035 x d	0.820 x d
4	310	0.048	0.046 x d	1.120 x d	285	0.044	0.035 x d	0.820 x d
5	310	0.048	0.046 x d	1.120 x d	285	0.044	0.035 x d	0.820 x d
6	310	0.048	0.046 x d	1.120 x d	285	0.044	0.035 x d	0.820 x d
8	310	0.097	0.046 x d	1.120 x d	285	0.089	0.035 x d	0.820 x d
10	310	0.097	0.046 x d	1.120 x d	285	0.089	0.035 x d	0.820 x d
12 - 16	310	0.145	0.046 x d	1.120 x d	285	0.134	0.035 x d	0.820 x d



MATERIAL	Steel - СТАЛЬ							
HARDNESS	HRC 48-56				< HRC 65			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	275	0.021	0.033 x d	0.820 x d	125	0.015	0.028 x d	0.750 x d
4	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d
5	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d
6	275	0.042	0.033 x d	0.820 x d	125	0.030	0.028 x d	0.750 x d
8	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d
10	275	0.085	0.033 x d	0.820 x d	125	0.065	0.028 x d	0.750 x d
12 - 16	275	0.128	0.033 x d	0.820 x d	125	0.100	0.028 x d	0.750 x d

MATERIAL	Cast Iron - ЧУГУН				Titanium - ТИТАН			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	250	0.021	0.021 x d	0.850 x d	140	0.017	0.020 x d	0.750 x d
4	250	0.043	0.021 x d	0.850 x d	140	0.035	0.020 x d	0.750 x d
5	250	0.043	0.021 x d	0.850 x d	140	0.035	0.020 x d	0.750 x d
6	250	0.043	0.021 x d	0.850 x d	140	0.035	0.020 x d	0.750 x d
8	250	0.088	0.021 x d	0.850 x d	140	0.070	0.020 x d	0.750 x d
10	250	0.088	0.021 x d	0.850 x d	140	0.070	0.020 x d	0.750 x d
12 - 16	250	0.129	0.021 x d	0.850 x d	140	0.104	0.020 x d	0.750 x d

MATERIAL	Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	140	0.018	0.020 x d	0.830 x d	40	0.015	0.020 x d	0.520 x d
4	140	0.036	0.020 x d	0.830 x d	40	0.030	0.020 x d	0.520 x d
5	140	0.036	0.020 x d	0.830 x d	40	0.030	0.020 x d	0.520 x d
6	140	0.036	0.020 x d	0.830 x d	40	0.030	0.020 x d	0.520 x d
8	140	0.073	0.020 x d	0.830 x d	40	0.056	0.020 x d	0.520 x d
10	140	0.073	0.020 x d	0.830 x d	40	0.056	0.020 x d	0.520 x d
12 - 16	140	0.108	0.020 x d	0.830 x d	40	0.090	0.020 x d	0.520 x d

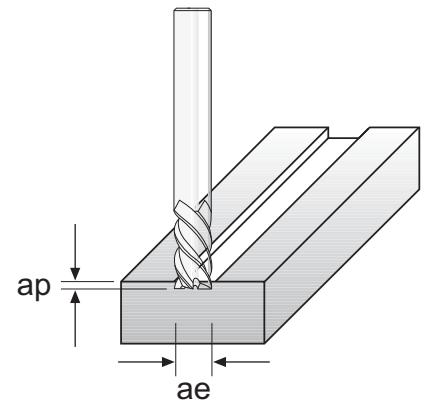
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### CODE: Y200R FINISHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	270	0.016	1 x d	0.032 x d	210	0.015	1 x d	0.020 x d
4	270	0.032	1 x d	0.032 x d	210	0.032	1 x d	0.020 x d
5	270	0.032	1 x d	0.032 x d	210	0.032	1 x d	0.020 x d
6	270	0.032	1 x d	0.032 x d	210	0.032	1 x d	0.020 x d
8	270	0.065	1 x d	0.032 x d	210	0.065	1 x d	0.020 x d
10	270	0.065	1 x d	0.032 x d	210	0.065	1 x d	0.020 x d
12 - 16	270	0.095	1 x d	0.032 x d	210	0.097	1 x d	0.020 x d



MATERIAL	Steel - СТАЛЬ							
HARDNESS	HRC 48-56				< HRC 65			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	160	0.014	1 x d	0.044 x d	85	0.012	1 x d	0.010 x d
4	160	0.014	1 x d	0.044 x d	85	0.012	1 x d	0.010 x d
5	160	0.027	1 x d	0.044 x d	85	0.023	1 x d	0.010 x d
6	160	0.027	1 x d	0.044 x d	85	0.023	1 x d	0.010 x d
8	160	0.027	1 x d	0.044 x d	85	0.049	1 x d	0.010 x d
10	160	0.055	1 x d	0.044 x d	85	0.049	1 x d	0.010 x d
12 - 16	160	0.055	1 x d	0.044 x d	85	0.075	1 x d	0.010 x d

MATERIAL	Cast Iron - ЧУГУН				Titanium - ТИТАН			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	175	0.015	1 x d	0.020 x d	95	0.012	1 x d	0.010 x d
4	175	0.015	1 x d	0.020 x d	95	0.024	1 x d	0.010 x d
5	175	0.031	1 x d	0.020 x d	95	0.024	1 x d	0.010 x d
6	175	0.031	1 x d	0.020 x d	95	0.024	1 x d	0.010 x d
8	175	0.031	1 x d	0.020 x d	95	0.048	1 x d	0.010 x d
10	175	0.062	1 x d	0.020 x d	95	0.048	1 x d	0.010 x d
12 - 16	175	0.062	1 x d	0.020 x d	95	0.072	1 x d	0.010 x d

MATERIAL	Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	110	0.013	1 x d	0.010 x d	30	0.011	1 x d	0.010 x d
4	110	0.025	1 x d	0.010 x d	30	0.021	1 x d	0.010 x d
5	110	0.025	1 x d	0.010 x d	30	0.021	1 x d	0.010 x d
6	110	0.025	1 x d	0.010 x d	30	0.021	1 x d	0.010 x d
8	110	0.051	1 x d	0.010 x d	30	0.039	1 x d	0.010 x d
10	110	0.051	1 x d	0.010 x d	30	0.039	1 x d	0.010 x d
12 - 16	110	0.075	1 x d	0.010 x d	30	0.063	1 x d	0.010 x d



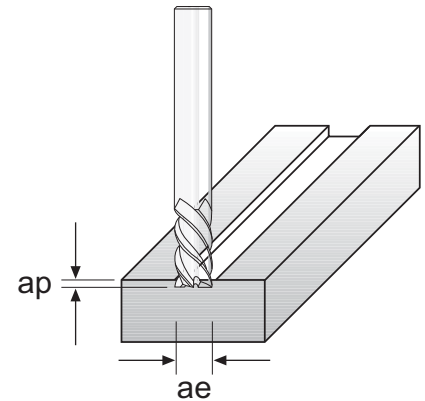
# REZNÉ PARAMETRE

## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

### Code: Y200R ROUGHING - HIGH SPEED CUTTING

MATERIAL	Steel - СТАЛЬ							
HARDNESS	< 170 HB				< HRC 50			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	180	0.015	1 x d	0.096 x d	165	0.014	1 x d	0.046 x d
4	180	0.029	1 x d	0.096 x d	165	0.027	1 x d	0.046 x d
5	180	0.029	1 x d	0.096 x d	165	0.025	1 x d	0.046 x d
6	180	0.029	1 x d	0.096 x d	165	0.055	1 x d	0.046 x d
8	180	0.060	1 x d	0.096 x d	165	0.055	1 x d	0.046 x d
10	180	0.060	1 x d	0.096 x d	165	0.083	1 x d	0.046 x d
12 - 16	180	0.092	1 x d	0.096 x d	165	0.083	1 x d	0.046 x d



MATERIAL	Steel - СТАЛЬ							
HARDNESS	HRC 48-56				< HRC 65			
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	160	0.014	1 x d	0.044 x d	75	0.010	1 x d	0.028 x d
4	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d
5	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d
6	160	0.027	1 x d	0.044 x d	75	0.020	1 x d	0.028 x d
8	160	0.055	1 x d	0.044 x d	75	0.043	1 x d	0.028 x d
10	160	0.055	1 x d	0.044 x d	75	0.043	1 x d	0.028 x d
12 - 16	160	0.083	1 x d	0.044 x d	75	0.065	1 x d	0.028 x d

MATERIAL	Cast Iron - ЧУГУН				Titanium - ТИТАН			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	150	0.014	1 x d	0.042 x d	85	0.010	1 x d	0.030 x d
4	150	0.028	1 x d	0.042 x d	85	0.021	1 x d	0.030 x d
5	150	0.028	1 x d	0.042 x d	85	0.021	1 x d	0.030 x d
6	150	0.028	1 x d	0.042 x d	85	0.021	1 x d	0.030 x d
8	150	0.058	1 x d	0.042 x d	85	0.042	1 x d	0.030 x d
10	150	0.058	1 x d	0.042 x d	85	0.042	1 x d	0.030 x d
12 - 16	150	0.084	1 x d	0.042 x d	85	0.063	1 x d	0.030 x d

MATERIAL	Stainless Steel - НЕРЖАВЕЮЩАЯ СТАЛЬ				Super Alloy - СУПЕР СПЛАВ			
HARDNESS								
Ø	VC	FZ	ae	ap	VC	FZ	ae	ap
1 - 3	85	0.011	1 x d	0.040 x d	25	0.009	1 x d	0.030 x d
4	85	0.022	1 x d	0.040 x d	25	0.018	1 x d	0.030 x d
5	85	0.022	1 x d	0.040 x d	25	0.018	1 x d	0.030 x d
6	85	0.022	1 x d	0.040 x d	25	0.018	1 x d	0.030 x d
8	85	0.044	1 x d	0.040 x d	25	0.034	1 x d	0.030 x d
10	85	0.044	1 x d	0.040 x d	25	0.034	1 x d	0.030 x d
12 - 16	85	0.065	1 x d	0.040 x d	25	0.054	1 x d	0.030 x d

# REZNE PARAMETRE

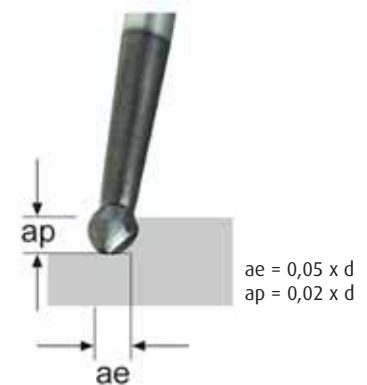
## Cutting speed

Richtwerte - Paramètres - Режимы обработки - Řezná rychlost

200RM 205RM	Ø mm	l <sub>2</sub> mm	ap mm	Steel HRC<25 СТАЛЬ		Stainless Steel HRC<25-35 НЕРЖАВЕЮЩАЯ СТАЛЬ		Heat Resistant Steel HRC<35-50 ЛЕГИРОВАННАЯ СТАЛЬ		Tempered Steel HRC<50-70 СТАЛЬ	
				Vc	Fz	Vc	Fz	Vc	Fz	Vc	Fz
205RM030..	3.0	-6-8-10-12	0.02-0.08 x d	121-151	0.0600-0.0750	98-136	0.0540-0.0750	82-128	0.0429-0.0670	59-113	0.0328-0.0630
		14-16	0.02-0.08 x d	121-151	0.0540-0.0675	98-136	0.0486-0.0675	82-128	0.0386-0.0603	59-113	0.0295-0.0567
		18-20-25-30	0.02-0.08 x d	109-136	0.0540-0.0675	88-122	0.0486-0.0675	74-115	0.0386-0.0603	53-102	0.0295-0.0567
		35	0.02-0.08 x d	97-121	0.0510-0.0638	78-109	0.0459-0.0638	65-102	0.0364-0.0569	47-90	0.0278-0.0535
		40	0.02-0.08 x d	89-111	0.0486-0.0607	71-99	0.0434-0.0603	54-85	0.0338-0.0528	37-72	0.0256-0.0493
205RM040..	4.0	-	0.02-0.08 x d	115-144	0.0800-0.1000	94-130	0.0720-0.1000	79-123	0.0576-0.0900	56-108	0.0442-0.0850
		8-10-12-14 -16-18-20	0.02-0.08 x d	115-144	0.0800-0.1000	94-130	0.0720-0.1000	79-123	0.0576-0.0900	56-108	0.0442-0.0850
		25-30-35-40	0.02-0.08 x d	104-130	0.0720-0.0900	84-117	0.0648-0.0900	71-111	0.0518-0.0810	51-98	0.0398-0.0765
		45-50	0.02-0.08 x d	93-116	0.0680-0.0850	75-104	0.0612-0.0850	63-98	0.0490-0.0765	45-87	0.0375-0.0722

### CODE: 200RB STANDARD CUTTING SPEED

MATERIAL	Aluminium Cast Iron Non Alloy Steels АЛЮМИНИЙ-ЧУГУН ЛЕГИРОВАННАЯ СТАЛЬ		Alloy Steels Heat Resistant Steel ЛЕГИРОВАННАЯ СТАЛЬ			
	< 170 HB		HRC 30 - HRC 40		< HRC 65	
HARDNESS	n	Vf	n	Vf	n	Vf
Ø						
2 - 3	34000	2700	32000	2500	11500	900
4	25000	2200	24000	2100	8000	700
6	16800	1800	15800	1700	6000	600
8	13000	1700	11900	1500	4000	500
10	10000	1400	9800	1300	3600	500
12	8800	1300	7900	1200	2900	400



### CODE: 400RB STANDARD CUTTING SPEED

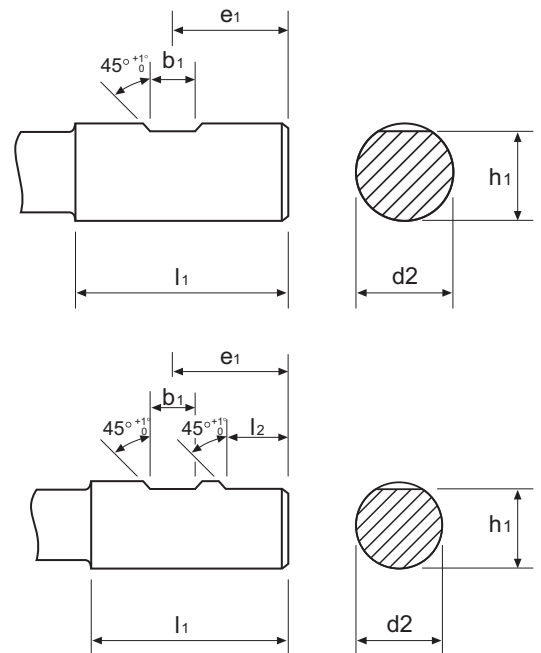
MATERIAL	Aluminium Cast Iron Non Alloy Steels АЛЮМИНИЙ-ЧУГУН ЛЕГИРОВАННАЯ СТАЛЬ		Alloy Steels Heat Resistant Steel ЛЕГИРОВАННАЯ СТАЛЬ			
	< 170 HB		HRC 30 - HRC 40		< HRC 65	
HARDNESS	n	Vf	n	Vf	n	Vf
Ø						
-	-	-	-	-	-	-
-	-	-	-	-	-	-
6	16800	3800	15900	3400	5800	1200
8	13000	3600	11800	2900	4400	1000
10	10000	2900	10000	2400	3300	900
12	8900	2700	7900	2400	3000	900

## Dimensioni gambi weldon DIN 6535 HB a richiesta

### Weldon shank dimentions DIN 6535 HB on request

Dimension Weldon DIN 6535 HB auf Anfrage - Dimensions queue weldon DIN 6535 HB sur demande  
Хвостовик типа Weldon DIN 6535 HB

d2 mm	b1 mm	e1 mm	h1 mm	l1 mm	l2 mm
6	4.2	18.0	5.1	36	-
8	5.5	18.0	6.9	36	-
10	7.0	20.0	8.5	40	-
12	8.0	22.5	10.4	45	-
14	8.0	22.5	12.7	45	-
16	10.0	24.0	14.2	48	-
18	10.0	24.0	16.2	48	-
20	11.0	25.0	18.2	50	-
25	12.0	32.0	23.0	56	17
32	14.0	36.0	30.0	60	19



## Dimensioni gambi flat DIN 6535 HE a richiesta

### Whistle notch shank dimentions DIN 6535 HE on request

Dimension spannfläche DIN 6535 HE auf anfrage - Dimensions queue flat DIN 6535 HE sur demande  
Хвостовик типа HEWeldon DIN 6535

d2 mm	b1 mm	b2 mm	h2 mm	h1 mm	l1 mm	l3 mm	l2 mm	r mm
6	3.5	4.8	5.4	4.8	36	25	18	1.2
8	4.7	6.1	7.2	6.6	36	25	18	1.2
10	5.7	7.3	9.1	8.4	40	28	20	1.2
12	6.0	8.2	11.2	10.4	45	33	22.5	1.2
16	7.6	10.1	15.0	14.2	48	36	24	1.6
20	8.4	11.5	19.1	18.2	50	38	25	1.6
25	9.3	13.6	24.1	23.0	56	44	32	1.6
32	9.4	15.5	31.2	30.0	60	48	35	1.6

