

**MEGA**  **TEC**



**SOLID  
CARBIDE  
TOOLS**

## Speeds and feeds recommended for the end mills

ISO Group	Workpiece material	Cutting speed Vc, m/min	Feed (mm/tooth) depending on End mill diameter d1 (mm)								
			1-2	3-4	5	6	8	10	12-14	16-18	20
<b>P</b>	Low carbon steel and structural steel	170-200	0,003	0,01	0,02	0,024	0,032	0,038	0,046	0,054	0,065
	Low alloyed steel (alloying elements < 5%)	130-180	0,002	0,007	0,014	0,017	0,024	0,03	0,036	0,045	0,057
	High alloyed steel and tool steel	70-110	0,001	0,004	0,01	0,013	0,019	0,025	0,031	0,038	0,045
<b>M</b>	Ferritic stainless steel	60-80	0,001	0,004	0,01	0,013	0,019	0,025	0,031	0,038	0,045
	Austenitic stainless steel	30-60	0,001	0,003	0,007	0,009	0,014	0,018	0,022	0,027	0,033
<b>K</b>	Cast iron	60-120	0,002	0,007	0,014	0,017	0,024	0,03	0,036	0,045	0,057
	Ductile iron	30-80	0,001	0,004	0,01	0,013	0,019	0,025	0,031	0,038	0,045
<b>N</b>	Wrought aluminum alloy	300-600	0,008	0,015	0,025	0,031	0,042	0,05	0,059	0,071	0,09
	Cast aluminum alloy (Si ≤ 12%)	100-400	0,007	0,01	0,022	0,027	0,035	0,044	0,052	0,063	0,08
	Cast aluminum alloy (Si > 12%)										
	Copper alloy	100-280	0,01	0,016	0,026	0,029	0,042	0,053	0,063	0,079	0,097
	Non-metallic materials (plastics)	100-400	0,005	0,01	0,019	0,025	0,033	0,04	0,048	0,059	0,075
<b>S</b>	Super alloy (Ni- and Cr-based)	20-30	0,001	0,002	0,006	0,008	0,012	0,016	0,02	0,025	0,03
	Titanium Alloy	20-40	0,001	0,003	0,008	0,011	0,017	0,023	0,03	0,036	0,044
<b>H</b>	Hardened steel (45-62 HRC)										
	Chilled cast iron										

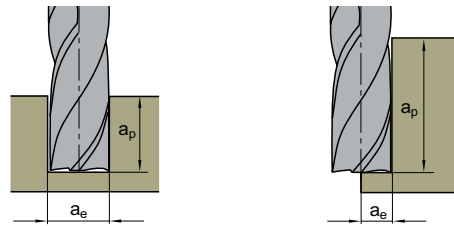
## Feed per tooth correction depending on machining character

**$vf = n \cdot z \cdot fz \cdot fz2$**

ae	ap	Feed per tooth correction coefficient fz2
0,1 x d1	1 x d1	1,8
	1,5 x d1	1,7
	2 x d1*)	1,6
0,25 x d1	1 x d1	1,4
	1,5 x d1	1,3
	2 x d1*)	1,2
0,5 x d1	1 x d1	1,1
	1,5 x d1	1,0
	2 x d1*)	0,8
0,75 x d1	1 x d1	0,8
	1,5 x d1	0,7
	2 x d1	0,6
1 x d1	0,5 x d1	0,8
	1 x d1	0,7
	1,5 x d1	0,6

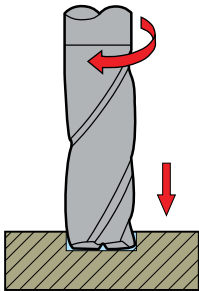
\*the coefficient 1,8 for cutters with diameter 12 mm or greater should be used

Higher Cutting Speed  $V_c$  than recommended may be used

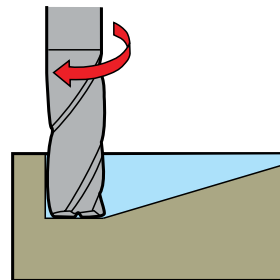


**ae** – cutting width  
**ap** – cutting depth  
**d1** – end mill diameter

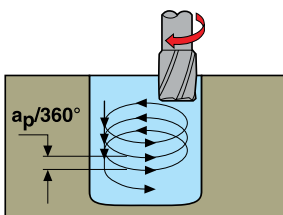
Lower Cutting Speed  $V_c$  than recommended should be used



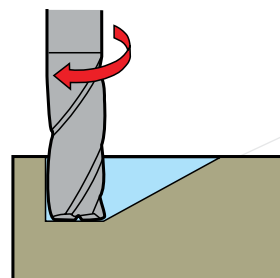
**Plunge milling:**  
feed per tooth correction coefficient  $fz2 = 0,3$  should be used



**Ramping <12°:**  
feed per tooth correction coefficient  $fz2 = 0,9$  is recommended



**Circular ramping, no pre-drilling:** feed per tooth correction coefficient  $fz2 = 0,8$  should be used

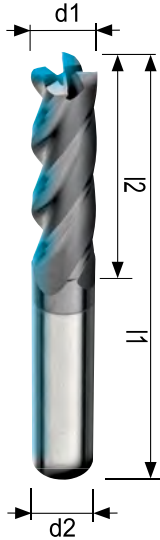


**Ramping 12-25°:**  
feed per tooth correction coefficient  $fz2 = 0,7$  should be used

**Solid carbide end mill**



**1314**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number
3	6	12	50	4
4	6	15	50	4
5	6	20	60	4
6	6	20	60	4
8	8	25	70	4
10	10	30	90	4
12	12	30	90	4
16	16	50	110	4
20	20	55	110	4

**Order example:**  
*Cylindrical shank (HA): 1314 d3*  
*Weldon shank (HB): 1314 W d3*

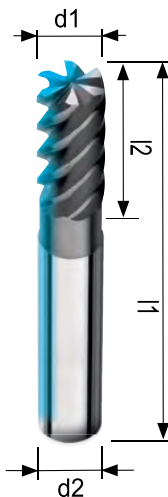
Solid carbide 4 flute end mill  
Long version, right handed  
Helix angle 30°  
Center cutting

Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank according to DIN 6535 HA  
or Weldon shank according to DIN 6535 HB

**Solid carbide Finishing end mill**



**1216**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number
6	6	13	57	6
8	8	19	63	6
10	10	22	72	6
12	12	26	83	6
16	16	32	92	6
16	16	65	120	6
20	20	38	104	8
20	20	75	135	8

**Order example:**  
*Cylindrical shank (HA): 1216 d6*  
*Weldon shank (HB): 1216 W d6*

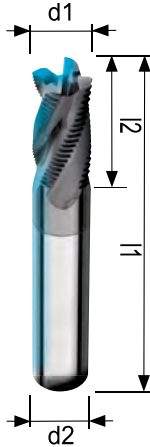
Solid carbide Finishing end mill according to DIN 6527  
6 or 8 flutes, long version, right handed  
Helix angle 45°  
Center cutting

Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank according to DIN 6535 HA  
or Weldon shank according to DIN 6535 HB

Solid carbide Roughing end mill



1284



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number
3	6	6	57	3
4	6	8	57	3
5	6	10	57	3
6	6	16	57	3
8	8	16	63	3
10	10	22	72	4
12	12	26	83	4
16	16	32	92	4
20	20	38	104	4

Order example:  
Cylindrical shank(HA): 1284 d3  
Weldon shank (HB): 1284 W d3

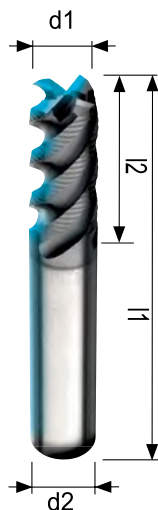
Solid carbide Roughing end mill  
3 or 4 flutes, long version, right handed  
Helix angle 30°  
Center cutting

Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank according to DIN 6535 HA  
or Weldon shank according to DIN 6535 HB

Solid carbide Roughing end mill



1286



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number
4	6	11	57	3
5	6	13	57	4
6	6	16	57	4
8	8	16	69	4
10	10	22	72	4
12	12	28	83	4
16	16	32	92	5
20	20	38	104	6

Order example:  
Cylindrical shank(HA): 1286 d4  
Weldon shank (HB): 1286 W d4

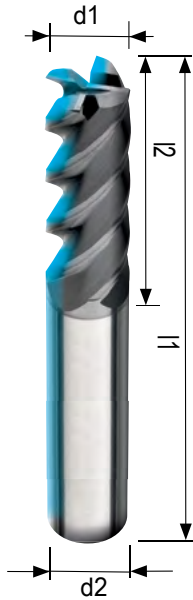
Solid carbide Roughing end mill; HR type;  
3, 4, 5 or 6 flutes, long version, right handed  
Helix angle 45°  
Center cutting

Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank according to DIN 6535 HA  
or Weldon shank according to DIN 6535 HB

**Solid carbide end mill**



**1324**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
2	6	8	57	4	0,05
3	6	14	57	4	0,05
4	6	18	57	4	0,1
5	6	20	57	4	0,1
6	6	22	57	4	0,1
8	8	30	63	4	0,15
10	10	33	72	4	0,15
12	12	34	83	4	0,2
16	16	38	92	4	0,2
20	20	47	104	4	0,3

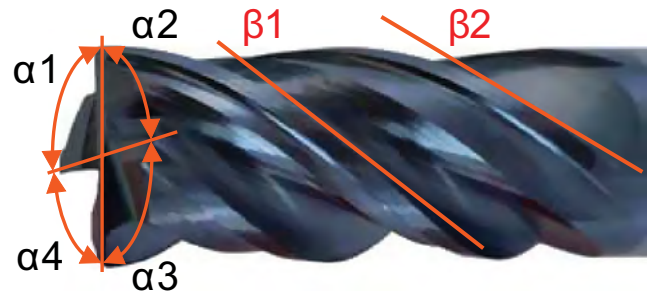
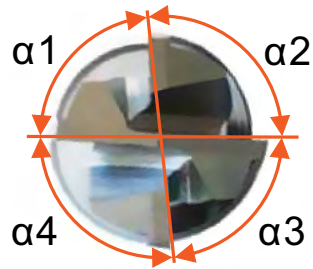
**Order example:**  
**Weldon shank (HB): 1324 W d2**

Solid carbide 4 flute end mill  
Long version, right handed  
Helix angle 45°  
Center cutting

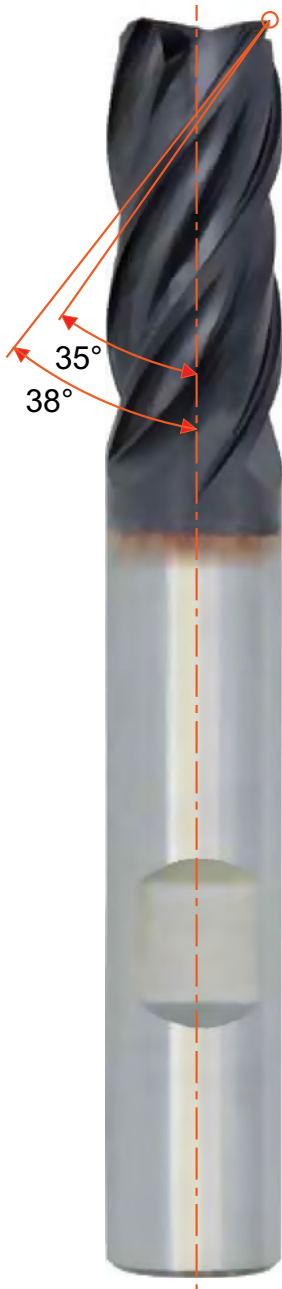
Universal application. Micrograin grade  
TiAlN coated  
Weldon shank according to DIN 6535 HB

## High performance solid carbide end mills

Variable tooth pitch  
 $\alpha_1 \neq \alpha_2 \neq \alpha_3 \neq \alpha_4$



Variable helix angle  
 $\beta_1 \neq \beta_2$



Despite to standard end mill with constant helix angle and constant tooth pitch, the High performance end mill with variable helix and variable tooth pitch significantly reduces a vibration by decreasing a 'resonance' effect. That results following benefits:

- **Up to 50% Feed increasing**
- **Cutting depth per pass increasing**
- **Increased tool life**
- **Better surface quality**
- **Roughing and Finishing with the same tool**

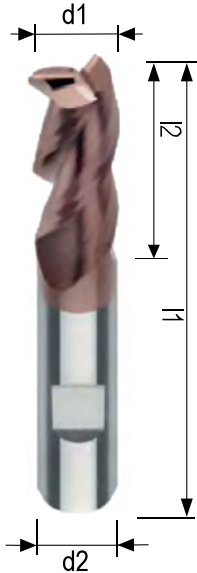
35°/38° Helix angles are useful for most workpiece materials.

40°/42° Helix angles are suitable stainless steel and other 'sticky' materials like heat resistant alloy. Please see such end mills at pages 188-194.

**New generation High performance Solid carbide end mill**



**3243**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
3	6	8	57	3	0,1
4	6	11	57	3	0,1
5	6	13	57	3	0,15
6	6	13	57	3	0,2
8	8	19	63	3	0,2
10	10	22	72	3	0,2
12	12	26	83	3	0,3
16	16	32	92	3	0,3
20	20	38	104	3	0,4

**Order example:**  
**Weldon shank (HB): 3243 W d3**

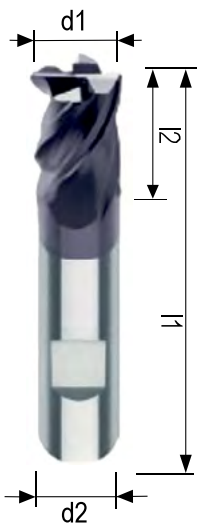
Solid carbide 3 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
First choice for stainless steel, heat resistant alloy and titanium machining  
Variable helix angle 40°/42°

Center cutting  
Universal application. Micrograin grade,  
nACRo coated  
Weldon shank according to DIN 6535 HB

**New generation High performance Solid carbide end mill**



**3134**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
3	6	6	54	4	0,1
4	6	8	54	4	0,13
5	6	9	54	4	0,18
6	6	10	54	4	0,2
8	8	12	58	4	0,2
10	10	14	66	4	0,2
12	12	16	73	4	0,3
16	16	22	82	4	0,3
20	20	26	92	4	0,3

**Order example:**  
**Weldon shank (HB): 3134 W d3**

Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Short version, right handed  
First choice for stainless steel, heat resistant alloy and titanium machining  
Variable helix angle 35°/38°

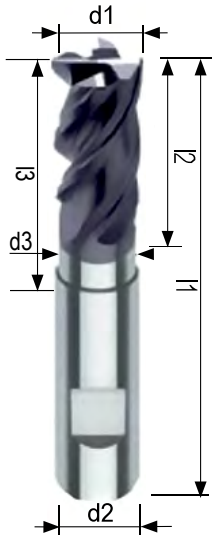
Center cutting  
Universal application. Micrograin grade,  
TIALN coated  
Weldon shank according to DIN 6535 HB



New generation High performance Solid carbide end mill



3334



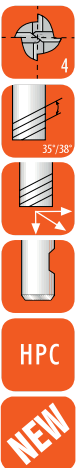
d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
3	6	2,8	8	57	18	4	0,13
4	6	3,6	11	57	21	4	0,13
5	6	4,6	13	57	21	4	0,2
6	6	5,5	13	57	21	4	0,2
8	8	7,5	19	63	27	4	0,2
10	10	9,5	22	72	32	4	0,2
12	12	11,5	26	83	38	4	0,3
16	16	15,5	32	92	44	4	0,3
20	20	19,5	38	104	54	4	0,4

Order example:  
Cylindrical shank (HA): 3334 d3  
Weldon shank (HB): 3334 W d3

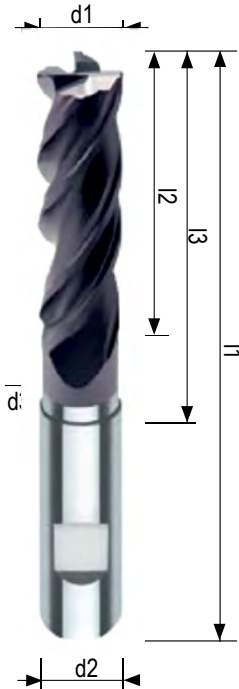
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Short version, right handed  
First choice for stainless steel, heat resistant alloy and titanium machining  
Variable helix angle 35°/38°

Center cutting  
Universal application. Micrograin grade,  
TiAlN coated  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

New generation High performance Solid carbide end mill



3434



Ø d1 Диаметр фрезы	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
6	6	5,5	22	63	30	4	0,2
8	8	7,5	28	80	36	4	0,2
10	10	9,5	33	100	54	4	0,2
12	12	11,5	42	100	54	4	0,3
16	16	15,5	53	150	69	4	0,3
20	20	19,5	68	150	84	4	0,4

Order example:  
Weldon shank (HB): 3434 W d6

Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Extra-long version, right handed  
First choice for stainless steel, heat resistant alloy and titanium machining  
Variable helix angle 35°/38°

Center cutting  
Universal application. Micrograin grade,  
TiAlN coated  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill for Stainless steel,  
Heat resistant alloy and Titanium**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
3	6	8	57	3	0,05
4	6	11	57	3	0,05
5	6	13	57	3	0,08
6	6	13	57	3	0,08
7	8	16	63	3	0,08
8	8	19	63	3	0,1
9	10	19	72	3	0,1
10	10	22	72	3	0,1
12	12	26	83	3	0,15
16	16	32	92	3	0,2
20	20	38	104	3	0,2

**Order example:**  
**Weldon shank (HB): 3293 W d3**

Solid carbide 3 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
First choice for stainless steel, heat resistant alloy and titanium machining  
Variable helix angle 43°/47°

Center cutting  
Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill**



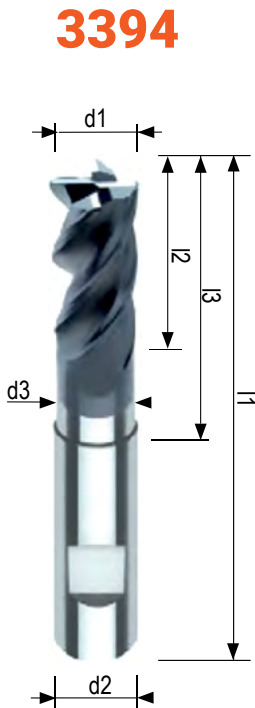
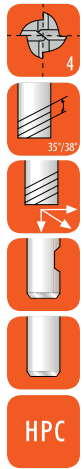
d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
3	6	6	54	4	0,1
4	6	8	54	4	0,13
5	6	9	54	4	0,18
6	6	10	54	4	0,2
8	8	12	58	4	0,2
10	10	14	66	4	0,2
12	12	16	73	4	0,3
16	16	22	82	4	0,3
20	20	26	92	4	0,4

**Order example:**  
**Weldon shank (HB): 3194 W d3**

Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Short version, right handed  
New geometry special for stainless steel and heat resistant alloy machining  
Variable helix angle 35°/38°

Center cutting  
Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Weldon shank according to DIN 6535 HB

High performance Solid carbide end mill



d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
3	6	2,75	8	57	21	4	0,2
4	6	3,5	11	57	21	4	0,2
5	6	4,5	13	57	21	4	0,2
6	6	5,5	13	57	21	4	0,2
8	8	7,5	19	63	27	4	0,2
10	10	9,5	22	72	32	4	0,2
12	12	11,5	26	83	38	4	0,3
16	16	15,5	32	92	44	4	0,3
20	20	19,5	38	104	54	4	0,4

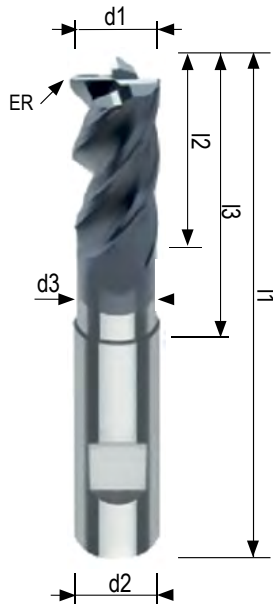
**Order example:**  
Cylindrical shank(HA): 3394 d3  
Weldon shank (HB): 3394 W d3

Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
New geometry special for stainless steel and heat resistant alloy machining  
Variable helix angle 35°/38°

Center cutting  
Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill with corner radius**

**3594**



d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Radius, ER
8	8	7,5	19	63	27	4	0,5
8	8	7,5	19	63	27	4	1
8	8	7,5	27	63	27	4	1,5
8	8	7,5	19	63	27	4	2
8	8	7,5	19	63	27	4	2,5
10	10	9,5	22	72	32	4	0,5
10	10	9,5	22	72	32	4	1
10	10	9,5	22	72	32	4	1,5
10	10	9,5	22	72	32	4	2
10	10	9,5	22	72	32	4	2,5
10	10	9,5	22	72	32	4	3
10	10	9,5	22	72	32	4	4
12	12	11,5	26	83	38	4	0,5
12	12	11,5	26	83	38	4	1
12	12	11,5	26	83	38	4	1,5
12	12	11,5	26	83	38	4	2
12	12	11,5	26	83	38	4	2,5
12	12	11,5	26	83	38	4	3
12	12	11,5	26	83	38	4	4
16	16	15,5	32	92	44	4	0,5
16	16	15,5	32	92	44	4	1
16	16	15,5	32	92	44	4	1,5
16	16	15,5	32	92	44	4	2
16	16	15,5	32	92	44	4	2,5
16	16	15,5	32	92	44	4	3.0
16	16	15,5	32	92	44	4	4
20	20	19,5	38	104	54	4	0,5
20	20	19,5	38	104	54	4	1
20	20	19,5	38	104	54	4	1,5
20	20	19,5	38	104	54	4	2
20	20	19,5	38	104	54	4	2,5
20	20	19,5	38	104	54	4	3
20	20	19,5	38	104	54	4	4

**Order example:**  
**Cylindrical shank(HA): 3594 d8 ER1.0**  
**Weldon shank (HB): 3594 W d8 ER1.0**

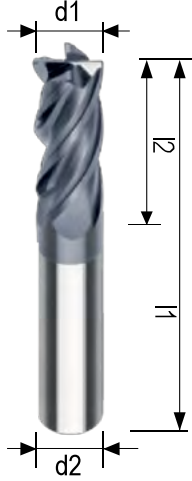
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
New geometry special for stainless steel and heat resistant alloy machining  
Variable helix angle 35°/38°

Center cutting  
Micrograin grade, TiAlN coated  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill**



**6134**



d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
6	6	10	54	4	0,13
8	8	12	58	4	0,15
10	10	14	66	4	0,2
12	12	16	73	4	0,25
16	16	22	82	4	0,35
20	20	26	92	4	0,4

**Order example:**  
*Cylindrical shank(HA): 6134 d6*  
*Weldon shank (HB): 6134 W d6*

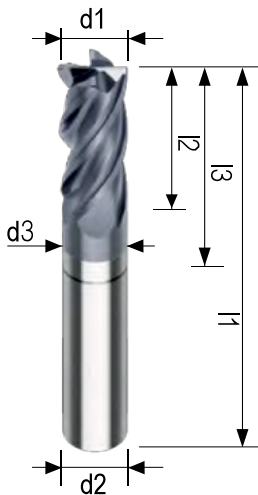
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Short version, right handed  
First choice for steel machining  
Variable helix angle 35°/38°

Universal application. Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill**



**6334**



d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
6	6	5,5	13	57	21	4	0,13
8	8	7,5	19	63	27	4	0,15
10	10	9,5	22	72	32	4	0,2
12	12	11,5	26	83	38	4	0,25
16	16	15,5	32	92	44	4	0,35
20	20	19,5	38	104	54	4	0,4

**Order example:**  
*Cylindrical shank(HA): 6334 d6*  
*Weldon shank (HB): 6334 W d6*

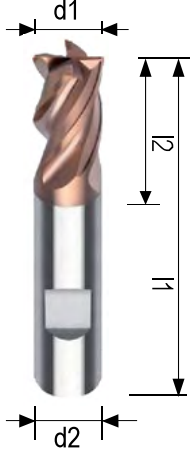
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
First choice for steel machining  
Variable helix angle 35°/38°

Universal application. Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill**



**6194**



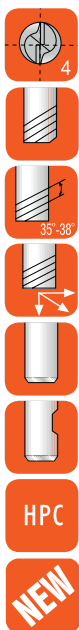
d1 Cutting diameter	d2 Shank diameter	l2 Cutting length	l1 Full length	Flutes number	Chamfer
6	6	10	54	4	0,13
8	8	12	58	4	0,15
10	10	14	66	4	0,2
12	12	16	73	4	0,25
16	16	22	82	4	0,35
20	20	26	92	4	0,4

**Order example:**  
*Cylindrical shank (HA): 6194 d6*  
*Weldon shank (HB): 6194 W d6*

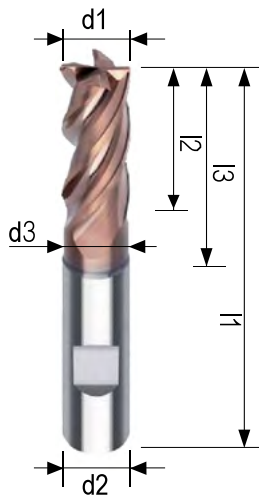
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Short version, right handed  
First choice for stainless steel and heat resistant alloy machining  
Variable helix angle 35°/38°

Universal application. Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**High performance Solid carbide end mill**



**6394**



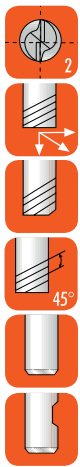
d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
6	6	5,5	13	57	21	4	0,13
8	8	7,5	19	63	27	4	0,15
10	10	9,5	22	72	32	4	0,2
12	12	11,5	26	83	38	4	0,25
16	16	15,5	32	92	44	4	0,35
20	20	19,5	38	104	54	4	0,4

**Order example:**  
*Cylindrical shank (HA): 6394 d6*  
*Weldon shank (HB): 6394 W d6*

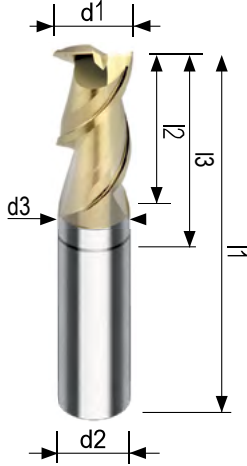
Solid carbide 4 flute end mill  
For High performance Roughing and Finishing  
Long version, right handed  
First choice for stainless steel and heat resistant alloy machining  
Variable helix angle 35°/38°

Universal application. Micrograin grade, TiAlN coated  
Cutting edge honed and finished by special technology  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**Solid carbide end mill for Aluminum**



**1252**



d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number	Chamfer
2	6	1,9	8	57	16	2	0,05
3	6	2,9	8	57	18	2	0,1
4	6	3,9	11	57	18	2	0,1
5	6	4,9	13	57	20	2	0,1
6	6	5,9	13	57	20	2	0,1
8	8	7,7	19	63	26	2	0,1
10	10	9,7	22	72	29	2	0,1
12	12	11,7	26	83	36	2	0,1
14	14	13,7	26	83	36	2	0,1
16	16	15,7	32	92	42	2	0,1
18	18	17,5	32	92	42	2	0,1
20	20	19,5	38	104	52	2	0,1

**Order example:**  
**Cylindrical shank(HA): 1252 d2**  
**Weldon shank (HB): 1252 W d2**

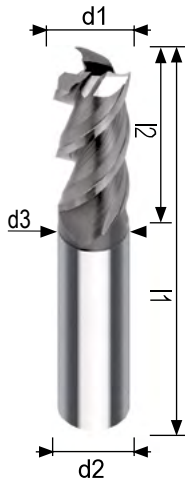
Solid carbide 2 flute end mill for aluminum machining  
Long version, right handed

Helix angle 45°  
Center cutting  
ZrN coated against workpiece material sticking  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**Solid carbide end mill for Aluminum**



**1153**



d1 Cutting diameter	d2 Shank diameter	d3 Neck diameter	l2 Cutting length	l1 Full length	l3 Effective length	Flutes number
3	6	-	12	38	-	3
4	6	3,8	12	54	18	3
5	6	4,8	15	54	18	3
6	6	5,8	16	57	21	3
8	8	7,8	22	63	28	3
10	10	9,7	25	72	33	3
12	12	11,7	28	83	39	3
16	16	15,7	35	93	45	3
20	20	19,7	40	104	54	3
25	25	23	45	121	65	3

**Order example:**  
**Cylindrical shank(HA): 1153 d3**  
**Weldon shank (HB): 1153 W d3**

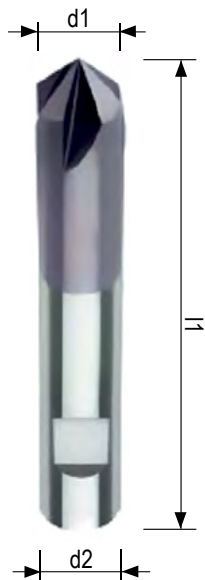
Solid carbide 3 flute end mill for aluminum machining  
Long version, right handed

Helix angle 45°  
Center cutting  
Micrograin grade, uncoated  
Cylindrical shank according to DIN 6535 HA or  
Weldon shank according to DIN 6535 HB

**Solid carbide chamfer mill**



**3204**



d1 Cutting diameter	d2 Shank diameter	l1 Full length	Flutes number
4	4	54	4
6	6	57	4
8	8	63	4
10	10	72	4
12	12	83	4
16	16	92	4
20	20	104	6

**Order example:**  
**Weldon shank (HB): 3204 W d4**

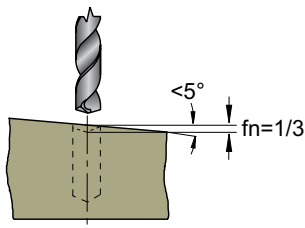
Universal application. Micrograin grade  
TiAlN coated  
Weldon shank according to DIN 6535 HB



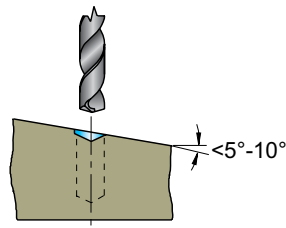
## Speeds and feeds recommended for the drills

ISO Group	Workpiece material	Cutting speed Vc, m/min	Feed (mm/tooth) depending on Drill diameter d1 (mm)								
			1-2	3-4	5	6	8	10	12	16	20
<b>P</b>	Low carbon steel and structural steel	100-130	0,02	0,1	0,125	0,15	0,19	0,23	0,25	0,3	0,37
	Low alloyed steel (alloying elements < 5%)	70-110	0,04	0,125	0,145	0,18	0,22	0,29	0,3	0,35	0,45
	High alloyed steel and tool steel	50-65	0,016	0,06	0,08	0,11	0,15	0,18	0,19	0,23	0,28
<b>M</b>	Ferritic stainless steel	40-60	0,012	0,04	0,06	0,09	0,11	0,14	0,015	0,19	0,23
	Austenitic stainless steel	25-45	0,01	0,03	0,05	0,07	0,08	0,11	0,12	0,15	0,19
<b>K</b>	Cast iron	110-170	0,028	0,14	0,18	0,23	0,29	0,35	0,35	0,4	0,55
	Ductile iron	70-120	0,023	0,12	0,16	0,2	0,24	0,3	0,32	0,39	0,48
<b>N</b>	Wrought aluminum alloy	150-250	0,04	0,125	0,145	0,18	0,22	0,29	0,3	0,35	0,45
	Cast aluminum alloy (Si ≤ 12%)	120-230	0,028	0,14	0,18	0,23	0,29	0,35	0,35	0,4	0,55
	Cast aluminum alloy (Si > 12%)	100-170	0,02	0,1	0,125	0,15	0,19	0,23	0,25	0,3	0,37
	Copper alloy	70-110	0,02	0,1	0,125	0,15	0,19	0,23	0,25	0,3	0,37
	Non-metallic materials (plastics)										
<b>S</b>	Super alloy (Ni- and Cr-based)	10-25	0,009	0,028	0,04	0,06	0,08	0,1	0,12	0,14	0,19
	Titanium Alloy	15-35	0,012	0,04	0,06	0,09	0,11	0,14	0,015	0,19	0,23
<b>N</b>	Hardened steel (45-62 HRC)										
	Chilled cast iron										

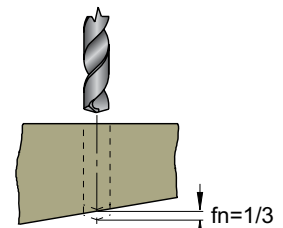
- Cutting speed Vc can be increased by 10-20% for 2405 and 2605 Drills.
- Feed per revolution can be increased by 10-25% for 2405 Drills.
- Recommended coolant pressure for 2405 and 2605 Drills is 30-40 bar for 5 mm and less cutting diameters and 20-30 bar for bigger than 5 mm cutting diameters.
- 6-8% Coolant concentration for general machining recommended.
- 10% Coolant concentration for stainless steel and super alloy machining recommended.
- It is recommended to reduce spindle speed to 5000 RPM MAX while a drill is not in workpiece (idle toolpath) to avoid Drill breakage.
- The given speeds and feeds are meant as initial start values and are estimated for standard application conditions. The best parameters depend on a wide variety of machine, workpiece and tool related conditions, for example the general machine condition, and can be above or below the given start values.



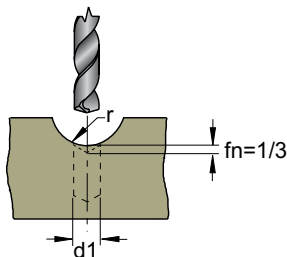
It is possible to drill inclined plane while the inclination angle less than  $5^\circ$ . The Feed should be reduced to  $1/3$  of the recommended while the drill enter the inclined plane.



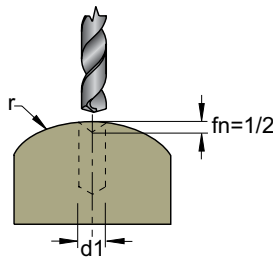
In case of drilling an inclined plane while the inclination angle less than  $10^\circ$ , a center drilling needed. An inclined plane with the inclination angle greater than  $10^\circ$  should has pre-milled plane before drilling.



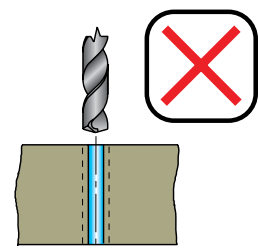
In case the drilling hole exit on an inclined plane, the feed should be reduced to  $1/3$  of the recommended while the inclined plane is drilling.



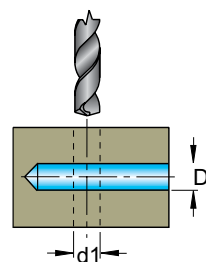
A concave surface drilling is possible in case the radius  $r$  is greater than 15 drilling diameters ( $15 \times d_1$ ). The Feed should be reduced to  $1/3$  of the recommended while the concave surface is drilling.



A convex surface drilling is possible in case the radius  $r$  is greater than 4 drilling diameters ( $4 \times d_1$ ). The Feed should be reduced to  $1/2$  of the recommended while the convex surface is drilling.

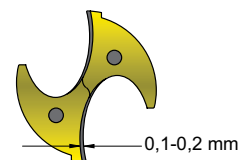
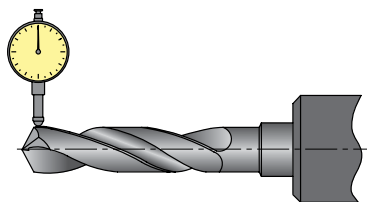


A pre-drilled hole drilling prohibited.



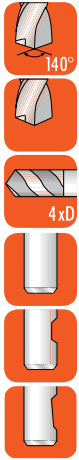
Intersecting holes drilling not recommended. In case it is impossible to avoid intersecting hole drilling, please note such drilling is possible only if the axis of new hole  $D$  and the existing hole  $d_1$  axis are in the same plane. The Feed should be reduced to  $1/4$  of the recommended while the drill enter and exit an existing hole.

Max 0,02 mm

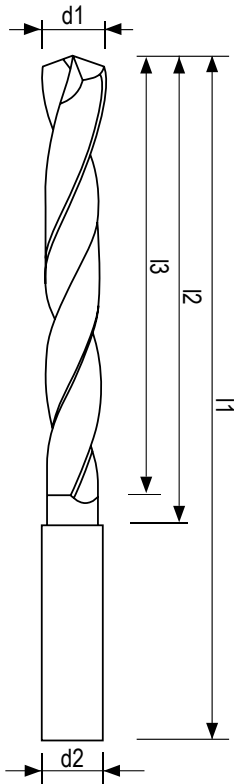


The maximum radial runout should be less than 0.02 mm and less than 0.01 mm for small drills. The cutting process stability leads to greater tool life and better drilled hole tolerance. For example, the precise collet (radial runout less than  $5 \mu\text{m}$ ) compare to standard one provides more than two times better tool life at the same cutting conditions. The recommended flank wear to stop the machining is 0.2 mm. For the small diameter drill, the flank wear value is accordingly less.

Solid carbide drill 4D



2400



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
1,00	4,00	7	45	4
1,10	4,00	7	45	4
1,20	4,00	7	45	4
1,30	4,00	7	45	4
1,40	4,00	7	45	4
1,50	4,00	14	55	9
1,60	4,00	14	55	9
1,70	4,00	14	55	9
1,80	4,00	14	55	9
1,90	4,00	14	55	9
2,00	4,00	20	55	14
2,10	4,00	20	55	14
2,20	4,00	20	55	14
2,30	4,00	20	55	14
2,40	4,00	20	55	14
2,50	4,00	20	55	14
2,60	4,00	20	55	14
2,70	4,00	20	55	14
2,80	4,00	20	55	14
2,90	4,00	20	55	14
3,00	4,00	20	62	14
3,10	6,00	20	62	14
3,20	6,00	20	62	14
3,25	6,00	20	62	14
3,30	6,00	20	62	14
3,40	6,00	20	62	14
3,50	6,00	20	62	14
3,60	6,00	20	62	14
3,70	6,00	20	62	14
3,80	6,00	24	66	14
3,90	6,00	24	66	14
4,00	6,00	24	66	14
4,10	6,00	24	66	14
4,20	6,00	24	66	14
4,30	6,00	24	66	14
4,40	6,00	24	66	14
4,50	6,00	24	66	14

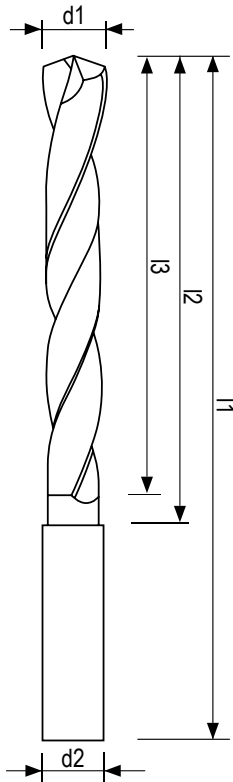
Order example:  
Cylindrical shank (HA): 2400 d1  
Weldon shank (HB): 2400 W d1  
Whistle Notch shank (HE): 2400 WN d1

Solid carbide drill 4xD  
No through coolant  
140° Point angle  
Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank (HA) is standard version.  
Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 4D**



**2400**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
4,60	6,00	24	66	14
4,65	6,00	24	66	14
4,70	6,00	24	66	14
4,80	6,00	28	66	20
4,90	6,00	28	66	20
5,00	6,00	28	66	20
5,10	6,00	28	66	20
5,20	6,00	28	66	20
5,30	6,00	28	66	20
5,40	6,00	28	66	20
5,50	6,00	28	66	20
5,55	6,00	28	66	20
5,60	6,00	28	66	20
5,70	6,00	28	66	20
5,80	6,00	28	66	20
5,90	6,00	28	66	20
6,00	6,00	28	66	20
6,10	8,00	34	79	24
6,20	8,00	34	79	24
6,30	8,00	34	79	24
6,40	8,00	34	79	24
6,50	8,00	34	79	24
6,60	8,00	34	79	24
6,70	8,00	34	79	24
6,80	8,00	34	79	24
6,90	8,00	34	79	24
7,00	8,00	34	79	24
7,10	8,00	41	79	29
7,20	8,00	41	79	29
7,30	8,00	41	79	29
7,40	8,00	41	79	29
7,50	8,00	41	79	29
7,60	8,00	41	79	29
7,70	8,00	41	79	29
7,80	8,00	41	79	29
7,90	8,00	41	79	29
8,00	8,00	41	79	29

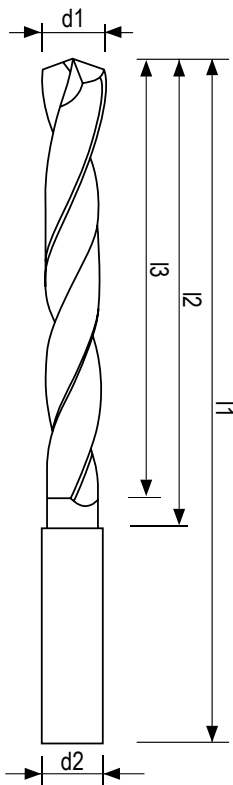
**Order example:**  
**Cylindrical shank (HA): 2400 d4,6**  
**Weldon shank (HB): 2400 W d4,6**  
**Whistle Notch shank (HE): 2400 WN d4,6**

Solid carbide drill 4xD  
 No through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

Solid carbide drill 4D



2400



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
8,10	10,00	47	89	35
8,20	10,00	47	89	35
8,30	10,00	47	89	35
8,40	10,00	47	89	35
8,50	10,00	47	89	35
8,6	10,00	47	89	35
8,70	10,00	47	89	35
8,80	10,00	47	89	35
8,90	10,00	47	89	35
9,00	10,00	47	89	35
9,10	10,00	47	89	35
9,20	10,00	47	89	35
9,30	10,00	47	89	35
9,40	10,00	47	89	35
9,50	10,00	47	89	35
9,60	10,00	47	89	35
9,70	10,00	47	89	35
9,80	10,00	47	89	35
9,90	10,00	47	89	35
10,00	10,00	47	89	35
10,10	12,00	55	102	40
10,20	12,00	55	102	40
10,30	12,00	55	102	40
10,40	12,00	55	102	40
10,50	12,00	55	102	40
10,60	12,00	55	102	40
10,70	12,00	55	102	40
10,80	12,00	55	102	40
10,90	12,00	55	102	40
11,00	12,00	55	102	40
11,10	12,00	55	102	40
11,20	12,00	55	102	40
11,30	12,00	55	102	40
11,40	12,00	55	102	40
11,50	12,00	55	102	40
11,60	12,00	55	102	40
11,70	12,00	55	102	40

Order example:

Cylindrical shank(HA): 2400 d8,1

Weldon shank (HB): 2400 W d8,1

Whistle Notch shank (HE): 2400 WN d8,1

Solid carbide drill 4xD

No through coolant

140° Point angle

Universal application. Micrograin grade

TIALN coated

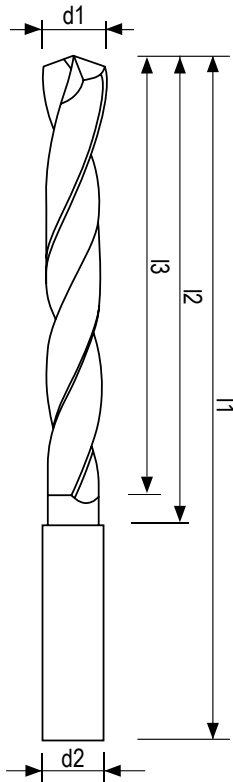
Cylindrical shank (HA) is standard version.

Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 4D**



**2400**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
11,80	12,00	55	102	40
11,90	12,00	55	102	40
12,00	12,00	55	102	40
12,20	14,00	60	107	43
12,30	14,00	60	107	43
12,50	14,00	60	107	43
12,80	14,00	60	107	43
1300	14,00	60	107	43
13,50	14,00	60	107	43
13,8	14,00	60	107	43
14,00	14,00	60	107	43
14,20	16,00	65	115	45
14,50	16,00	65	115	45
14,80	16,00	65	115	45
15,00	16,00	65	115	45
15,10	16,00	65	115	45
15,20	16,00	65	115	45
15,50	16,00	65	115	45
15,80	16,00	65	115	45
16,00	16,00	65	115	45
16,50	18,00	73	123	51
16,80	18,00	73	123	51
17,00	18,00	73	123	51
17,30	18,00	73	123	51
17,50	18,00	73	123	51
17,70	18,00	73	123	51
17,80	18,00	73	123	51
18,00	18,00	73	123	51
18,50	20,00	79	131	55
19,00	20,00	79	131	55
19,30	20,00	79	131	55
19,50	20,00	79	131	55
19,80	20,00	79	131	55
20,00	20,00	79	131	55

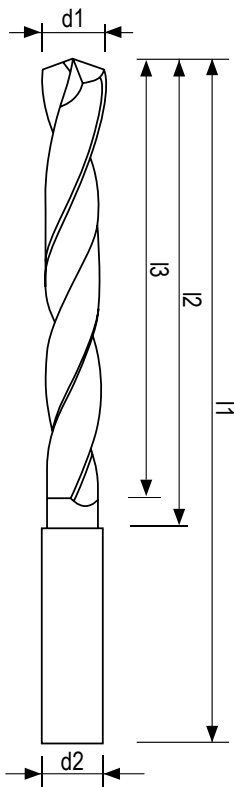
**Order example:**  
**Cylindrical shank (HA): 2400 d11,8**  
**Weldon shank (HB): 2400 W d11,8**  
**Whistle Notch shank (HE): 2400 WN d11,8**

Solid carbide drill 4xD  
 No through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

Solid carbide drill 4D with through coolant



2405



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
3,00	6,00	20	62	14
3,10	6,00	20	62	14
3,20	6,00	20	62	14
3,25	6,00	20	62	14
3,30	6,00	20	62	14
3,40	6,00	20	62	14
3,50	6,00	20	62	14
3,60	6,00	20	62	14
3,70	6,00	20	62	14
3,80	6,00	24	66	17
3,90	6,00	24	66	17
4,00	6,00	24	66	17
4,10	6,00	24	66	17
4,20	6,00	24	66	17
4,30	6,00	24	66	17
4,40	6,00	24	66	17
4,50	6,00	24	66	17
4,60	6,00	24	66	17
4,65	6,00	24	66	17
4,70	6,00	24	66	17
4,80	6,00	28	66	20
4,90	6,00	28	66	20
5,00	6,00	28	66	20
5,10	6,00	28	66	20
5,20	6,00	28	66	20
5,30	6,00	28	66	20
5,40	6,00	28	66	20
5,50	6,00	28	66	20
5,55	6,00	28	66	20
5,60	6,00	28	66	20
5,70	6,00	28	66	20
5,80	6,00	28	66	20
5,90	6,00	28	66	20
6,00	6,00	28	66	20

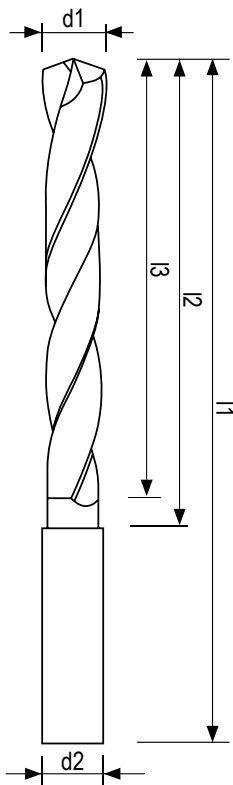
Order example:  
Cylindrical shank(HA): 2405 d3  
Weldon shank (HB): 2405 W d3  
Whistle Notch shank (HE): 2405 WN d3

Solid carbide drill 4xD  
Through coolant  
140° Point angle  
Universal application. Micrograin grade  
TiAlN coated  
Cylindrical shank (HA) is standard version.  
Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 4D with through coolant**



**2405**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
6,10	8,00	34	79	24
6,20	8,00	34	79	24
6,30	8,00	34	79	24
6,40	8,00	34	79	24
6,50	8,00	34	79	24
6,60	8,00	34	79	24
6,70	8,00	34	79	24
6,80	8,00	34	79	24
6,90	8,00	34	79	24
7,00	8,00	34	79	24
7,10	8,00	41	79	29
7,20	8,00	41	79	29
7,30	8,00	41	79	29
7,40	8,00	41	79	29
7,50	8,00	41	79	29
7,60	8,00	41	79	29
7,70	8,00	41	79	29
7,80	8,00	41	79	29
7,90	8,00	41	79	29
8,00	8,00	41	79	29
8,10	10,00	47	89	35
8,20	10,00	47	89	35
8,30	10,00	47	89	35
8,40	10,00	47	89	35
8,50	10,00	47	89	35
8,60	10,00	47	89	35
8,70	10,00	47	89	35
8,80	10,00	47	89	35
8,90	10,00	47	89	35
9,00	10,00	47	89	35
9,10	10,00	47	89	35
9,20	10,00	47	89	35
9,30	10,00	47	89	35
9,40	10,00	47	89	35

**Order example:**  
**Cylindrical shank (HA): 2405 d6,1**  
**Weldon shank (HB): 2405 W d6,1**  
**Whistle Notch shank (HE): 2405 WN d6,1**

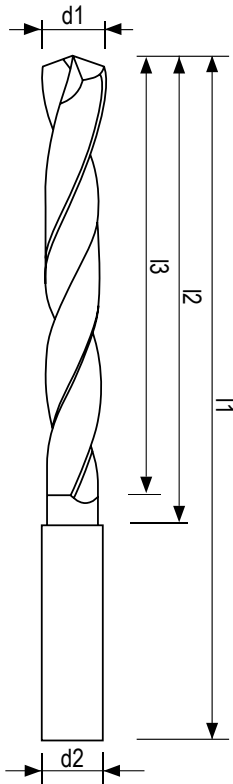
Solid carbide drill 4xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TIALN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible



Solid carbide drill 4D with through coolant



2405



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
9,50	10,0	47	89	35
9,60	10,0	47	89	35
9,70	10,0	47	89	35
9,80	10,0	47	89	35
9,90	10,0	47	89	35
10,00	10,0	47	89	35
10,10	12,0	55	102	40
10,20	12,0	55	102	40
10,30	12,0	55	102	40
10,40	12,0	55	102	40
10,50	12,0	55	102	40
10,60	12,0	55	102	40
10,70	12,0	55	102	40
10,80	12,0	55	102	40
10,90	12,0	55	102	40
11,00	12,0	55	102	40
11,10	12,0	55	102	40
11,20	12,0	55	102	40
11,30	12,0	55	102	40
11,40	12,0	55	102	40
11,50	12,0	55	102	40
11,60	12,0	55	102	40
11,70	12,0	55	102	40
11,80	12,0	55	102	40
11,90	12,0	55	102	40
12,00	12,0	55	102	40
12,20	14,0	60	107	43
12,30	14,0	60	107	43
12,50	14,0	60	107	43
12,80	14,0	60	107	43
13,00	14,0	60	107	43
13,50	14,0	60	107	43
13,80	14,0	60	107	43
14,00	14,0	60	107	43

Order example:

Cylindrical shank(HA): 2405 d9,5

Weldon shank (HB): 2405 W d9,5

Whistle Notch shank (HE): 2405 WN d9,5

Solid carbide drill 4xD

Through coolant

140° Point angle

Universal application. Micrograin grade

TIALN coated

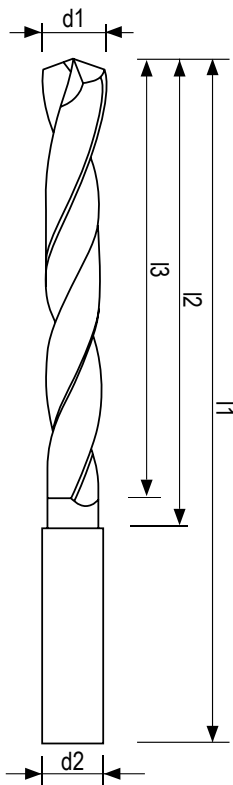
Cylindrical shank (HA) is standard version.

Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 4D with through coolant**



**2405**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
14,20	16,00	65	115	45
14,50	16,00	65	115	45
14,80	16,00	65	115	45
15,00	16,00	65	115	45
15,10	16,00	65	115	45
15,20	16,00	65	115	45
15,50	16,00	65	115	45
15,80	16,00	65	115	45
16,00	16,00	65	115	45
16,50	18,00	73	123	51
16,80	18,00	73	123	51
17,00	18,00	73	123	51
17,30	18,00	73	123	51
17,50	18,00	73	123	51
17,70	18,00	73	123	51
17,80	18,00	73	123	51
18,00	18,00	73	123	51
18,50	20,00	79	131	55
19,00	20,00	79	131	55
19,30	20,00	79	131	55
19,50	20,00	79	131	55
19,80	20,00	79	131	55
20,00	20,00	79	131	55

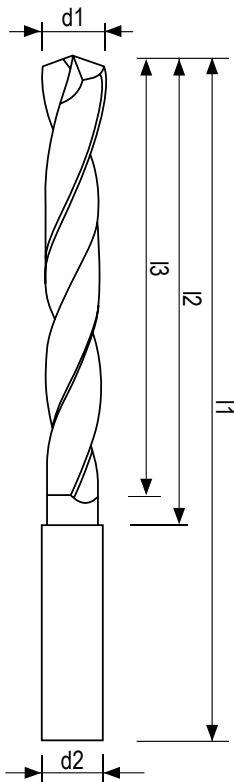
**Order example:**  
**Cylindrical shank (HA): 2405 d14,2**  
**Weldon shank (HB): 2405 W d14,2**  
**Whistle Notch shank (HE): 2405 WN d14,2**

Solid carbide drill 4xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

Solid carbide drill 6D with through coolant



2605



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
1,00	3,00	10	55	7
1,10	3,00	12	55	10
1,20	3,00	12	55	10
1,30	3,00	12	55	10
1,40	3,00	12	55	10
1,50	3,00	12	55	10
1,60	3,00	16	55	13
1,70	3,00	16	55	13
1,80	3,00	16	55	13
1,90	3,00	16	55	13
2,00	3,00	21	57	16
2,02	3,00	16	57	16
2,10	3,00	21	57	16
2,20	3,00	21	57	16
2,22	3,00	21	57	16
2,30	3,00	21	57	16
2,32	3,00	21	57	16
2,40	3,00	21	57	16
2,42	3,00	21	57	16
2,50	3,00	21	57	16
2,52	3,00	21	57	16
2,60	3,00	21	57	19
2,70	3,00	21	57	19
2,72	3,00	21	57	19
2,75	3,00	21	57	19
2,80	3,00	21	57	19
2,82	3,00	21	57	19
2,90	3,00	21	57	19
3,00	6,00	28	66	23
3,02	6,00	28	66	23
3,10	6,00	28	66	23
3,20	6,00	28	66	23
3,22	6,00	28	66	23
3,30	6,00	28	66	23
3,32	6,00	28	66	23
3,40	6,00	28	66	23
3,50	6,00	28	66	23
3,52	6,00	28	66	23
3,60	6,00	28	66	23
3,65	6,00	28	66	23
3,70	6,00	28	66	23
3,80	6,00	36	74	29
3,82	6,00	36	74	29
3,90	6,00	36	74	29
4,00	6,00	36	74	29
4,02	6,00	36	74	29
4,10	6,00	36	74	29
4,20	6,00	36	74	29
4,22	6,00	36	74	29
4,30	6,00	36	74	29

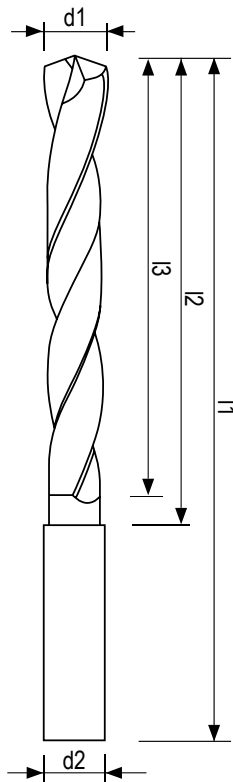
Order example:  
 Cylindrical shank(HA): 2605 d1,1  
 Weldon shank (HB): 2605 W d1,1  
 Whistle Notch shank (HE): 2605 WN d1,1

Solid carbide drill 6xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 6D with through coolant**



**2605**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
4,40	6,00	36	74	29
4,50	6,00	36	74	29
4,52	6,00	36	74	29
4,60	6,00	36	74	29
4,65	6,00	36	74	29
4,70	6,00	36	74	29
4,80	6,00	44	82	35
4,82	6,00	44	82	35
4,90	6,00	44	82	35
5,00	6,00	44	82	35
5,02	6,00	44	82	35
5,10	6,00	44	82	35
5,20	6,00	44	82	35
5,30	6,00	44	82	35
5,40	6,00	44	82	35
5,50	6,00	44	82	35
5,52	6,00	44	82	35
5,55	6,00	44	82	35
5,60	6,00	44	82	35
5,65	6,00	44	82	35
5,70	6,00	44	82	35
5,80	6,00	44	82	35
5,82	6,00	44	82	35
5,90	6,00	44	82	35
6,00	6,00	44	82	35
6,02	6,00	44	82	35
6,10	8,00	53	91	43
6,20	8,00	53	91	43
6,30	8,00	53	91	43
6,40	8,00	53	91	43
6,50	8,00	53	91	43
6,52	8,00	53	91	43
6,60	8,00	53	91	43
6,70	8,00	53	91	43
6,80	8,00	53	91	43
6,82	8,00	53	91	43
6,90	8,00	53	91	43
7,00	8,00	53	91	43
7,02	8,00	53	91	43
7,10	8,00	53	91	43
7,20	8,00	53	91	43
7,30	8,00	53	91	43
7,40	8,00	53	91	43
7,50	8,00	53	91	43
7,52	8,00	53	91	43
7,60	8,00	53	91	43
7,65	8,00	53	91	43
7,70	8,00	53	91	43
7,80	8,00	53	91	43
7,82	8,00	53	91	43
7,90	8,00	53	91	43

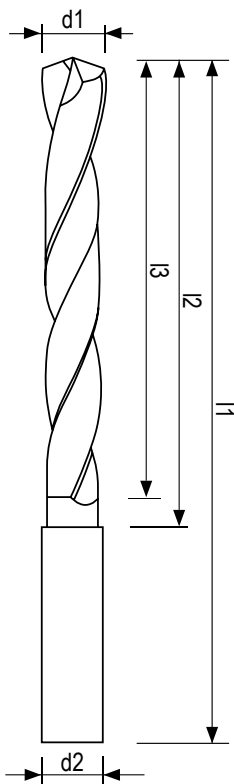
**Order example:**  
**Cylindrical shank(HA): 2605 d4,8**  
**Weldon shank (HB): 2605 W d4,8**  
**Whistle Notch shank (HE): 2605 WN d4,8**

Solid carbide drill 6xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

Solid carbide drill 6D with through coolant



2605



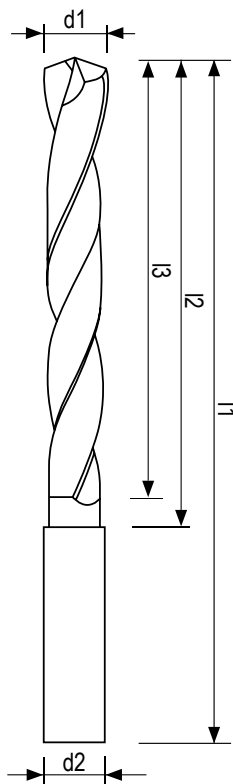
d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
8,00	8,00	53	91	43
8,02	8,00	53	91	43
8,10	10,00	61	103	49
8,20	10,00	61	103	49
8,30	10,00	61	103	49
8,40	10,00	61	103	49
8,50	10,00	61	103	49
8,52	10,00	61	103	49
8,60	10,00	61	103	49
8,70	10,00	61	103	49
8,80	10,00	61	103	49
8,82	10,00	61	103	49
8,90	10,00	61	103	49
9,00	10,00	61	103	49
9,02	10,00	61	103	49
9,10	10,00	61	103	49
9,20	10,00	61	103	49
9,30	10,00	61	103	49
9,40	10,00	61	103	49
9,50	10,00	61	103	49
9,55	10,00	61	103	49
9,60	10,00	61	103	49
9,70	10,00	61	103	49
9,80	10,00	61	103	49
9,82	10,00	61	103	49
9,90	10,00	61	103	49
10,00	10,00	61	103	49
10,02	10,00	61	103	49
10,10	12,00	71	118	56
10,20	12,00	71	118	56
10,22	12,00	71	118	56
10,30	12,00	71	118	56
10,40	12,00	71	118	56
10,50	12,00	71	118	56
10,60	12,00	71	118	56
10,70	12,00	71	118	56
10,80	12,00	71	118	56
10,82	12,00	71	118	56
10,90	12,00	71	118	56

Order example:  
 Cylindrical shank(HA): 2605 d8,6  
 Weldon shank (HB): 2605 W d8,6  
 Whistle Notch shank (HE): 2605 WN d8,6

Solid carbide drill 6xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible

**Solid carbide drill 6D with through coolant**

**2605**



d1 Drill diameter m7	d2 Shank diameter h6	l2 Cutting length	l1 Full length	l3 MAX drilling depth
11,00	12,00	71	118	56
11,10	12,00	71	118	56
11,20	12,00	71	118	56
11,30	12,00	71	118	56
11,40	12,00	71	118	56
11,50	12,00	71	118	56
11,55	12,00	71	118	56
11,60	12,00	71	118	56
11,70	12,00	71	118	56
11,80	12,00	71	118	56
11,82	12,00	71	118	56
11,90	12,00	71	118	56
12,00	12,00	71	118	56
12,02	12,00	71	118	56
12,20	14,00	77	124	60
12,30	14,00	77	124	60
12,50	14,00	77	124	60
12,80	14,00	77	124	60
13,00	14,00	77	124	60
13,50	14,00	77	124	60
13,80	14,00	77	124	60
14,00	14,00	77	124	60
14,50	16,00	83	133	63
14,80	16,00	83	133	63
15,00	16,00	83	133	63
15,10	16,00	83	133	63
15,50	16,00	83	133	63
15,80	16,00	83	133	63
16,00	16,00	83	133	63
16,50	18,00	93	143	71
16,80	18,00	93	143	71
17,00	18,00	93	143	71
17,50	18,00	93	143	71
17,80	18,00	93	143	71
18,00	18,00	93	143	71
18,50	20,00	101	153	77
19,00	20,00	101	153	77
19,50	20,00	101	153	77
20,00	20,00	101	153	77

**Order example:**  
**Cylindrical shank (HA): 2605 d12,5**  
**Weldon shank (HB): 2605 W d12,5**  
**Whistle Notch shank (HE): 2605 WN d12,5**

Solid carbide drill 6xD  
 Through coolant  
 140° Point angle  
 Universal application. Micrograin grade  
 TiAlN coated  
 Cylindrical shank (HA) is standard version.  
 Weldon shank (HB) or Whistle Notch shank (HE) order is possible