



■ Made
■ in
■ Germany



BasicDrill

EMUGE



Solid Carbide Twist Drills

Main area of application

The twist drill BasicDrill is universally applicable and available in the diameter range from 1.00 to 24.50 mm.

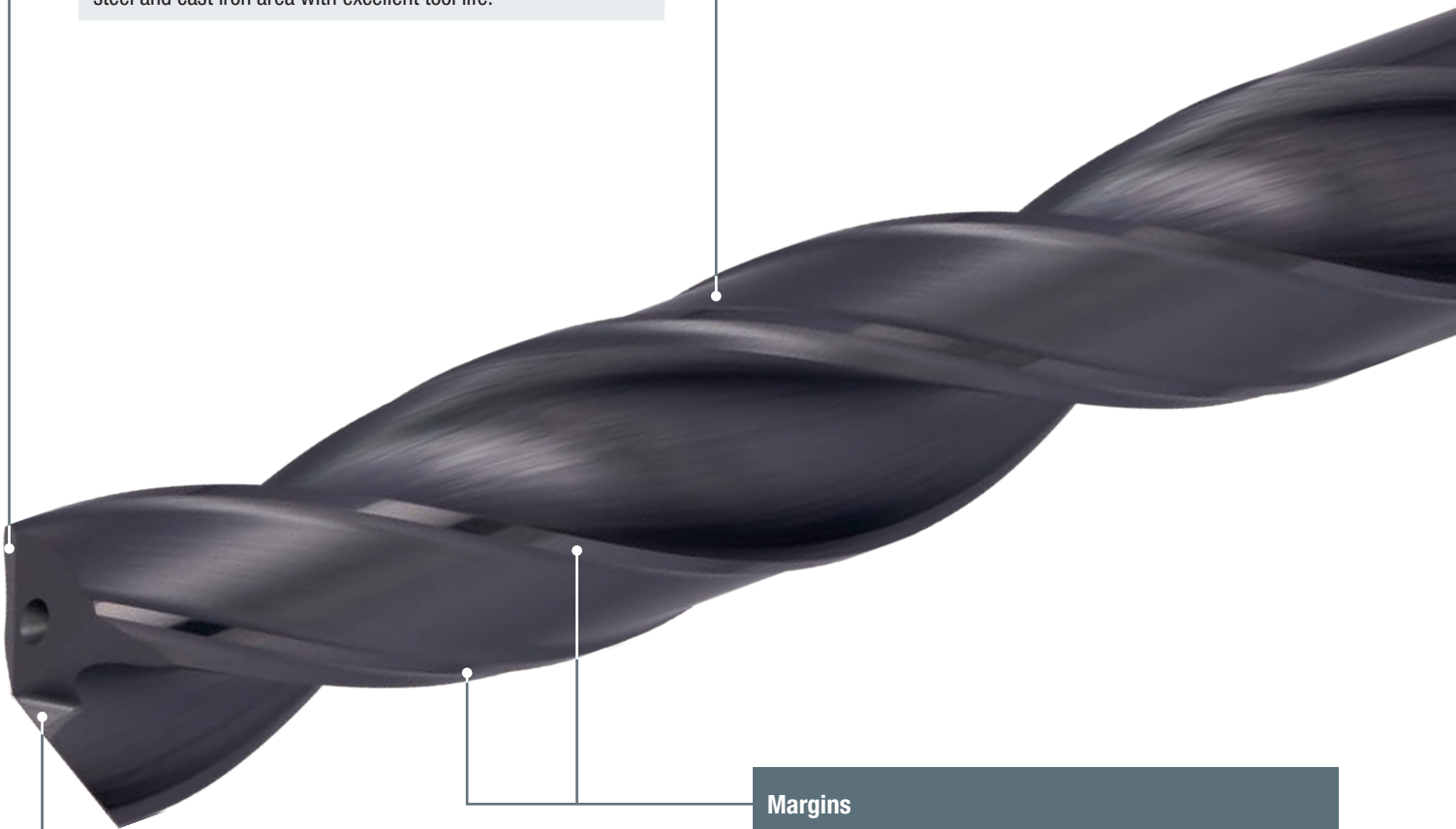
The application area of the BasicDrill covers the material groups steel materials, stainless steel materials, cast materials and non-ferrous materials. Its application focus is the steel area.

Cutting edge shape and edge preparation

The concave main cutting edge combined with an optimised edge preparation enables the best cutting behaviour in the steel and cast iron area with excellent tool life.

Cutting material and coating

The combination of carbide and a high-performance coating enables higher cutting speeds and feed rates.



Point geometry

An optimised point design allows sufficient space for chip forming and coolant distribution.

Margins

The design with four margins ensures optimum guidance of the twist drill in the bore. The third and fourth margin are arranged in such a way that they engage at an early stage. The special design prevents jamming even in stainless steel materials.

24/7

Precision Tools on
www.emuge-franken.com



The QR code shown with the tools will take you directly to the respective articles in our web store where you can find comprehensive tool information and cutting data.

Registration provides you with additional product data and functions. These include standardised tool data (2D / 3D / characteristics), an order or quotation history and individual watch lists as well as other useful functions.



Shank end

The shank end has been designed in such a way that the drilling tool can be used with emulsion as well as with minimum quantity lubrication (MQL).

Flutes

The open shape of the flute facilitates smooth chip evacuation.

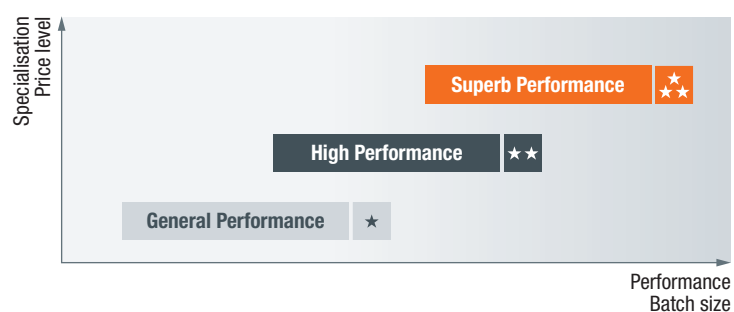
The EMUGE-FRANKEN performance classes of twist drills

The performance classes indicated by stars make it easier to find the right tool for the specific performance requirements and the batch size to be produced.

Tools for standard requirements and versatile use are assigned to the category "General Performance".

Tools designed for special materials or applications are marked "High Performance".

Specialists with the highest performance values and the best possible technology are classified as "Superb Performance".



BasicDrill Micro BD108-6xD



6xD



Solid carbide twist drill for dimensions smaller than 3 mm, 6xD, in Basic geometry for universal application.

Product features and benefits:

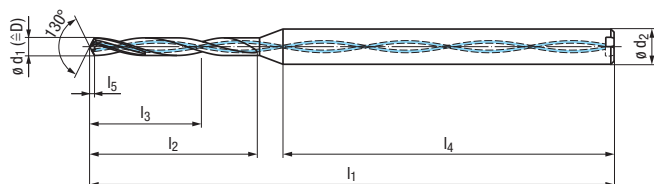
Four margins for better guidance and hole quality.

Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.

Applications – material

P	1.1-5.1
M	1.1-4.1
K	1.1-3.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.2



Information about this product
is also available on the web



Taps		Cold-forming taps		Micro 6xD						HA	
$\emptyset d_1$ k5				l_1	l_2	l_3	l_4 + 3 mm	l_5	$\emptyset d_2$ h6		
1.00	M1.2x0.2	M1.1		50	9	6	36	0.20	3	TE211344.0100	
1.05				50	9.5	6.3	36	0.20	3	TE211344.0105	
1.10	M1.4	M1.2		50	9.9	6.6	36	0.20	3	TE211344.0110	
1.15				50	10.4	6.9	36	0.20	3	TE211344.0115	
1.20	M1.4x0.2			50	10.8	7.2	36	0.20	3	TE211344.0120	
1.25	M1.6 / #0-80			50	11.3	7.5	36	0.20	3	TE211344.0125	
1.30	MJ1.6x0.35			52	11.7	7.8	36	0.25	3	TE211344.0130	
1.35	M1.7			52	12.2	8.1	36	0.25	3	TE211344.0135	
1.40	M1.6x0.2	#0-80		52	12.6	8.4	36	0.25	3	TE211344.0140	
1.45	M1.8			52	13.1	8.7	36	0.25	3	TE211344.0145	
1.47		M1.6		52	13.5	8.8	36	0.25	3	TE211344.0147	
1.50				52	13.5	9	36	0.25	3	TE211344.0150	
1.55	#1-64			55	14	9.3	36	0.30	3	TE211344.0155	
1.60	M2 / M1.8x0.2			55	14.4	9.6	36	0.30	3	TE211344.0160	
1.65				55	14.9	9.9	36	0.30	3	TE211344.0165	
1.70		#1-64 / #1-72		55	15.3	10.2	36	0.30	3	TE211344.0170	
1.75	M2.2 / M2x0.25			55	15.8	10.5	36	0.30	3	TE211344.0175	
1.80				57	16.2	10.8	36	0.30	3	TE211344.0180	
1.85	#2-56 / #2-64	M2		57	16.7	11.1	36	0.35	3	TE211344.0185	
1.90	M2.3			57	17.1	11.4	36	0.35	3	TE211344.0190	
1.95	M2.2x0.25 / M2.3x0.35			57	17.6	11.7	36	0.35	3	TE211344.0195	
2.00		#2-56		57	18	12	36	0.35	4	TE211344.0200	
2.03		M2.2		57	18.5	12.2	36	0.35	4	TE211344.0203	
2.05	M2.5 / M2.3x0.25			60	18.5	12.3	36	0.35	4	TE211344.0205	
2.10	MJ2.5x0.45 / #3-48			60	18.9	12.6	36	0.40	4	TE211344.0210	
2.15	M2.6 / M2.5x0.35 / #3-56	M2.3		60	19.4	12.9	36	0.40	4	TE211344.0215	
2.20				60	19.8	13.2	36	0.40	4	TE211344.0220	
2.25	M2.6x0.35			60	20.3	13.5	36	0.40	4	TE211344.0225	
2.30		#3-48		62	20.7	13.8	36	0.40	4	TE211344.0230	
2.33		M2.5		62	21.2	14	36	0.40	4	TE211344.0233	
2.35	#4-40			62	21.2	14.1	36	0.40	4	TE211344.0235	
2.40	#4-48			62	21.6	14.4	36	0.45	4	TE211344.0240	
2.45				62	22.1	14.7	36	0.45	4	TE211344.0245	
2.50	M3			62	22.5	15	36	0.45	4	TE211344.0250	

Ø d ₁ k5	Taps	Cold-forming taps	Micro 6xD						HA
			l ₁	l ₂	l ₃	l ₄ + 3 mm	l ₅	Ø d ₂ h6	
2.55		#4-40	65	23	15.3	36	0.45	4	TE211344.0255
2.60	MJ3x0.5		65	23.4	15.6	36	0.45	4	TE211344.0260
2.65	M3x0.35 / #5-40		65	23.9	15.9	36	0.45	4	TE211344.0265
2.70	#5-44		65	24.3	16.2	36	0.50	4	TE211344.0270
2.75	M3x0.25		65	24.8	16.5	36	0.50	4	TE211344.0275
2.80		M3	67	25.2	16.8	36	0.50	4	TE211344.0280
2.85	#6-32		67	25.7	17.1	36	0.50	4	TE211344.0285
2.90	M3.5	#5-40	67	26.1	17.4	36	0.50	4	TE211344.0290
2.95			67	26.6	17.7	36	0.55	4	TE211344.0295



BasicDrill Micro BD109-12xD new



12xD



Solid carbide twist drill for dimensions smaller than 3 mm, 12xD, in Basic geometry for universal application.

Product features and benefits:

Four margins for better guidance and hole quality.

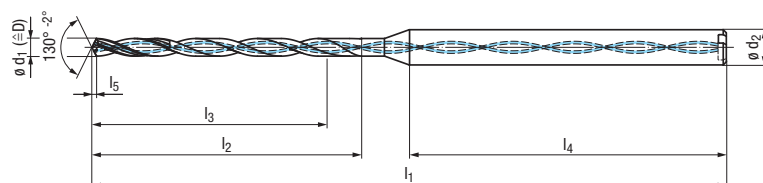
Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.

Piloting with BasicDrill Micro C-Pilot (pages 8 - 9) is recommended.

Applications – material

P	1.1-5.1
M	1.1-4.1
K	1.1-3.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.2



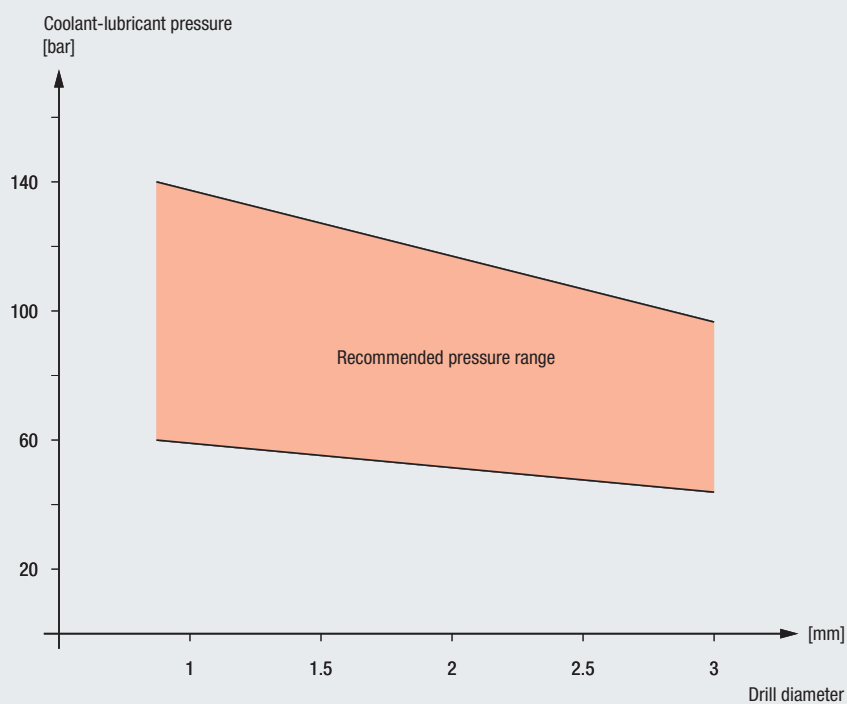
Information about this product
is also available on the web



Ø d ₁ k5	Taps	Cold-forming taps	Micro 12xD						HA
			l ₁ ±0.2	l ₂	l ₃	l ₄ + 3 mm	l ₅	Ø d ₂ h6	
1.00	M1.2x0.2	M1.1	58	15.3	12	36	0.20	3	TE231344.0100
1.05			58	16.1	12.6	36	0.20	3	TE231344.0105
1.10	M1.4	M1.2	58	16.9	13.2	36	0.20	3	TE231344.0110
1.15			58	17.6	13.8	36	0.20	3	TE231344.0115
1.20	M1.4x0.2		58	18.4	14.4	36	0.20	3	TE231344.0120
1.25	M1.6 / #0-80		58	19.2	15.6	36	0.20	3	TE231344.0125
1.30	MJ1.6x0.35		64	19.9	16.2	36	0.25	3	TE231344.0130
1.35	M1.7		64	20.7	15	36	0.25	3	TE231344.0135
1.40	M1.6x0.2	#0-80	64	21.5	16.8	36	0.25	3	TE231344.0140
1.45	M1.8		64	22.2	17.4	36	0.25	3	TE231344.0145
1.50			64	23	18	36	0.25	3	TE231344.0150
1.55	#1-64		68	23.8	18.6	36	0.30	3	TE231344.0155
1.60	M2 / M1.8x0.2		68	24.5	19.2	36	0.30	3	TE231344.0160
1.65			68	25.3	19.8	36	0.30	3	TE231344.0165
1.70		#1-64 / #1-72	68	26.1	20.4	36	0.30	3	TE231344.0170
1.75	M2.2 / M2x0.25		68	26.8	21	36	0.30	3	TE231344.0175
1.80			72	27.6	21.6	36	0.30	3	TE231344.0180
1.85	#2-56 / #2-64	M2	72	28.4	22.2	36	0.35	3	TE231344.0185
1.90	M2.3		72	29.1	22.8	36	0.35	3	TE231344.0190
1.95	M2.2x0.25 / M2.3x0.35		72	29.9	23.4	36	0.35	3	TE231344.0195
2.00		#2-56	72	30.6	24	36	0.35	4	TE231344.0200
2.05	M2.5 / M2.3x0.25		76	31.4	24.6	36	0.35	4	TE231344.0205
2.10	MJ2.5x0.45 / #3-48		76	32.2	25.2	36	0.40	4	TE231344.0210
2.15	M2.6 / M2.5x0.35 / #3-56	M2.3	76	32.9	25.8	36	0.40	4	TE231344.0215
2.20			76	33.7	26.4	36	0.40	4	TE231344.0220
2.25	M2.6x0.35		76	34.5	27	36	0.40	4	TE231344.0225
2.30		#3-48	80	35.2	27.6	36	0.40	4	TE231344.0230
2.35	#4-40		80	36	28.2	36	0.40	4	TE231344.0235
2.40	#4-48		80	36.8	28.8	36	0.45	4	TE231344.0240
2.45			80	37.5	29.4	36	0.45	4	TE231344.0245
2.50	M3		80	38.3	30	36	0.45	4	TE231344.0250
2.55		#4-40	84	39.1	30.6	36	0.45	4	TE231344.0255
2.60	MJ3x0.5		84	39.8	31.2	36	0.45	4	TE231344.0260
2.65	M3x0.35 / #5-40		84	40.6	31.8	36	0.45	4	TE231344.0265

Taps									Cold-forming taps		Micro 12xD							
$\varnothing d_1$ k5			l_1 ± 0.2	l_2	l_3	l_4 + 3 mm	l_5	$\varnothing d_2$ h6			HA							
2.70	#5-44		84	41.4	32.4	36	0.50	4	TE231344.0270									
2.75	M3x0.25		84	42.1	33	36	0.50	4	TE231344.0275									
2.80		M3	88	42.9	33.6	36	0.50	4	TE231344.0280									
2.85	#6-32		88	43.7	34.2	36	0.50	4	TE231344.0285									
2.90	M3.5	#5-40	88	44.4	34.8	36	0.50	4	TE231344.0290									
2.95			88	45.2	35	36	0.55	4	TE231344.0295									

Recommended coolant-lubricant pressure for BasicDrill Micro



BasicDrill Micro C-Pilot BD110-2xD **new**



2xD



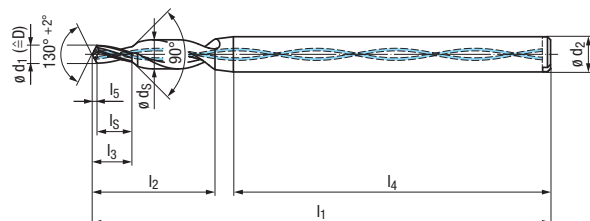
Solid carbide chamfer drill, in Basic geometry for universal application.

Product features and benefits:

With countersinking step for optional chamfering of the drilled hole at 45°. Internal cooling channels and high-performance coating for high process reliability. Use in various materials with steel as the main application area.

Applications – material

P	1.1-5.1
M	1.1-4.1
K	1.1-3.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.2



Information about this product is also available on the web



Micro C-Pilot 2xD

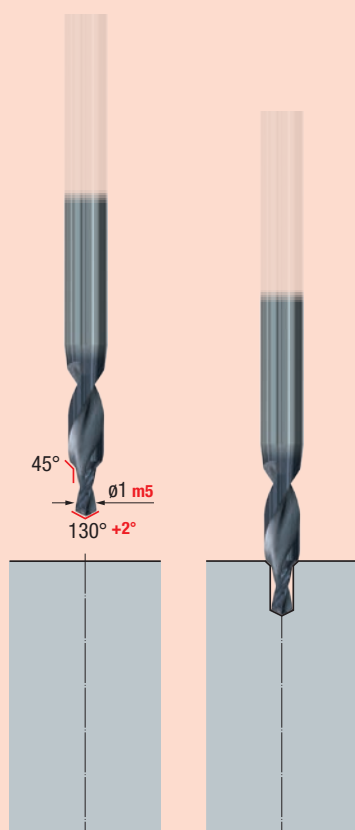
$\varnothing d_1$ m5	$\varnothing d_s$	l_1	l_2 max.	l_4 + 3 mm	l_5	l_s	$\varnothing d_2$ h6	HA
1.00	1.80	45	7.3	36	0.20	2.00	4	TF201324.0100
1.05	1.80	45	7.7	36	0.20	2.10	4	TF201324.0105
1.10	1.80	45	8.05	36	0.20	2.20	4	TF201324.0110
1.15	1.80	45	8.4	36	0.20	2.30	4	TF201324.0115
1.20	2.10	45	8.8	36	0.20	2.40	4	TF201324.0120
1.25	2.10	45	9.15	36	0.25	2.50	4	TF201324.0125
1.30	2.10	45	9.5	36	0.25	2.60	4	TF201324.0130
1.35	2.10	45	9.9	36	0.20	2.70	4	TF201324.0135
1.40	2.10	45	10.25	36	0.25	2.80	4	TF201324.0140
1.45	2.45	45	10.6	36	0.25	2.90	4	TF201324.0145
1.50	2.45	48	10.95	36	0.25	3.00	4	TF201324.0150
1.55	2.45	48	11.35	36	0.30	3.10	4	TF201324.0155
1.60	2.45	48	11.7	36	0.30	3.20	4	TF201324.0160
1.65	2.45	48	12.05	36	0.30	3.30	4	TF201324.0165
1.70	2.80	48	12.45	36	0.30	3.40	4	TF201324.0170
1.75	2.80	48	12.8	36	0.30	3.50	4	TF201324.0175
1.80	2.80	48	13.15	36	0.30	3.60	4	TF201324.0180
1.85	2.80	48	13.55	36	0.35	3.70	4	TF201324.0185
1.90	2.80	48	13.9	36	0.35	3.80	4	TF201324.0190
1.95	2.80	48	14.25	36	0.35	3.90	4	TF201324.0195
2.00	3.30	52	14.6	36	0.35	4.00	4	TF201324.0200
2.05	3.30	52	15	36	0.35	4.10	4	TF201324.0205
2.10	3.30	52	15.35	36	0.40	4.20	4	TF201324.0210
2.15	3.30	52	15.7	36	0.40	4.30	4	TF201324.0215
2.20	3.30	52	16.1	36	0.40	4.40	4	TF201324.0220
2.25	3.30	52	16.45	36	0.40	4.50	4	TF201324.0225
2.30	3.60	52	16.8	36	0.40	4.60	4	TF201324.0230
2.35	3.60	52	17.2	36	0.40	4.70	4	TF201324.0235
2.40	3.60	52	17.55	36	0.45	4.80	4	TF201324.0240
2.45	3.60	52	17.9	36	0.45	4.90	4	TF201324.0245
2.50	3.60	56	18.25	36	0.45	5.00	4	TF201324.0250
2.55	3.60	56	18.65	36	0.45	5.10	4	TF201324.0255
2.60	4.00	56	19	36	0.45	5.20	4	TF201324.0260
2.65	4.00	56	19.5	36	0.45	5.30	4	TF201324.0265

Micro C-Pilot 2xD								HA
$\emptyset d_1$ m5	$\emptyset d_s$	l_1	l_2 max.	l_4 + 3 mm	l_5	l_s	$\emptyset d_2$ h6	
2.70	4.00	56	20	36	0.50	5.40	4	TF201324.0270
2.75	4.00	56	20	36	0.50	5.50	4	TF201324.0275
2.80	4.00	56	20	36	0.50	5.60	4	TF201324.0280
2.85	4.00	56	20	36	0.50	5.70	4	TF201324.0285
2.90	4.00	56	20	36	0.50	5.80	4	TF201324.0290
2.95	4.00	56	20	36	0.55	5.90	4	TF201324.0295

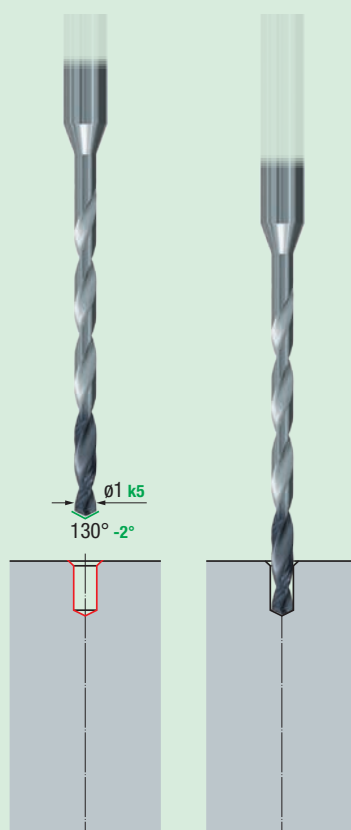
Production of a pilot hole for the BasicDrill Micro 12xD twist drill

The BasicDrill Micro C-Pilot creates a **pilot hole** with a drilling depth of 2xD, **optionally with a 45° chamfer**. This pilot hole ensures precise guidance, maximum positioning accuracy and perfect straightness when deep drilling with the BasicDrill Micro 12xD. The coordinated tip angle and drill diameter tolerances increase tool life and prevent cutting edge damage. The nominal diameter of the pilot drill and the follow-up drill must be identical!

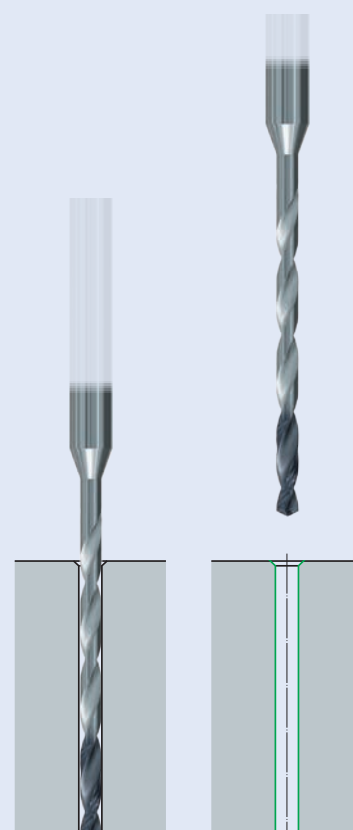
Drilling the pilot hole
with the BasicDrill Micro C-Pilot 2xD



The pilot hole serves as a guidance
for the BasicDrill Micro 12xD,
which should be fed into the pilot hole
at a **reduced speed**



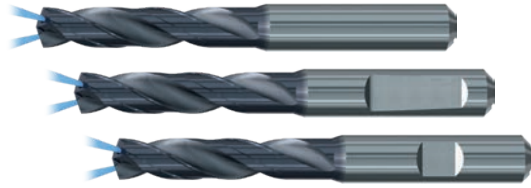
Deep drilling to maximum drilling depth
with the BasicDrill Micro 12xD



BasicDrill-BD101-3xD



3xD



Solid carbide twist drill, 3xD, in Basic geometry for universal application.

Product features and benefits:

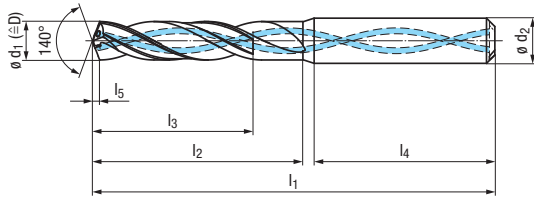
Four margins for better guidance and hole quality.

Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.

Applications – material

P	1.1-5.1
M	1.1-3.1
K	1.1-4.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.3



DIN 6537 – Short design



Information about this product is also available on the web



Taps		Cold-forming taps		3xD							
$\varnothing d_1$ m7			l_1	l_2	l_3	l_4	l_5	$\varnothing d_2$ h6	 DIN 6535 HA	 DIN 6535 HE	 DIN 6535 HB
3.00	M3.5x0.5 / MJ3.5x0.6		62	20	14	36	0.5	6	TA201344.0300	TA501344.0300	TA601344.0300
3.10			62	20	14	36	0.5	6	TA201344.0310	TA501344.0310	TA601344.0310
3.20	MJ3.5x0.35		62	20	14	36	0.5	6	TA201344.0320	TA501344.0320	TA601344.0320
3.30	M4	M3.5x0.5	62	20	14	36	0.6	6	TA201344.0330	TA501344.0330	TA601344.0330
3.40	MJ4x0.7		62	20	14	36	0.6	6	TA201344.0340	TA501344.0340	TA601344.0340
3.50	M4x0.5 / #8-32 / #8-36		62	20	14	36	0.6	6	TA201344.0350	TA501344.0350	TA601344.0350
3.60	MJ4x0.5		62	20	14	36	0.6	6	TA201344.0360	TA501344.0360	TA601344.0360
3.65	M4x0.35		62	20	14	36	0.6	6	TA201344.0365	TA501344.0365	TA601344.0365
3.70	M4.5	M4	62	20	14	36	0.6	6	TA201344.0370	TA501344.0370	TA601344.0370
3.80		M4x0.5 / #8-32	66	24	17	36	0.6	6	TA201344.0380	TA501344.0380	TA601344.0380
3.90	MJ4.5x0.75 / #10-24		66	24	17	36	0.7	6	TA201344.0390	TA501344.0390	TA601344.0390
4.00			66	24	17	36	0.7	6	TA201344.0400	TA501344.0400	TA601344.0400
4.10	MJ4.5x0.5 / #10-32		66	24	17	36	0.7	6	TA201344.0410	TA501344.0410	TA601344.0410
new 4.15	M5x0.9		66	24	17	36	0.7	6	TA201344.0415	TA501344.0415	TA601344.0415
4.20	M5 / M5x0.75	M4.5	66	24	17	36	0.7	6	TA201344.0420	TA501344.0420	TA601344.0420
4.30	MJ5x0.8	M4.5x0.5 / #10-24 (GAL)	66	24	17	36	0.7	6	TA201344.0430	TA501344.0430	TA601344.0430
4.40			66	24	17	36	0.7	6	TA201344.0440	TA501344.0440	TA601344.0440
4.50	M5x0.5 / #12-24		66	24	17	36	0.8	6	TA201344.0450	TA501344.0450	TA601344.0450
4.60	M5.5 / MJ5x0.5 / #12-28		66	24	17	36	0.8	6	TA201344.0460	TA501344.0460	TA601344.0460
4.65		M5	66	24	17	36	0.8	6	TA201344.0465	TA501344.0465	TA601344.046x5
4.70		M5x0.75	66	24	17	36	0.8	6	TA201344.0470	TA501344.0470	TA601344.0470
4.80		M5x0.5	66	28	20	36	0.8	6	TA201344.0480	TA501344.0480	TA601344.0480
4.90			66	28	20	36	0.8	6	TA201344.0490	TA501344.0490	TA601344.0490
5.00	M6	#12-24	66	28	20	36	0.8	6	TA201344.0500	TA501344.0500	TA601344.0500
5.05			66	28	20	36	0.9	6	TA201344.0505	TA501344.0505	TA601344.0505
5.10	MJ6x1 / 1/4-20	M5.5 / #12-28	66	28	20	36	0.9	6	TA201344.0510	TA501344.0510	TA601344.0510
5.20	M6x0.75		66	28	20	36	0.9	6	TA201344.0520	TA501344.0520	TA601344.0520
5.30		M5.5x0.5	66	28	20	36	0.9	6	TA201344.0530	TA501344.0530	TA601344.0530
5.40			66	28	20	36	0.9	6	TA201344.0540	TA501344.0540	TA601344.0540
5.50	M6x0.5 / 1/4-28		66	28	20	36	0.9	6	TA201344.0550	TA501344.0550	TA601344.0550
5.55		M6 (GAL)	66	28	20	36	0.9	6	TA201344.0555	TA501344.0555	TA601344.0555
5.60	MJ6x0.5	M6	66	28	20	36	1.0	6	TA201344.0560	TA501344.0560	TA601344.0560
5.70		M6x0.75 / 1/4-20 (GAL)	66	28	20	36	1.0	6	TA201344.0570	TA501344.0570	TA601344.0570
5.80		M6x0.5	66	28	20	36	1.0	6	TA201344.0580	TA501344.0580	TA601344.0580

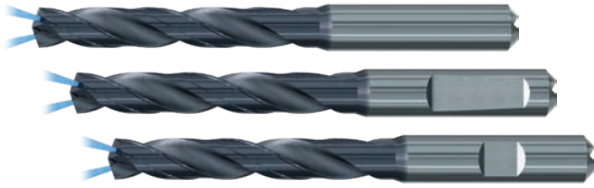
Taps		Cold-forming taps		3xD							
$\varnothing d_1$ m7			l_1	l_2	l_3	l_4	l_5	$\varnothing d_2$ h6			
5.90			66	28	20	36	1.0	6	TA201344.0590	TA501344.0590	TA601344.0590
6.00	M7		66	28	20	36	1.0	6	TA201344.0600	TA501344.0600	TA601344.0600
6.05			79	34	24	36	1.0	8	TA201344.0605	TA501344.0605	TA601344.0605
new 6.10	MJ7x1		79	34	24	36	1.0	8	TA201344.0610	TA501344.0610	TA601344.0610
6.15			79	34	24	36	1.1	8	TA201344.0615	TA501344.0615	TA601344.0615
6.20	M7x0.75		79	34	24	36	1.1	8	TA201344.0620	TA501344.0620	TA601344.0620
6.30			79	34	24	36	1.1	8	TA201344.0630	TA501344.0630	TA601344.0630
6.35	MJ7x0.75		79	34	24	36	1.1	8	TA201344.0635	TA501344.0635	TA601344.0635
6.40			79	34	24	36	1.1	8	TA201344.0640	TA501344.0640	TA601344.0640
6.50	M7x0.5		79	34	24	36	1.1	8	TA201344.0650	TA501344.0650	TA601344.0650
6.60	5/16-18	M7	79	34	24	36	1.1	8	TA201344.0660	TA501344.0660	TA601344.0660
6.70		M7x0.75	79	34	24	36	1.1	8	TA201344.0670	TA501344.0670	TA601344.0670
6.80	M8 / G1/16	M7x0.5	79	34	24	36	1.2	8	TA201344.0680	TA501344.0680	TA601344.0680
6.90	MJ8x1.25 / 5/16-24		79	34	24	36	1.2	8	TA201344.0690	TA501344.0690	TA601344.0690
7.00	M8x1		79	34	24	36	1.2	8	TA201344.0700	TA501344.0700	TA601344.0700
new 7.10	MJ8x1		79	41	29	36	1.2	8	TA201344.0720	TA501344.0720	TA601344.0720
7.20	M8x0.75		79	41	29	36	1.2	8	TA201344.0720	TA501344.0720	TA601344.0720
7.40		M8 (GAL) / 5/16-24 (GAL)	79	41	29	36	1.3	8	TA201344.0740	TA501344.0740	TA601344.0740
7.45		M8 / 5/16-24	79	41	29	36	1.3	8	TA201344.0745	TA501344.0745	TA601344.0745
7.50	M8x0.5		79	41	29	36	1.3	8	TA201344.0750	TA501344.0750	TA601344.0750
7.60		M8x1	79	41	29	36	1.3	8	TA201344.0760	TA501344.0760	TA601344.0760
7.70		M8x0.75	79	41	29	36	1.3	8	TA201344.0770	TA501344.0770	TA601344.0770
7.80	M9	M8x0.5	79	41	29	36	1.3	8	TA201344.0780	TA501344.0780	TA601344.0780
7.90	MJ9x1.25		79	41	29	36	1.3	8	TA201344.0790	TA501344.0790	TA601344.0790
8.00	M9x1 / 3/8-16		79	41	29	36	1.4	8	TA201344.0800	TA501344.0800	TA601344.0800
8.10	MJ9x1		89	47	35	40	1.4	10	TA201344.0810	TA501344.0810	TA601344.0810
8.20	M9x0.75		89	47	35	40	1.4	10	TA201344.0820	TA501344.0820	TA601344.0820
8.30			89	47	35	40	1.4	10	TA201344.0830	TA501344.0830	TA601344.0830
8.40		M9 (GAL)	89	47	35	40	1.4	10	TA201344.0840	TA501344.0840	TA601344.0840
8.50	M10 / M9x0.5 / 3/8-24		89	47	35	40	1.4	10	TA201344.0850	TA501344.0850	TA601344.0850
8.60	MJ10x1.5	M9x1	89	47	35	40	1.5	10	TA201344.0860	TA501344.0860	TA601344.0860
8.70		M9x0.75	89	47	35	40	1.5	10	TA201344.0870	TA501344.0870	TA601344.0870
8.80	M10x1.25 / G1/8	M9x0.5 / 3/8-16	89	47	35	40	1.5	10	TA201344.0880	TA501344.0880	TA601344.0880
9.00	M10x1	3/8-24 (GAL)	89	47	35	40	1.5	10	TA201344.0900	TA501344.0900	TA601344.0900
9.10	MJ10x1		89	47	35	40	1.5	10	TA201344.0910	TA501344.0910	TA601344.0910
9.20	M10x0.75		89	47	35	40	1.6	10	TA201344.0920	TA501344.0920	TA601344.0920
9.25			89	47	35	40	1.6	10	TA201344.0925	TA501344.0925	TA601344.0925
9.30		M10 (GAL)	89	47	35	40	1.6	10	TA201344.0930	TA501344.0930	TA601344.0930
9.35	MJ10x0.75	M10	89	47	35	40	1.6	10	TA201344.0935	TA501344.0935	TA601344.0935
9.40	7/16-14	M10x1.25 (GAL)	89	47	35	40	1.6	10	TA201344.0940	TA501344.0940	TA601344.0940
9.50	M11 / M10x0.5		89	47	35	40	1.6	10	TA201344.0950	TA501344.0950	TA601344.0950
9.60	MJ10x0.5 / MJ11x1.5	M10x1	89	47	35	40	1.6	10	TA201344.0960	TA501344.0960	TA601344.0960
9.80		M10x0.5	89	47	35	40	1.7	10	TA201344.0980	TA501344.0980	TA601344.0980
9.90	MJ11x1.25 / 7/16-20		89	47	35	40	1.7	10	TA201344.0990	TA501344.0990	TA601344.0990
10.00	M11x1		89	47	35	40	1.7	10	TA201344.1000	TA501344.1000	TA601344.1000
10.05			102	55	40	45	1.7	12	TA201344.1005	TA501344.1005	TA601344.1005
10.10	MJ11x1		102	55	40	45	1.7	12	TA201344.1010	TA501344.1010	TA601344.1010
10.15			102	55	40	45	1.7	12	TA201344.1015	TA501344.1015	TA601344.1015
10.20	M12 / M11x0.75	7/16-14 (GAL)	102	55	40	45	1.7	12	TA201344.1020	TA501344.1020	TA601344.1020
10.30		M11 (GAL)	102	55	40	45	1.7	12	TA201344.1030	TA501344.1030	TA601344.1030
10.40			102	55	40	45	1.8	12	TA201344.1040	TA501344.1040	TA601344.1040
10.50	M12x1.5	7/16-20 (GAL)	102	55	40	45	1.8	12	TA201344.1050	TA501344.1050	TA601344.1050
10.60		M11x1	102	55	40	45	1.8	12	TA201344.1060	TA501344.1060	TA601344.1060
new 10.70		M11x0.75	102	55	40	45	1.8	12	TA201344.1070	TA501344.1070	TA601344.1070
10.80	M12x1.25 / 1/2-13		102	55	40	45	1.8	12	TA201344.1080	TA501344.1080	TA601344.1080
11.00	M12x1		102	55	40	45	1.9	12	TA201344.1100	TA501344.1100	TA601344.1100
11.10			102	55	40	45	1.9	12	TA201344.1110	TA501344.1110	TA601344.1110

	Taps		Cold-forming taps		3xD							
	Ø d ₁ m7			l ₁	l ₂	l ₃	l ₄	l ₅	Ø d ₂ h6			
	11.20	M12x0.75	M12 (GAL)	102	55	40	45	1.9	12	TA201344.1120	TA501344.1120	TA601344.1120
	11.25		M12	102	55	40	45	1.9	12	TA201344.1125	TA501344.1125	TA601344.1125
	11.30		M12x1.5 (GAL)	102	55	40	45	1.9	12	TA201344.1130	TA501344.1130	TA601344.1130
	11.35		M12x1.5	102	55	40	45	1.9	12	TA201344.1135	TA501344.1135	TA601344.1135
	11.40		M12x1.25 (GAL)	102	55	40	45	2.0	12	TA201344.1140	TA501344.1140	TA601344.1140
	11.50	1/2-20		102	55	40	45	2.0	12	TA201344.1150	TA501344.1150	TA601344.1150
	11.60		M12x1	102	55	40	45	2.0	12	TA201344.1160	TA501344.1160	TA601344.1160
	11.70		M12x0.75	102	55	40	45	2.0	12	TA201344.1170	TA501344.1170	TA601344.1170
	11.80	G1/4	1/2-13	102	55	40	45	2.0	12	TA201344.1180	TA501344.1180	TA601344.1180
new	11.90			102	55	40	45	2.0	12	TA201344.1190	TA501344.1190	TA601344.1190
	12.00	M14		102	55	40	45	2.0	12	TA201344.1200	TA501344.1200	TA601344.1200
	12.10	MJ13x1	1/2-20 (GAL)	107	60	43	45	2.1	14	TA201344.1210	TA501344.1210	TA601344.1210
	12.20	9/16-12		107	60	43	45	2.1	14	TA201344.1220	TA501344.1220	TA601344.1220
	12.50	M14x1.5	G1/4 (GAL)	107	60	43	45	2.1	14	TA201344.1250	TA501344.1250	TA601344.1250
	12.55		M13x1 (GAL) / G1/4	107	60	43	45	2.1	14	TA201344.1255	TA501344.1255	TA601344.1255
	12.70		M13x0.75	107	60	43	45	2.2	14	TA201344.1270	TA501344.1270	TA601344.1270
	12.90	MJ14x1.25 / 9/16-18		107	60	43	45	2.2	14	TA201344.1290	TA501344.1290	TA601344.1290
	13.00	M14x1		107	60	43	45	2.2	14	TA201344.1300	TA501344.1300	TA601344.1300
	13.10	MJ14x1	M14	107	60	43	45	2.2	14	TA201344.1310	TA501344.1310	TA601344.1310
	13.30		9/16-12	107	60	43	45	2.3	14	TA201344.1330	TA501344.1330	TA601344.1330
	13.35		M14x1.5	107	60	43	45	2.3	14	TA201344.1335	TA501344.1335	TA601344.1335
	13.50	5/8-11		107	60	43	45	2.3	14	TA201344.1350	TA501344.1350	TA601344.1350
new	13.80			107	60	43	45	2.4	14	TA201344.1380	TA501344.1380	TA601344.1380
	14.00	M16 / M15x1		107	60	43	45	2.4	14	TA201344.1400	TA501344.1400	TA601344.1400
	14.10	MJ15x1		115	65	45	48	2.4	16	TA201344.1410	TA501344.1410	TA601344.1410
	14.20	M15x0.75		115	65	45	48	2.4	16	TA201344.1420	TA501344.1420	TA601344.1420
	14.50	M16x1.5 / 5/8-18		115	65	45	48	2.5	16	TA201344.1450	TA501344.1450	TA601344.1450
	14.60	MJ16x1.5	M15x1	115	65	45	48	2.5	16	TA201344.1460	TA501344.1460	TA601344.1460
	14.70		M15x0.75	115	65	45	48	2.5	16	TA201344.1470	TA501344.1470	TA601344.1470
	15.00	M16x1		115	65	45	48	2.5	16	TA201344.1500	TA501344.1500	TA601344.1500
	15.10	MJ16x1	M16	115	65	45	48	2.6	16	TA201344.1510	TA501344.1510	TA601344.1510
	15.20	M16x0.75	5/8-18 (GAL)	115	65	45	48	2.6	16	TA201344.1520	TA501344.1520	TA601344.1520
	15.25	G3/8	5/8-18	115	65	45	48	2.6	16	TA201344.1525	TA501344.1525	TA601344.1525
	15.30			115	65	45	48	2.6	16	TA201344.1530	TA501344.1530	TA601344.1530
	15.35		M16x1.5	115	65	45	48	2.6	16	TA201344.1535	TA501344.1535	TA601344.1535
	15.50	M18		115	65	45	48	2.6	16	TA201344.1550	TA501344.1550	TA601344.1550
	15.80	MJ18x2.5		115	65	45	48	2.7	16	TA201344.1580	TA501344.1580	TA601344.1580
	16.00	M18x2		115	65	45	48	2.7	16	TA201344.1600	TA501344.1600	TA601344.1600
	16.50	M18x1.5 / 3/4-10		123	73	51	48	2.8	18	TA201344.1650	TA501344.1650	TA601344.1650
	17.00	M18x1		123	73	51	48	2.9	18	TA201344.1700	TA501344.1700	TA601344.1700
	17.50	M20 / 3/4-16		123	73	51	48	3.0	18	TA201344.1750	TA501344.1750	TA601344.1750
	18.00	M20x2		123	73	51	48	3.1	18	TA201344.1800	TA501344.1800	TA601344.1800
	18.50			131	79	55	50	3.2	20	TA201344.1850	TA501344.1850	TA601344.1850
	18.85		M20	131	79	55	50	3.2	20	TA201344.1885	TA501344.1885	TA601344.1885
	19.00	M20x1		131	79	55	50	3.3	20	TA201344.1900	TA501344.1900	TA601344.1900
	19.05			131	79	55	50	3.3	20	TA201344.1905	TA501344.1905	TA601344.1905
	19.50	M22		131	79	55	50	3.4	20	TA201344.1950	TA501344.1950	TA601344.1950
new	19.70			131	79	55	50	3.4	20	TA201344.1970	TA501344.1970	TA601344.1970
new	19.80			131	79	55	50	3.4	20	TA201344.1980	TA501344.1980	TA601344.1980
	20.00	M22x2		131	79	55	50	3.4	20	TA201344.2000	TA501344.2000	TA601344.2000
	20.50	M22x1.5		146	85	59	56	3.5	25	TA201344.2050	TA501344.2050	TA601344.2050
	21.00	M24		146	85	59	56	3.6	25	TA201344.2100	TA501344.2100	TA601344.2100
	21.50			146	85	59	56	3.7	25	TA201344.2150	TA501344.2150	TA601344.2150
	22.00	M24x2		146	85	59	56	3.8	25	TA201344.2200	TA501344.2200	TA601344.2200
	22.25	1"-8		150	91	63	56	3.8	25	TA201344.2225	TA501344.2225	TA601344.2225
	22.50	M24x1.5		150	91	63	56	3.9	25	TA201344.2250	TA501344.2250	TA601344.2250
	24.50	M26x1.5		150	91	63	56	4.2	25	TA201344.2450	TA501344.2450	TA601344.2450

BasicDrill-BD101-5xD



5xD



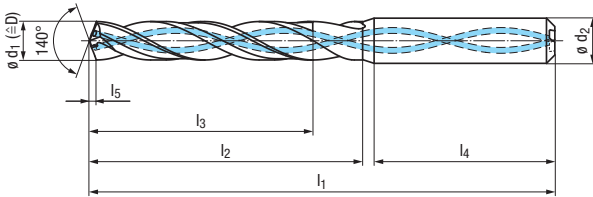
Solid carbide twist drill, 5xD, in Basic geometry for universal application.

Product features and benefits:

Four margins for better guidance and hole quality.

Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.



DIN 6537 – Long design



Information about this product is also available on the web



Taps		Cold-forming taps		5xD							
$\varnothing d_1$ m7			l_1	l_2	l_3	l_4	l_5	$\varnothing d_2$ h6	 DIN 6535 HA	 DIN 6535 HE	 DIN 6535 HB
3.00	M3.5x0.5 / MJ3.5x0.6		66	28	23	36	0.5	6	TA211344.0300	TA511344.0300	TA611344.0300
3.10			66	28	23	36	0.5	6	TA211344.0310	TA511344.0310	TA611344.0310
3.20	MJ3.5x0.35		66	28	23	36	0.5	6	TA211344.0320	TA511344.0320	TA611344.0320
3.30	M4	M3.5x0.5	66	28	23	36	0.6	6	TA211344.0330	TA511344.0330	TA611344.0330
3.40	MJ4x0.7		66	28	23	36	0.6	6	TA211344.0340	TA511344.0340	TA611344.0340
3.50	M4x0.5 / #8-32 / #8-36		66	28	23	36	0.6	6	TA211344.0350	TA511344.0350	TA611344.0350
3.60	MJ4x0.5		66	28	23	36	0.6	6	TA211344.0360	TA511344.0360	TA611344.0360
3.65	M4x0.35		66	28	23	36	0.6	6	TA211344.0365	TA511344.0365	TA611344.0365
3.70	M4.5	M4	66	28	23	36	0.6	6	TA211344.0370	TA511344.0370	TA611344.0370
3.80		M4x0.5 / #8-32	74	36	29	36	0.6	6	TA211344.0380	TA511344.0380	TA611344.0380
3.90	MJ4.5x0.75 / #10-24		74	36	29	36	0.7	6	TA211344.0390	TA511344.0390	TA611344.0390
4.00			74	36	29	36	0.7	6	TA211344.0400	TA511344.0400	TA611344.0400
4.10	MJ4.5x0.5 / #10-32		74	36	29	36	0.7	6	TA211344.0410	TA511344.0410	TA611344.0410
new 4.15	M5x0.9		74	36	29	36	0.7	6	TA211344.0415	TA511344.0415	TA611344.0415
4.20	M5 / M5x0.75	M4.5	74	36	29	36	0.7	6	TA211344.0420	TA511344.0420	TA611344.0420
4.30	MJ5x0.8	M4.5x0.5 / #10-24 (GAL)	74	36	29	36	0.7	6	TA211344.0430	TA511344.0430	TA611344.0430
4.40			74	36	29	36	0.7	6	TA211344.0440	TA511344.0440	TA611344.0440
4.50	M5x0.5 / #12-24		74	36	29	36	0.8	6	TA211344.0450	TA511344.0450	TA611344.0450
4.60	M5.5 / MJ5x0.5 / #12-28		74	36	29	36	0.8	6	TA211344.0460	TA511344.0460	TA611344.0460
4.65		M5	74	36	29	36	0.8	6	TA211344.0465	TA511344.0465	TA611344.0465
4.70		M5x0.75	74	36	29	36	0.8	6	TA211344.0470	TA511344.0470	TA611344.0470
4.80		M5x0.5	82	44	35	36	0.8	6	TA211344.0480	TA511344.0480	TA611344.0480
4.90			82	44	35	36	0.8	6	TA211344.0490	TA511344.0490	TA611344.0490
5.00	M6	#12-24	82	44	35	36	0.8	6	TA211344.0500	TA511344.0500	TA611344.0500
5.05			82	44	35	36	0.9	6	TA211344.0505	TA511344.0505	TA611344.0505
5.10	MJ6x1 / 1/4-20	M5.5 / #12-28	82	44	35	36	0.9	6	TA211344.0510	TA511344.0510	TA611344.0510
5.20	M6x0.75		82	44	35	36	0.9	6	TA211344.0520	TA511344.0520	TA611344.0520
5.30		M5.5x0.5	82	44	35	36	0.9	6	TA211344.0530	TA511344.0530	TA611344.0530
5.40			82	44	35	36	0.9	6	TA211344.0540	TA511344.0540	TA611344.0540
5.50	M6x0.5 / 1/4-28		82	44	35	36	0.9	6	TA211344.0550	TA511344.0550	TA611344.0550
5.55		M6 (GAL)	82	44	35	36	0.9	6	TA211344.0555	TA511344.0555	TA611344.0555
5.60	MJ6x0.5	M6	82	44	35	36	1.0	6	TA211344.0560	TA511344.0560	TA611344.0560
5.70		M6x0.75 / 1/4-20 (GAL)	82	44	35	36	1.0	6	TA211344.0570	TA511344.0570	TA611344.0570
5.80		M6x0.5	82	44	35	36	1.0	6	TA211344.0580	TA511344.0580	TA611344.0580

Taps		Cold-forming taps		5xD							
Ø d ₁ m7			l ₁	l ₂	l ₃	l ₄	l ₅	Ø d ₂ h6			
5.90			82	44	35	36	1.0	6	TA211344.0590	TA511344.0590	TA611344.0590
6.00	M7		82	44	35	36	1.0	6	TA211344.0600	TA511344.0600	TA611344.0600
6.05			91	53	43	36	1.0	8	TA211344.0605	TA511344.0605	TA611344.0605
new 6.10	MJ7x1		91	53	43	36	1.0	8	TA211344.0610	TA511344.0610	TA611344.0610
6.15			91	53	43	36	1.1	8	TA211344.0615	TA511344.0615	TA611344.0615
6.20	M7x0.75		91	53	43	36	1.1	8	TA211344.0620	TA511344.0620	TA611344.0620
6.30			91	53	43	36	1.1	8	TA211344.0630	TA511344.0630	TA611344.0630
6.35	MJ7x0.75		91	53	43	36	1.1	8	TA211344.0635	TA511344.0635	TA611344.0635
6.40			91	53	43	36	1.1	8	TA211344.0640	TA511344.0640	TA611344.0640
6.50	M7x0.5		91	53	43	36	1.1	8	TA211344.0650	TA511344.0650	TA611344.0650
6.60	5/16-18	M7	91	53	43	36	1.1	8	TA211344.0660	TA511344.0660	TA611344.0660
6.70		M7x0.75	91	53	43	36	1.1	8	TA211344.0670	TA511344.0670	TA611344.0670
6.80	M8 / G1/16	M7x0.5	91	53	43	36	1.2	8	TA211344.0680	TA511344.0680	TA611344.0680
6.90	MJ8x1.25 / 5/16-24		91	53	43	36	1.2	8	TA211344.0690	TA511344.0690	TA611344.0690
7.00	M8x1		91	53	43	36	1.2	8	TA211344.0700	TA511344.0700	TA611344.0700
new 7.10	MJ8x1		91	53	43	36	1.2	8	TA211344.0710	TA511344.0710	TA611344.0710
7.20	M8x0.75		91	53	43	36	1.2	8	TA211344.0720	TA511344.0720	TA611344.0720
7.40		M8 (GAL) / 5/16-24 (GAL)	91	53	43	36	1.3	8	TA211344.0740	TA511344.0740	TA611344.0740
7.45		M8 / 5/16-24	91	53	43	36	1.3	8	TA211344.0745	TA511344.0745	TA611344.0745
7.50	M8x0.5		91	53	43	36	1.3	8	TA211344.0750	TA511344.0750	TA611344.0750
7.60		M8x1	91	53	43	36	1.3	8	TA211344.0760	TA511344.0760	TA611344.0760
7.70		M8x0.75	91	53	43	36	1.3	8	TA211344.0770	TA511344.0770	TA611344.0770
7.80	M9	M8x0.5	91	53	43	36	1.3	8	TA211344.0780	TA511344.0780	TA611344.0780
7.90	MJ9x1.25		91	53	43	36	1.3	8	TA211344.0790	TA511344.0790	TA611344.0790
8.00	M9x1 / 3/8-16		91	53	43	36	1.4	8	TA211344.0800	TA511344.0800	TA611344.0800
8.10	MJ9x1		103	61	49	40	1.4	10	TA211344.0810	TA511344.0810	TA611344.0810
8.20	M9x0.75		103	61	49	40	1.4	10	TA211344.0820	TA511344.0820	TA611344.0820
8.30			103	61	49	40	1.4	10	TA211344.0830	TA511344.0830	TA611344.0830
8.40		M9 (GAL)	103	61	49	40	1.4	10	TA211344.0840	TA511344.0840	TA611344.0840
8.50	M10 / M9x0.5 / 3/8-24		103	61	49	40	1.4	10	TA211344.0850	TA511344.0850	TA611344.0850
8.60	MJ10x1.5	M9x1	103	61	49	40	1.5	10	TA211344.0860	TA511344.0860	TA611344.0860
8.70		M9x0.75	103	61	49	40	1.5	10	TA211344.0870	TA511344.0870	TA611344.0870
8.80	M10x1.25 / G1/8	M9x0.5 / 3/8-16	103	61	49	40	1.5	10	TA211344.0880	TA511344.0880	TA611344.0880
9.00	M10x1	3/8-24 (GAL)	103	61	49	40	1.5	10	TA211344.0900	TA511344.0900	TA611344.0900
9.10	MJ10x1		103	61	49	40	1.5	10	TA211344.0910	TA511344.0910	TA611344.0910
9.20	M10x0.75		103	61	49	40	1.6	10	TA211344.0920	TA511344.0920	TA611344.0920
9.25			103	61	49	40	1.6	10	TA211344.0925	TA511344.0925	TA611344.0925
9.30		M10 (GAL)	103	61	49	40	1.6	10	TA211344.0930	TA511344.0930	TA611344.0930
9.35	MJ10x0.75	M10	103	61	49	40	1.6	10	TA211344.0935	TA511344.0935	TA611344.0935
9.40	7/16-14	M10x1.25 (GAL)	103	61	49	40	1.6	10	TA211344.0940	TA511344.0940	TA611344.0940
9.50	M11 / M10x0.5		103	61	49	40	1.6	10	TA211344.0950	TA511344.0950	TA611344.0950
9.60	MJ10x0.5 / MJ11x1.5	M10x1	103	61	49	40	1.6	10	TA211344.0960	TA511344.0960	TA611344.0960
9.80		M10x0.5	103	61	49	40	1.7	10	TA211344.0980	TA511344.0980	TA611344.0980
9.90	MJ11x1.25 / 7/16-20		103	61	49	40	1.7	10	TA211344.0990	TA511344.0990	TA611344.0990
10.00	M11x1		103	61	49	40	1.7	10	TA211344.1000	TA511344.1000	TA611344.1000
10.05			118	71	56	45	1.7	12	TA211344.1005	TA511344.1005	TA611344.1005
10.10	MJ11x1		118	71	56	45	1.7	12	TA211344.1010	TA511344.1010	TA611344.1010
10.15			118	71	56	45	1.7	12	TA211344.1015	TA511344.1015	TA611344.1015
10.20	M12 / M11x0.75	7/16-14 (GAL)	118	71	56	45	1.7	12	TA211344.1020	TA511344.1020	TA611344.1020
10.30		M11 (GAL)	118	71	56	45	1.7	12	TA211344.1030	TA511344.1030	TA611344.1030
10.40			118	71	56	45	1.8	12	TA211344.1040	TA511344.1040	TA611344.1040
10.50	M12x1.5	7/16-20 (GAL)	118	71	56	45	1.8	12	TA211344.1050	TA511344.1050	TA611344.1050
10.60		M11x1	118	71	56	45	1.8	12	TA211344.1060	TA511344.1060	TA611344.1060
new 10.70		M11x0.75	118	71	56	45	1.8	12	TA211344.1070	TA511344.1070	TA611344.1070
10.80	M12x1.25 / 1/2-13		118	71	56	45	1.8	12	TA211344.1080	TA511344.1080	TA611344.1080
11.00	M12x1		118	71	56	45	1.9	12	TA211344.1100	TA511344.1100	TA611344.1100
11.10			118	71	56	45	1.9	12	TA211344.1110	TA511344.1110	TA611344.1110

	Taps		Cold-forming taps		5xD					DIN 6535 HA	DIN 6535 HE	DIN 6535 HB
	Ø d ₁ m7			l ₁	l ₂	l ₃	l ₄	l ₅	Ø d ₂ h6			
11.20	M12x0.75		M12 (GAL)	118	71	56	45	1.9	12	TA211344.1120	TA511344.1120	TA611344.1120
11.25			M12	118	71	56	45	1.9	12	TA211344.1125	TA511344.1125	TA611344.1125
11.30			M12x1.5 (GAL)	118	71	56	45	1.9	12	TA211344.1130	TA511344.1130	TA611344.1130
11.35			M12x1.5	118	71	56	45	1.9	12	TA211344.1135	TA511344.1135	TA611344.1135
11.40			M12x1.25 (GAL)	118	71	56	45	2.0	12	TA211344.1140	TA511344.1140	TA611344.1140
11.50	1/2-20			118	71	56	45	2.0	12	TA211344.1150	TA511344.1150	TA611344.1150
11.60			M12x1	118	71	56	45	2.0	12	TA211344.1160	TA511344.1160	TA611344.1160
11.70			M12x0.75	118	71	56	45	2.0	12	TA211344.1170	TA511344.1170	TA611344.1170
11.80	G1/4		1/2-13	118	71	56	45	2.0	12	TA211344.1180	TA511344.1180	TA611344.1180
new 11.90				118	71	56	45	2.0	12	TA211344.1190	TA511344.1190	TA611344.1190
12.00	M14			118	71	56	45	2.0	12	TA211344.1200	TA511344.1200	TA611344.1200
12.10	MJ13x1		1/2-20 (GAL)	124	77	60	45	2.1	14	TA211344.1210	TA511344.1210	TA611344.1210
12.20	9/16-12			124	77	60	45	2.1	14	TA211344.1220	TA511344.1220	TA611344.1220
12.50	M14x1.5		G1/4 (GAL)	124	77	60	45	2.1	14	TA211344.1250	TA511344.1250	TA611344.1250
12.55			M13x1 (GAL) / G1/4	124	77	60	45	2.1	14	TA211344.1255	TA511344.1255	TA611344.1255
12.70			M13x0.75	124	77	60	45	2.2	14	TA211344.1270	TA511344.1270	TA611344.1270
12.90	MJ14x1.25 / 9/16-18			124	77	60	45	2.2	14	TA211344.1290	TA511344.1290	TA611344.1290
13.00	M14x1			124	77	60	45	2.2	14	TA211344.1300	TA511344.1300	TA611344.1300
13.10	MJ14x1		M14	124	77	60	45	2.2	14	TA211344.1310	TA511344.1310	TA611344.1310
13.30			9/16-12	124	77	60	45	2.3	14	TA211344.1330	TA511344.1330	TA611344.1330
13.35			M14x1.5	124	77	60	45	2.3	14	TA211344.1335	TA511344.1335	TA611344.1335
13.50	5/8-11			124	77	60	45	2.3	14	TA211344.1350	TA511344.1350	TA611344.1350
new 13.80				124	77	60	45	2.4	14	TA211344.1380	TA511344.1380	TA611344.1380
14.00	M16 / M15x1			124	77	60	45	2.4	14	TA211344.1400	TA511344.1400	TA611344.1400
14.10	MJ15x1			133	83	63	48	2.4	16	TA211344.1410	TA511344.1410	TA611344.1410
14.20	M15x0.75			133	83	63	48	2.4	16	TA211344.1420	TA511344.1420	TA611344.1420
14.50	M16x1.5 / 5/8-18			133	83	63	48	2.5	16	TA211344.1450	TA511344.1450	TA611344.1450
14.60	MJ16x1.5		M15x1	133	83	63	48	2.5	16	TA211344.1460	TA511344.1460	TA611344.1460
14.70			M15x0.75	133	83	63	48	2.5	16	TA211344.1470	TA511344.1470	TA611344.1470
15.00	M16x1			133	83	63	48	2.5	16	TA211344.1500	TA511344.1500	TA611344.1500
15.10	MJ16x1		M16	133	83	63	48	2.6	16	TA211344.1510	TA511344.1510	TA611344.1510
15.20	M16x0.75		5/8-18 (GAL)	133	83	63	48	2.6	16	TA211344.1520	TA511344.1520	TA611344.1520
15.25	G3/8		5/8-18	133	83	63	48	2.6	16	TA211344.1525	TA511344.1525	TA611344.1525
15.30				133	83	63	48	2.6	16	TA211344.1530	TA511344.1530	TA611344.1530
15.35			M16x1.5	133	83	63	48	2.6	16	TA211344.1535	TA511344.1535	TA611344.1535
15.50	M18			133	83	63	48	2.6	16	TA211344.1550	TA511344.1550	TA611344.1550
15.80	MJ18x2.5			133	83	63	48	2.7	16	TA211344.1580	TA511344.1580	TA611344.1580
16.00	M18x2			133	83	63	48	2.7	16	TA211344.1600	TA511344.1600	TA611344.1600
16.50	M18x1.5 / 3/4-10			143	93	71	48	2.8	18	TA211344.1650	TA511344.1650	TA611344.1650
17.00	M18x1			143	93	71	48	2.9	18	TA211344.1700	TA511344.1700	TA611344.1700
17.50	M20 / 3/4-16			143	93	71	48	3.0	18	TA211344.1750	TA511344.1750	TA611344.1750
18.00	M20x2			143	93	71	48	3.1	18	TA211344.1800	TA511344.1800	TA611344.1800
18.50				153	101	77	50	3.2	20	TA211344.1850	TA511344.1850	TA611344.1850
18.85			M20	153	101	77	50	3.2	20	TA211344.1885	TA511344.1885	TA611344.1885
19.00	M20x1			153	101	77	50	3.3	20	TA211344.1900	TA511344.1900	TA611344.1900
19.05				153	101	77	50	3.3	20	TA211344.1905	TA511344.1905	TA611344.1905
19.50	M22			153	101	77	50	3.4	20	TA211344.1950	TA511344.1950	TA611344.1950
new 19.70				153	101	77	50	3.4	20	TA211344.1970	TA511344.1970	TA611344.1970
new 19.80				153	101	77	50	3.4	20	TA211344.1980	TA511344.1980	TA611344.1980
20.00	M22x2			153	101	77	50	3.4	20	TA211344.2000	TA511344.2000	TA611344.2000
20.50	M22x1.5			170	109	85	56	3.5	25	TA211344.2050	TA511344.2050	TA611344.2050
21.00	M24			170	109	85	56	3.6	25	TA211344.2100	TA511344.2100	TA611344.2100
21.50				170	109	85	56	3.7	25	TA211344.2150	TA511344.2150	TA611344.2150
22.00	M24x2			170	109	85	56	3.8	25	TA211344.2200	TA511344.2200	TA611344.2200
22.25	1"-8			176	117	89	56	3.8	25	TA211344.2225	TA511344.2225	TA611344.2225
22.50	M24x1.5			176	117	89	56	3.9	25	TA211344.2250	TA511344.2250	TA611344.2250
24.50	M26x1.5			176	117	89	56	4.2	25	TA211344.2450	TA511344.2450	TA611344.2450

BasicDrill-BD106-8xD



8xD



Solid carbide twist drill, 8xD, in Basic geometry for universal application.

Product features and benefits:

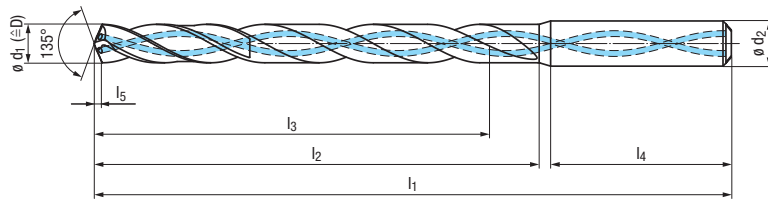
Four margins for better guidance and hole quality.

Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.

Applications – material

P	1.1-5.1
M	1.1-3.1
K	1.1-4.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.3



Extra long design

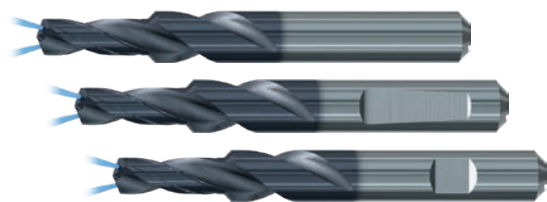
Information about this product is also available on the web



Taps		Cold-forming taps		8xD					ϕd_1 m7	ϕd_2 h6	DIN 6535 HA	DIN 6535 HE	DIN 6535 HB
				l_1	l_2	l_3	l_4	l_5					
3.00	M3.5x0.5 / MJ3.5x0.6			78	38	30	36	0.7	6		TA221344.0300	TA521344.0300	TA621344.0300
3.10				78	38	30	36	0.7	6		TA221344.0310	TA521344.0310	TA621344.0310
3.20	MJ3.5x0.35			78	38	30	36	0.7	6		TA221344.0320	TA521344.0320	TA621344.0320
3.30	M4	M3.5x0.5		78	38	30	36	0.7	6		TA221344.0330	TA521344.0330	TA621344.0330
3.40	MJ4x0.7			78	38	30	36	0.8	6		TA221344.0340	TA521344.0340	TA621344.0340
3.50	M4x0.5 / #8-32 / #8-36			78	38	30	36	0.8	6		TA221344.0350	TA521344.0350	TA621344.0350
3.60	MJ4x0.5			78	38	30	36	0.8	6		TA221344.0360	TA521344.0360	TA621344.0360
3.70	M4.5	M4		78	38	30	36	0.8	6		TA221344.0370	TA521344.0370	TA621344.0370
3.80		M4x0.5 / #8-32		88	48	38	36	0.8	6		TA221344.0380	TA521344.0380	TA621344.0380
3.90	MJ4.5x0.75 / #10-24			88	48	38	36	0.9	6		TA221344.0390	TA521344.0390	TA621344.0390
4.00				88	48	38	36	0.9	6		TA221344.0400	TA521344.0400	TA621344.0400
4.10	MJ4.5x0.5 / #10-32			88	48	38	36	0.9	6		TA221344.0410	TA521344.0410	TA621344.0410
4.20	M5 / M5x0.75	M4.5		88	48	38	36	0.9	6		TA221344.0420	TA521344.0420	TA621344.0420
4.30	MJ5x0.8	M4.5x0.5 / #10-24 (GAL)		88	48	38	36	0.9	6		TA221344.0430	TA521344.0430	TA621344.0430
4.50	M5x0.5 / #12-24			88	48	38	36	1.0	6		TA221344.0450	TA521344.0450	TA621344.0450
4.65		M5		88	48	38	36	1.0	6		TA221344.0465	TA521344.0465	TA621344.0465
4.80		M5x0.5		88	48	38	36	1.0	6		TA221344.0480	TA521344.0480	TA621344.0480
5.00	M6	#12-24		97	60	48	36	1.1	6		TA221344.0500	TA521344.0500	TA621344.0500
5.10	MJ6x1 / 1/4-20	M5.5 / #12-28		97	60	48	36	1.1	6		TA221344.0510	TA521344.0510	TA621344.0510
5.20	M6x0.75			97	60	48	36	1.1	6		TA221344.0520	TA521344.0520	TA621344.0520
5.30		M5.5x0.5		97	60	48	36	1.1	6		TA221344.0530	TA521344.0530	TA621344.0530
5.40				97	60	48	36	1.2	6		TA221344.0540	TA521344.0540	TA621344.0540
5.50	M6x0.5 / 1/4-28			97	60	48	36	1.2	6		TA221344.0550	TA521344.0550	TA621344.0550
5.60	MJ6x0.5	M6		97	60	48	36	1.2	6		TA221344.0560	TA521344.0560	TA621344.0560
5.80		M6x0.5		97	60	48	36	1.3	6		TA221344.0580	TA521344.0580	TA621344.0580
5.90				97	60	48	36	1.3	6		TA221344.0590	TA521344.0590	TA621344.0590
6.00	M7			97	60	48	36	1.3	6		TA221344.0600	TA521344.0600	TA621344.0600
6.10				107	70	56	36	1.3	8		TA221344.0610	TA521344.0610	TA621344.0610
6.20	M7x0.75			107	70	56	36	1.3	8		TA221344.0620	TA521344.0620	TA621344.0620
6.30				107	70	56	36	1.4	8		TA221344.0630	TA521344.0630	TA621344.0630
6.50	M7x0.5			107	70	56	36	1.4	8		TA221344.0650	TA521344.0650	TA621344.0650
6.60	5/16-18	M7		107	70	56	36	1.4	8		TA221344.0660	TA521344.0660	TA621344.0660
6.80	M8 / G1/16	M7x0.5		107	70	56	36	1.5	8		TA221344.0680	TA521344.0680	TA621344.0680

ø d ₁ m7	Taps		Cold-forming taps		8xD					ø d ₂ h6			
					l ₁	l ₂	l ₃	l ₄	l ₅				
6.90	MJ8x1.25 / 5/16-24				107	70	56	36	1.5	8	TA221344.0690	TA521344.0690	TA621344.0690
7.00	M8x1				107	70	56	36	1.5	8	TA221344.0700	TA521344.0700	TA621344.0700
7.40		M8 (GAL) / 5/16-24 (GAL)			117	80	64	36	1.6	8	TA221344.0740	TA521344.0740	TA621344.0740
7.45		M8 / 5/16-24			117	80	64	36	1.6	8	TA221344.0745	TA521344.0745	TA621344.0745
7.50	M8x0.5				117	80	64	36	1.6	8	TA221344.0750	TA521344.0750	TA621344.0750
new 7.60		M8x1			117	80	64	36	1.6	8	TA221344.0760	TA521344.0760	TA621344.0760
7.80	M9		M8x0.5		117	80	64	36	1.7	8	TA221344.0780	TA521344.0780	TA621344.0780
8.00	M9x1 / 3/8-16				117	80	64	36	1.7	8	TA221344.0800	TA521344.0800	TA621344.0800
8.10	MJ9x1				141	100	80	40	1.7	10	TA221344.0810	TA521344.0810	TA621344.0810
8.20	M9x0.75				141	100	80	40	1.7	10	TA221344.0820	TA521344.0820	TA621344.0820
8.50	M10 / M9x0.5 / 3/8-24				141	100	80	40	1.8	10	TA221344.0850	TA521344.0850	TA621344.0850
8.60	MJ10x1.5		M9x1		141	100	80	40	1.8	10	TA221344.0860	TA521344.0860	TA621344.0860
8.70			M9x0.75		141	100	80	40	1.9	10	TA221344.0870	TA521344.0870	TA621344.0870
8.80	M10x1.25 / G1/8		M9x0.5 / 3/8-16		141	100	80	40	1.9	10	TA221344.0880	TA521344.0880	TA621344.0880
9.00	M10x1		3/8-24 (GAL)		141	100	80	40	1.9	10	TA221344.0900	TA521344.0900	TA621344.0900
9.30			M10 (GAL)		141	100	80	40	2.0	10	TA221344.0930	TA521344.0930	TA621344.0930
9.35	MJ10x0.75		M10		141	100	80	40	2.0	10	TA221344.0935	TA521344.0935	TA621344.0935
new 9.40	7/16-14		M10x1.25 (GAL)		141	100	80	40	2.0	10	TA221344.0940	TA521344.0940	TA621344.0940
9.50	M11 / M10x0.5				141	100	80	40	2.0	10	TA221344.0950	TA521344.0950	TA621344.0950
9.60	MJ10x0.5 / MJ11x1.5		M10x1		141	100	80	40	2.0	10	TA221344.0960	TA521344.0960	TA621344.0960
9.80			M10x0.5		141	100	80	40	2.1	10	TA221344.0980	TA521344.0980	TA621344.0980
9.90	MJ11x1.25 / 7/16-20				141	100	80	40	2.1	10	TA221344.0990	TA521344.0990	TA621344.0990
10.00	M11x1				141	100	80	40	2.1	10	TA221344.1000	TA521344.1000	TA621344.1000
10.20	M12 / M11x0.75		7/16-14 (GAL)		166	120	96	45	2.2	12	TA221344.1020	TA521344.1020	TA621344.1020
10.30			M11 (GAL)		166	120	96	45	2.2	12	TA221344.1030	TA521344.1030	TA621344.1030
10.40					166	120	96	45	2.2	12	TA221344.1040	TA521344.1040	TA621344.1040
10.50	M12x1.5		7/16-20 (GAL)		166	120	96	45	2.2	12	TA221344.1050	TA521344.1050	TA621344.1050
new 10.70			M11x0.75		166	120	96	45	2.2	12	TA221344.1070	TA521344.1070	TA621344.1070
11.00	M12x1				166	120	96	45	2.3	12	TA221344.1100	TA521344.1100	TA621344.1100
11.20	M12x0.75		M12 (GAL)		166	120	96	45	2.4	12	TA221344.1120	TA521344.1120	TA621344.1120
11.25			M12		166	120	96	45	2.4	12	TA221344.1125	TA521344.1125	TA621344.1125
11.50	1/2-20				166	120	96	45	2.4	12	TA221344.1150	TA521344.1150	TA621344.1150
11.80	G1/4		1/2-13		166	120	96	45	2.5	12	TA221344.1180	TA521344.1180	TA621344.1180
new 11.90					166	120	96	45	2.5	12	TA221344.1190	TA521344.1190	TA621344.1190
12.00	M14				166	120	96	45	2.5	12	TA221344.1200	TA521344.1200	TA621344.1200
new 12.10	MJ13x1		1/2-20 (GAL)		186	140	112	45	2.5	14	TA221344.1210	TA521344.1210	TA621344.1210
12.50	M14x1.5		G1/4 (GAL)		186	140	112	45	2.6	14	TA221344.1250	TA521344.1250	TA621344.1250
13.00	M14x1				186	140	112	45	2.7	14	TA221344.1300	TA521344.1300	TA621344.1300
13.10	MJ14x1		M14		186	140	112	45	2.8	14	TA221344.1310	TA521344.1310	TA621344.1310
13.50	5/8-11				186	140	112	45	2.8	14	TA221344.1350	TA521344.1350	TA621344.1350
new 13.80					186	140	112	45	2.9	14	TA221344.1380	TA521344.1380	TA621344.1380
14.00	M16 / M15x1				186	140	112	45	2.9	14	TA221344.1400	TA521344.1400	TA621344.1400
14.50	M16x1.5 / 5/8-18				209	160	128	48	3.1	16	TA221344.1450	TA521344.1450	TA621344.1450
15.00	M16x1				209	160	128	48	3.2	16	TA221344.1500	TA521344.1500	TA621344.1500
15.50	M18				209	160	128	48	3.3	16	TA221344.1550	TA521344.1550	TA621344.1550
16.00	M18x2				209	160	128	48	3.4	16	TA221344.1600	TA521344.1600	TA621344.1600

BasicDrill CM C-Quickline



Solid carbide chamfer drill, in Basic geometry for universal application.

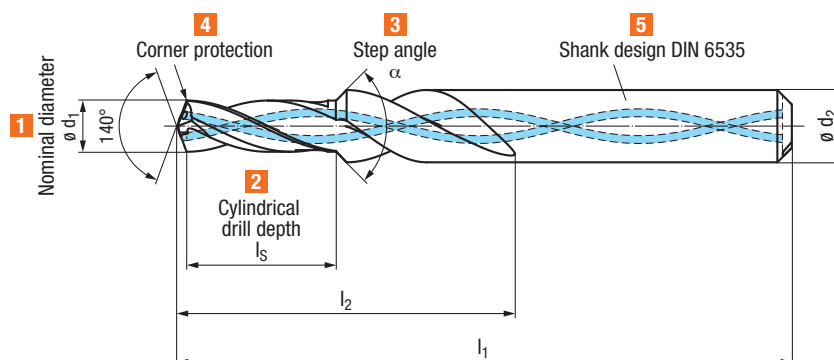
Product features and benefits:

Four margins for better guidance and hole quality.

Internal cooling channels and high-performance coating for high process reliability.

Use in various materials with steel as the main application area.

Applications – material	
P	1.1-5.1
M	1.1-3.1
K	1.1-4.2
N	1.1-2.3
S	1.2-1.3, 2.2-2.3
H	1.1-1.3



In order to obtain a complete configuration of the desired chamfer drill, the characteristics 1 - 5 must be defined in the respective specified area.

1	2	3	4	5				
$\varnothing d_1$ m7	l_s $\pm 0,1$	α $\pm 2^\circ$	Corner protection	Shank design DIN 6535	l_1	l_2	$\varnothing d_2$ h6	
2.80 - 3.10	4.00 - 11.00	30 - 160°	yes / no	HA HB HE	57	20	6	TG001344.060001
3.11 - 3.40	4.00 - 12.00	30 - 160°	yes / no	HA HB HE	62	25	6	TG001344.060002
3.41 - 3.80	4.00 - 13.00	30 - 160°	yes / no	HA HB HE	62	25	6	TG001344.060003
3.81 - 4.50	4.00 - 16.00	30 - 160°	yes / no	HA HB HE	66	29	6	TG001344.060004
4.51 - 5.00	4.00 - 18.00	30 - 160°	yes / no	HA HB HE	79	42	8	TG001344.080001
5.01 - 6.00	4.00 - 25.00	30 - 160°	yes / no	HA HB HE	79	42	8	TG001344.080002
6.01 - 7.00	4.00 - 25.00	30 - 160°	yes / no	HA HB HE	89	48	10	TG001344.100001
7.01 - 8.00	4.00 - 28.00	30 - 160°	yes / no	HA HB HE	89	48	10	TG001344.100002
8.01 - 10.00	4.00 - 35.00	30 - 160°	yes / no	HA HB HE	102	56	12	TG001344.120001
10.01 - 12.00	4.00 - 42.00	30 - 160°	yes / no	HA HB HE	107	61	14	TG001344.140001
12.01 - 14.00	4.00 - 49.00	30 - 160°	yes / no	HA HB HE	115	66	16	TG001344.160001
14.01 - 16.00	4.00 - 54.00	30 - 160°	yes / no	HA HB HE	123	74	18	TG001344.180001
16.01 - 18.00	4.00 - 54.00	30 - 160°	yes / no	HA HB HE	131	80	20	TG001344.200001

Not a stock tool, minimum order quantity = 3 pieces. Short delivery time for orders of 3 to 30 pieces.



Please visit our website for more information on our BasicDrill twist drills and configurable chamfer drills.

ef-g.de/a/basic-drill-details

**Regrinding and recoating service**

Regrinding and recoating form an essential contribution to the economically efficient use of drilling tools.

The EMUGE regrinding and recoating service guarantees the restoration of the original geometry and the original coating of the tool.

If you are interested, please contact us.

Application recommendation and cutting data

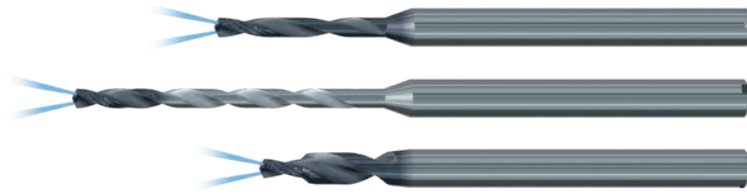
Please note:

The cutting values listed in the respective columns are standard values which have to be adjusted to individual work conditions (material, lubrication, machine etc.).

v_c = Cutting speed [m/min]

f = Feed per revolution [mm/rev.]

					Coolant-lubricant recommendation				
					Emulsion	Oil	Minimum quantity lubrication (MQL)	Dry / Pressurised air	
Applications – material					Material examples	Material numbers			
P	Steel materials								
	1.1	Cold-extrusion steels, Construction steels, Free-cutting steels, etc.	≤ 600 N/mm²	Cq15	1.1132	■	■	■	
				S235JR (St37-2)	1.0037				
				10SPb20	1.0722				
	2.1	Construction steels, Cementation steels, Steel castings, etc.	≤ 800 N/mm²	E360 (St70-2)	1.0070	■	■	■	
				16MnCr5	1.7131				
				GS-25CrMo4	1.7218				
	3.1	Cementation steels, Heat-treatable steels, Cold work steels, etc.	≤ 1000 N/mm²	20MoCr3	1.7320	■	■	■	
				42CrMo4	1.7225				
				102Cr6	1.2067				
	4.1	Heat-treatable steels, Cold work steels, Nitriding steels, etc.	≤ 1200 N/mm²	50CrMo4	1.7228	■	■	■	
				X45NiCrMo4	1.2767				
				31CrMo12	1.8515				
	5.1	High-alloyed steels, Cold work steels, Hot work steels, etc.	≤ 1400 N/mm²	X38CrMoV5-3	1.2367	■	■	■	
				X100CrMoV8-1-1	1.2990				
				X40CrMoV5-1	1.2344				
M	Stainless steel materials								
	1.1	Ferritic, martensitic	≤ 950 N/mm²	X2CrTi12	1.4512	■	■		
	2.1	Austenitic	≤ 950 N/mm²	X6CrNiMoTi17-12-2	1.4571	■	■		
	3.1	Austenitic-ferritic (Duplex)	≤ 1100 N/mm²	X2CrNiMoN22-5-3	1.4462	■	■		
	4.1	Austenitic-ferritic heat-resistant (Super Duplex)	≤ 1250 N/mm²	X2CrNiMoN25-7-4	1.4410	■	■		
K	Cast materials								
	1.1	Cast iron with lamellar graphite (GJL)	100-250 N/mm²	EN-GJL-200 (GG20)	EN-JL-1030	■	■	■	
	1.2		250-450 N/mm²	EN-GJL-300 (GG30)	EN-JL-1050	■	■	■	
	2.1	Cast iron with nodular graphite (GJS)	350-500 N/mm²	EN-GJS-400-15 (GGG40)	EN-JS-1030	■	■	■	
	2.2		500-900 N/mm²	EN-GJS-700-2 (GGG70)	EN-JS-1070	■	■		
	3.1	Cast iron with vermicular graphite (GJV)	300-400 N/mm²	GJV 300		■	■	■	
	3.2		400-500 N/mm²	GJV 450		■	■	■	
	4.1	Malleable cast iron (GTMW, GTMB)	250-500 N/mm²	EN-GJMW-350-4 (GTW-35)	EN-JM-1010				
	4.2		500-800 N/mm²	EN-GJMB-450-6 (GTS-45)	EN-JM-1140				
N	Non ferrous materials								
	Aluminium alloys								
	1.1	Aluminium wrought alloys	≤ 200 N/mm²	EN AW-AIMn1	EN AW-3103	■	■	■	
	1.2		≤ 350 N/mm²	EN AW-AIMgSi	EN AW-6060	■	■	■	
	1.3		≤ 550 N/mm²	EN AW-AlZn5Mg3Cu	EN AW-7022	■	■	■	
	1.4	Aluminium cast alloys	Si ≤ 7%	EN AC-AIMg5	EN AC-51300	■	■	■	
	1.5		7% < Si ≤ 12%	EN AC-AISi9Cu3	EN AC-46500	■	■	■	
	1.6		12% < Si ≤ 17%	GD-AISi17Cu4FeMg		■	■	■	
	Copper alloys								
	2.1	Pure copper, low-alloyed copper	≤ 400 N/mm²	E-Cu 57	EN CW 004 A	■	■		
	2.2	Copper-zinc alloys (brass, long-chipping)	≤ 550 N/mm²	CuZn37 (Ms63)	EN CW 508 L	■	■		
	2.3	Copper-zinc alloys (brass, short-chipping)	≤ 550 N/mm²	CuZn36Pb3 (Ms58)	EN CW 603 N	■	■		
	2.4	Copper-aluminium alloys (alu bronze, long-chipping)	≤ 800 N/mm²	CuAl10Ni5Fe4	EN CW 307 G				
	2.5	Copper-tin alloys (tin bronze, long-chipping)	≤ 700 N/mm²	CuSn8P	EN CW 459 K				
	2.6	Copper-tin alloys (tin bronze, short-chipping)	≤ 400 N/mm²	CuSn7 ZnPb (Rg7)	2.1090				
	2.7	Special copper alloys	≤ 600 N/mm²	(AMPCO® 8)					
	2.8		≤ 1400 N/mm²	(AMPCO® 45)					
	Magnesium alloys								
	3.1	Magnesium wrought alloys	≤ 500 N/mm²	MgAl6Zn	3.5612				
	3.2	Magnesium cast alloys	≤ 500 N/mm²	EN-MCMgAl9Zn1	EN-MC21120				
	Synthetics								
	4.1	Duroplastics (short-chipping)		Bakelit, Pertinax					
	4.2	Thermoplastics (long-chipping)		PMMA, POM, PVC					
	4.3	Fibre-reinforced synthetics (fibre content ≤ 30%)		GFK, CFK, AFK					
	4.4	Fibre-reinforced synthetics (fibre content > 30%)		GFK, CFK, AFK					
	Special materials								
	5.1	Graphite		C 8000					
	5.2	Tungsten-copper alloys		W-Cu 80/20					
5.3	Composite materials		Hylite, Alucobond						
S	Special materials								
	Titanium alloys								
	1.1	Pure titanium	≤ 450 N/mm²	Ti1	3.7025				
	1.2	Titanium alloys	≤ 900 N/mm²	TiAl6V4	3.7165	■	■		
	1.3		≤ 1250 N/mm²	TiAl4Mo4Sn2	3.7185	■	■		
	Nickel alloys, cobalt alloys and iron alloys								
	2.1	Pure nickel	≤ 600 N/mm²	Ni 99.6	2.4060				
	2.2	Nickel-base alloys	≤ 1000 N/mm²	Monel 400	2.4360	■	■		
	2.3		≤ 1600 N/mm²	Inconel 718	2.4668	■	■		
	2.4	Cobalt-base alloys	≤ 1000 N/mm²	Udimet 605					
	2.5		≤ 1600 N/mm²	Haynes 25	2.4964				
	2.6	Iron-base alloys	≤ 1500 N/mm²	Incoloy 800	1.4958				
H	Hard materials								
	1.1	High strength steels, hardened steels, hard castings	44 - 50 HRC	Weldox 1100		■	■		
	1.2		50 - 55 HRC	Hardox 550		■	■		
	1.3		55 - 60 HRC	Armox 600T					
	1.4		60 - 63 HRC	Ferro-Titanit					
	1.5		63 - 66 HRC	HSSF					



Micro 6xD

Micro 12xD

Micro C-Pilot 2xD

v _c [m/min]			d ₁ [mm]													
			1.00 mm - 1.49 mm			1.50 mm - 1.99 mm			2.00 - 2.49 mm			2.50 - 2.99 mm				
			f [mm/rev.]													
min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.		
50	65	80	0.05	0.07	0.09	0.07	0.09	0.11	0.09	0.11	0.13	0.11	0.13	0.15	1.1	P
45	55	65	0.05	0.07	0.09	0.07	0.09	0.11	0.09	0.11	0.13	0.11	0.13	0.15	2.1	
40	50	60	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	3.1	
30	40	50	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	4.1	
30	35	40	0.03	0.05	0.06	0.05	0.07	0.09	0.07	0.09	0.11	0.09	0.11	0.13	5.1	
30	40	50	0.025	0.03	0.04	0.03	0.05	0.07	0.05	0.07	0.09	0.07	0.09	0.11	1.1	M
25	35	45	0.025	0.03	0.04	0.03	0.05	0.07	0.05	0.07	0.09	0.07	0.09	0.11	2.1	
25	35	45	0.025	0.03	0.04	0.03	0.05	0.07	0.05	0.07	0.09	0.07	0.09	0.11	3.1	
20	30	40	0.025	0.03	0.04	0.03	0.05	0.07	0.05	0.07	0.09	0.07	0.09	0.11	4.1	
80	90	100	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	1.1	K
80	90	100	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	1.2	
80	90	100	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	2.1	
70	80	90	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	2.2	
80	90	100	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	3.1	
60	70	90	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	0.12	0.14	0.16	3.2	
															4.1	
															4.2	
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.1	N
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.2	
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.3	
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.4	
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.5	
100	130	160	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.10	0.12	0.14	1.6	
80	110	140	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	2.1	
80	110	140	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	2.2	
80	110	140	0.04	0.06	0.08	0.06	0.08	0.10	0.08	0.10	0.12	0.08	0.10	0.12	2.3	
															2.4	
															2.5	
															2.6	
															2.7	
															2.8	
															3.1	
															3.2	
															4.1	
															4.2	
															4.3	
															4.4	
															5.1	
															5.2	
															5.3	
30	40	50	0.02	0.03	0.04	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	1.1	S
20	30	40	0.02	0.03	0.04	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	1.2	
															1.3	
30	40	50	0.02	0.03	0.04	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	2.1	
20	25	40	0.02	0.03	0.04	0.03	0.04	0.06	0.04	0.06	0.08	0.06	0.08	0.10	2.2	
															2.3	
															2.4	
															2.5	
															2.6	
20	25	30	0.005	0.010	0.015	0.010	0.015	0.020	0.015	0.020	0.025	0.020	0.025	0.030	1.1	H
20	25	30	0.005	0.010	0.015	0.008	0.010	0.012	0.012	0.014	0.016	0.020	0.025	0.030	1.2	
															1.3	
															1.4	
															1.5	

Application recommendation and cutting data

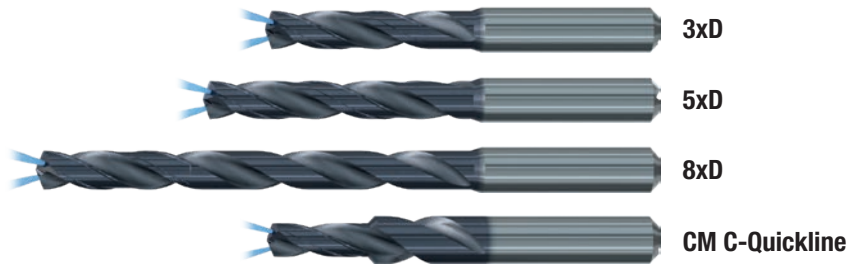
Please note:

The cutting values listed in the respective columns are standard values which have to be adjusted to individual work conditions (material, lubrication, machine etc.).

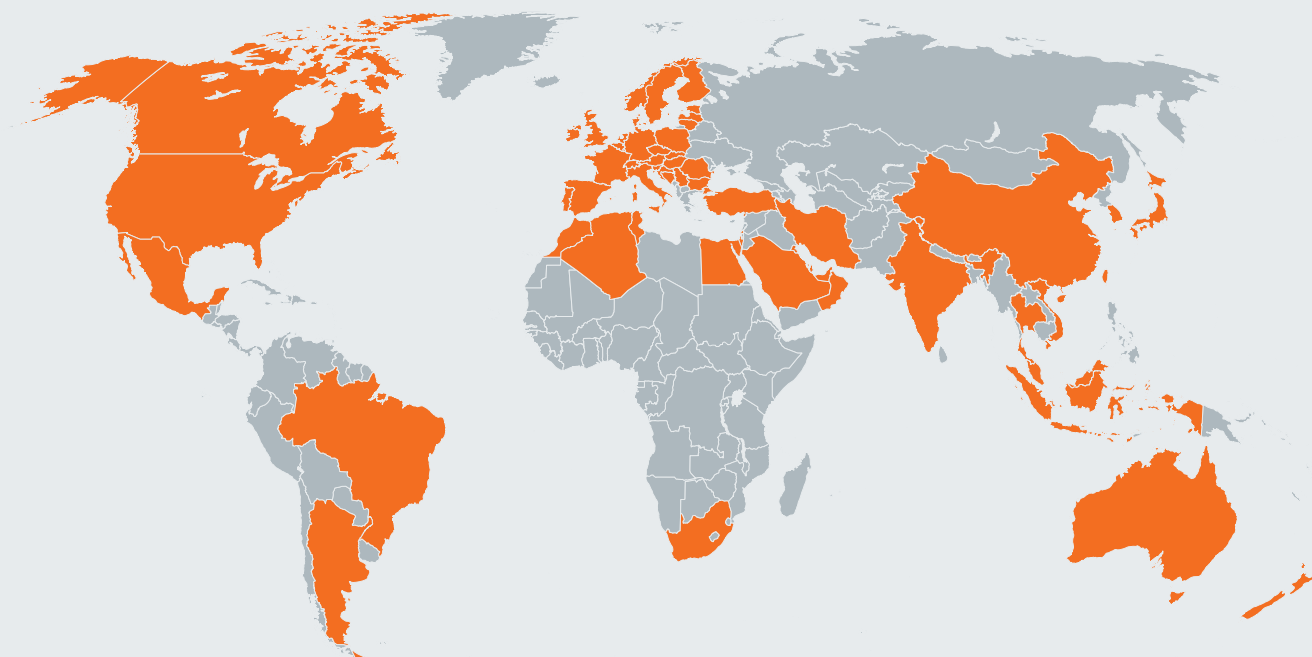
v_c = Cutting speed [m/min]

f = Feed per revolution [mm/rev.]

					Coolant-lubricant recommendation						
					Emulsion	Oil	Minimum quantity lubrication (MQL)	Dry / Pressurised air			
Applications – material					Material examples	Material numbers					
P	Steel materials				Cq15	1.1132	■	■	■		
	1.1	Cold-extrusion steels, Construction steels, Free-cutting steels, etc.	≤ 600 N/mm²	S235JR (St37-2)	1.0037						
				10SPb20	1.0722						
				2.1	Construction steels, Cementation steels, Steel castings, etc.	≤ 800 N/mm²	E360 (St70-2)	1.0070			
	16MnCr5	1.7131									
	GS-25CrMo4	1.7218									
	3.1	Cementation steels, Heat-treatable steels, Cold work steels, etc.	≤ 1000 N/mm²	20MoCr3	1.7320						
				42CrMo4	1.7225						
				102Cr6	1.2067						
	4.1	Heat-treatable steels, Cold work steels, Nitriding steels, etc.	≤ 1200 N/mm²	50CrMo4	1.7228						
				X45NiCrMo4	1.2767						
				31CrMo12	1.8515						
	5.1	High-alloyed steels, Cold work steels, Hot work steels, etc.	≤ 1400 N/mm²	X38CrMoV5-3	1.2367						
				X100CrMoV8-1-1	1.2990						
				X40CrMoV5-1	1.2344						
	M	Stainless steel materials									
1.1		Ferritic, martensitic	≤ 950 N/mm²	X2CrTi12	1.4512	■	■				
2.1		Austenitic	≤ 950 N/mm²	X6CrNiMoTi17-12-2	1.4571	■	■				
3.1		Austenitic-ferritic (Duplex)	≤ 1100 N/mm²	X2CrNiMoN22-5-3	1.4462	■	■				
4.1		Austenitic-ferritic heat-resistant (Super Duplex)	≤ 1250 N/mm²	X2CrNiMoN25-7-4	1.4410						
K	Cast materials										
	1.1	Cast iron with lamellar graphite (GJL)	100-250 N/mm²	EN-GJL-200 (GG20)	EN-JL-1030	■	■	■	■		
	1.2		250-450 N/mm²	EN-GJL-300 (GG30)	EN-JL-1050	■	■	■	■		
	2.1		350-500 N/mm²	EN-GJS-400-15 (GGG40)	EN-JS-1030	■	■	■	■		
	2.2	Cast iron with nodular graphite (GJS)	500-900 N/mm²	EN-GJS-700-2 (GGG70)	EN-JS-1070	■	■	■	■		
	3.1		300-400 N/mm²	GJV 300		■	■	■	■		
	3.2		400-500 N/mm²	GJV 450		■	■	■	■		
	4.1	Malleable cast iron (GTMW, GTMB)	250-500 N/mm²	EN-GJMW-350-4 (GTW-35)	EN-JM-1010	■	■	■	■		
	4.2		500-800 N/mm²	EN-GJMB-450-6 (GTS-45)	EN-JM-1140	■	■	■	■		
N	Non ferrous materials										
	Aluminium alloys										
	1.1	Aluminium wrought alloys	≤ 200 N/mm²	EN AW-AIMn1	EN AW-3103	■	■	■	■		
	1.2		≤ 350 N/mm²	EN AW-AIMgSi	EN AW-6060	■	■	■	■		
	1.3		≤ 550 N/mm²	EN AW-AlZn5Mg3Cu	EN AW-7022	■	■	■	■		
	1.4		Si ≤ 7%	EN AC-AIMg5	EN AC-51300	■	■	■	■		
	1.5	Aluminium cast alloys	7% < Si ≤ 12%	EN AC-AISi9Cu3	EN AC-46500	■	■	■	■		
	1.6		12% < Si ≤ 17%	GD-AISi17Cu4FeMg		■	■	■	■		
	Copper alloys										
	2.1	Pure copper, low-alloyed copper	≤ 400 N/mm²	E-Cu 57	EN CW 004 A	■	■				
	2.2	Copper-zinc alloys (brass, long-chipping)	≤ 550 N/mm²	CuZn37 (Ms63)	EN CW 508 L	■	■				
	2.3	Copper-zinc alloys (brass, short-chipping)	≤ 550 N/mm²	CuZn36Pb3 (Ms58)	EN CW 603 N	■	■				
	2.4	Copper-aluminium alloys (alu bronze, long-chipping)	≤ 800 N/mm²	CuAl10Ni5Fe4	EN CW 307 G						
	2.5	Copper-tin alloys (tin bronze, long-chipping)	≤ 700 N/mm²	CuSn8P	EN CW 459 K						
	2.6	Copper-tin alloys (tin bronze, short-chipping)	≤ 400 N/mm²	CuSn7 ZnPb (Rg7)	2.1090						
	2.7	Special copper alloys	≤ 600 N/mm²	(AMPCO® 8)							
	2.8		≤ 1400 N/mm²	(AMPCO® 45)							
	Magnesium alloys										
	3.1	Magnesium wrought alloys	≤ 500 N/mm²	MgAl6Zn	3.5612						
	3.2	Magnesium cast alloys	≤ 500 N/mm²	EN-MCMgAl9Zn1	EN-MC21120						
	Synthetics										
	4.1	Duroplastics (short-chipping)		Bakelit, Pertinax							
	4.2	Thermoplastics (long-chipping)		PMMA, POM, PVC							
	4.3	Fibre-reinforced synthetics (fibre content ≤ 30%)		GFK, CFK, AFK							
	4.4	Fibre-reinforced synthetics (fibre content > 30%)		GFK, CFK, AFK							
	Special materials										
	5.1	Graphite		C 8000							
	5.2	Tungsten-copper alloys		W-Cu 80/20							
	5.3	Composite materials		Hylite, Alucobond							
S	Special materials										
	Titanium alloys										
	1.1	Pure titanium	≤ 450 N/mm²	Ti1	3.7025						
	1.2	Titanium alloys	≤ 900 N/mm²	TiAl6V4	3.7165	■	■				
	1.3		≤ 1250 N/mm²	TiAl4Mo4Sn2	3.7185	■	■				
	Nickel alloys, cobalt alloys and iron alloys										
	2.1	Pure nickel	≤ 600 N/mm²	Ni 99.6	2.4060						
	2.2	Nickel-base alloys	≤ 1000 N/mm²	Monel 400	2.4360	■	■				
	2.3		≤ 1600 N/mm²	Inconel 718	2.4668	■	■				
	2.4		≤ 1000 N/mm²	Udimet 605							
	2.5	Cobalt-base alloys	≤ 1600 N/mm²	Haynes 25	2.4964						
	2.6	Iron-base alloys	≤ 1500 N/mm²	Incoloy 800	1.4958						
	H	Hard materials									
1.1		High strength steels, hardened steels, hard castings	44 - 50 HRC	Weldox 1100		■	■				
1.2			50 - 55 HRC	Hardox 550		■	■				
1.3			55 - 60 HRC	Armox 600T		■	■				
1.4			60 - 63 HRC	Ferro-Titanit							
1.5			63 - 66 HRC	HSSE							



			d ₁ [mm]																								
			3.00 - 4.95 mm			5.00 - 7.95 mm			8.00 - 9.95 mm			10.00 - 11.95 mm			12.00 - 15.95 mm			16.00 - 19.95 mm			20.00 - 24.50 mm						
v _c [m/min]			f [mm/rev.]																								
min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	min.	rec.	max.	
100	140	180	0.11	0.15	0.25	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	1.1	P		
80	120	160	0.11	0.15	0.25	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	2.1			
80	100	120	0.11	0.15	0.24	0.18	0.21	0.27	0.20	0.24	0.30	0.23	0.26	0.34	0.25	0.29	0.37	0.27	0.32	0.41	0.29	0.34	0.44	3.1			
50	70	100	0.11	0.15	0.24	0.18	0.21	0.27	0.20	0.24	0.30	0.23	0.26	0.34	0.25	0.29	0.37	0.27	0.32	0.41	0.29	0.34	0.44	4.1			
50	65	90	0.09	0.13	0.21	0.15	0.19	0.26	0.17	0.21	0.30	0.19	0.24	0.34	0.21	0.26	0.37	0.22	0.28	0.39	0.29	0.37	0.51	5.1			
40	60	80	0.04	0.06	0.09	0.10	0.14	0.22	0.11	0.17	0.26	0.14	0.19	0.30	0.15	0.21	0.33	0.16	0.23	0.36	0.18	0.25	0.39	1.1	M		
40	55	75	0.04	0.05	0.08	0.09	0.12	0.18	0.10	0.15	0.20	0.14	0.18	0.27	0.15	0.20	0.30	0.16	0.22	0.32	0.18	0.23	0.35	2.1			
40	50	70	0.04	0.05	0.08	0.09	0.12	0.18	0.10	0.15	0.20	0.14	0.18	0.27	0.15	0.20	0.30	0.16	0.22	0.32	0.18	0.23	0.35	3.1			
																											4.1
120	140	160	0.11	0.15	0.25	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	1.1	K		
110	130	150	0.11	0.15	0.25	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	1.2			
140	160	180	0.11	0.15	0.24	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	2.1			
100	120	140	0.11	0.15	0.24	0.18	0.21	0.27	0.20	0.24	0.30	0.23	0.26	0.34	0.25	0.29	0.37	0.27	0.32	0.41	0.29	0.34	0.44	2.2			
80	100	120	0.11	0.15	0.25	0.18	0.22	0.31	0.20	0.25	0.35	0.23	0.28	0.40	0.25	0.31	0.43	0.27	0.34	0.47	0.29	0.37	0.51	3.1			
60	80	100	0.09	0.13	0.22	0.16	0.20	0.28	0.18	0.23	0.32	0.20	0.25	0.36	0.22	0.28	0.39	0.24	0.30	0.43	0.26	0.33	0.46	3.2			
100	120	140	0.11	0.15	0.24	0.16	0.18	0.24	0.20	0.24	0.30	0.23	0.26	0.34	0.25	0.29	0.37	0.27	0.32	0.41	0.30	0.32	0.41	4.1			
90	110	130	0.10	0.14	0.22	0.14	0.18	0.25	0.18	0.23	0.32	0.20	0.25	0.36	0.22	0.28	0.39	0.24	0.30	0.43	0.27	0.30	0.43	4.2			
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.1	N		
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.2			
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.3			
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.4			
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.5			
160	180	240	0.13	0.19	0.31	0.21	0.32	0.43	0.24	0.33	0.42	0.27	0.37	0.47	0.30	0.41	0.52	0.32	0.45	0.57	0.35	0.48	0.61	1.6			
120	140	180	0.03	0.05	0.07	0.04	0.06	0.09	0.05	0.10	0.13	0.06	0.12	0.14	0.06	0.14	0.16	0.07	0.15	0.17	0.07	0.15	0.18	2.1			
120	140	180	0.03	0.05	0.07	0.04	0.06	0.08	0.05	0.10	0.13	0.06	0.12	0.14	0.06	0.14	0.16	0.07	0.15	0.17	0.07	0.15	0.17	2.2			
120	140	180	0.11	0.14	0.19	0.17	0.22	0.30	0.22	0.28	0.39	0.25	0.31	0.42	0.27	0.33	0.44	0.30	0.36	0.48	0.32	0.36	0.48	2.3			
																								2.4			
																								2.5			
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																								4.4			
																								5.1			
																								5.2			
																								5.3			
40	50	60	0.04	0.05	0.06	0.07	0.09	0.11	0.10	0.12	0.15	0.11	0.13	0.17	0.12	0.14	0.19	0.14	0.16	0.20	0.15	0.17	0.22	1.1	S		
30	40	50	0.04	0.05	0.06	0.07	0.09	0.11	0.10	0.12	0.15	0.11	0.13	0.17	0.12	0.14	0.19	0.14	0.16	0.20	0.15	0.17	0.22	1.3			
																								2.1			
20	40	60	0.04	0.05	0.07	0.07	0.09	0.13	0.10	0.13	0.20	0.11	0.15	0.23	0.12	0.17	0.25	0.14	0.18	0.27	0.15	0.19	0.29	2.2			
10	25	40	0.04	0.05	0.06	0.07	0.09	0.11	0.10	0.12	0.15	0.11	0.13	0.17	0.12	0.14	0.19	0.14	0.16	0.20	0.15	0.17	0.22	2.3			
																								2.4			
																								2.5			
																								2.6			
20	40	50	0.05	0.06	0.11	0.09	0.12	0.18	0.10	0.16	0.25	0.11	0.18	0.28	0.12	0.19	0.31	0.14	0.20	0.34	0.15	0.22	0.37	1.1	H		
20	30	50	0.05	0.06	0.11	0.09	0.12	0.18	0.10	0.16	0.25	0.11	0.18	0.28	0.12	0.19	0.31	0.14	0.20	0.34	0.15	0.22	0.37	1.2			
20	30	50	0.05	0.06	0.11	0.09	0.12	0.18	0.10	0.16	0.25	0.11	0.18	0.28	0.12	0.19	0.31	0.14	0.20	0.34	0.15	0.22	0.37	1.3			
																								1.4			
																								1.5			



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EMUGE-Werk Richard Glimpel GmbH & Co. KG
Fabrik für Präzisionswerkzeuge

🏠 Nürnberger Straße 96-100
91207 Lauf
GERMANY

☎ +49 9123 186-0
🖨 +49 9123 14313

FRANKEN GmbH & Co. KG
Fabrik für Präzisionswerkzeuge

🏠 Frankenstraße 7/9a
90607 Rückersdorf
GERMANY

☎ +49 911 9575-5
🖨 +49 911 9575-327

✉ info@emuge-franken.com 🌐 www.emuge-franken.com