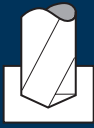


## Application



## Material

Steel  
< 500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
2.50	140	0.060	17825	1070	5.5	1.2
2.70	140	0.065	16505	1075	6.0	1.1
2.90	140	0.070	15365	1075	7.0	1.1
3.00	140	0.070	14855	1040	7.5	1.2
3.30	140	0.080	13505	1080	9.0	1.1
3.50	140	0.085	12730	1080	10.5	1.1
3.80	140	0.090	11725	1055	12.0	1.6
4.00	140	0.095	11140	1060	13.5	1.5
4.20	140	0.100	10610	1060	14.5	1.5

Steel  
500 - 850 N/mm<sup>2</sup>

2.50	110	0.060	14005	840	4.0	1.5
2.70	110	0.065	12970	845	5.0	1.5
2.90	110	0.070	12075	845	5.5	1.4
3.00	110	0.070	11670	815	6.0	1.5
3.30	110	0.080	10610	850	7.5	1.4
3.50	110	0.085	10005	850	8.0	1.4
3.80	110	0.090	9215	830	9.5	2.0
4.00	110	0.095	8755	830	10.5	1.9
4.20	110	0.100	8335	835	11.5	1.9

Steel  
850 - 1100 N/mm<sup>2</sup>

2.50	80	0.045	10185	460	2.5	2.7
2.70	80	0.050	9430	470	2.5	2.6
2.90	80	0.050	8780	440	3.0	2.8
3.00	80	0.055	8490	465	3.5	2.6
3.30	80	0.060	7715	465	4.0	2.6
3.50	80	0.065	7275	475	4.5	2.5
3.80	80	0.070	6700	470	5.5	3.5
4.00	80	0.070	6365	445	5.5	3.6
4.20	80	0.075	6065	455	6.5	3.5

Steel  
1100 - 1300 N/mm<sup>2</sup>

2.50	55	0.040	7005	280	1.5	4.4
2.70	55	0.040	6485	260	1.5	4.7
2.90	55	0.045	6035	270	2.0	4.5
3.00	55	0.045	5835	265	2.0	4.6
3.30	55	0.050	5305	265	2.5	4.5
3.50	55	0.055	5000	275	2.5	4.3
3.80	55	0.055	4605	255	3.0	6.4
4.00	55	0.060	4375	265	3.5	6.1
4.20	55	0.065	4170	270	3.5	6.0

## Material

Steel  
1300 - 1500 N/mm<sup>2</sup>

2.50	25	0.025	3185	80	0.5	15.6
2.70	25	0.025	2945	75	0.5	16.4
2.90	25	0.030	2745	80	0.5	15.3
3.00	25	0.030	2655	80	0.5	15.2
3.30	25	0.035	2410	85	0.5	14.1
3.50	25	0.035	2275	80	1.0	14.8
3.80	25	0.040	2095	85	1.0	19.3
4.00	25	0.040	1990	80	1.0	20.2
4.20	25	0.040	1895	75	1.0	21.4

Cold work tool steel  
(12% Cr)  
high alloyed  
[1.2379]

2.50	50	0.030	6365	190	1.0	6.6
2.70	50	0.035	5895	205	1.0	6.0
2.90	50	0.035	5490	190	1.5	6.4
3.00	50	0.040	5305	210	1.5	5.8
3.30	50	0.040	4825	195	1.5	6.1
3.50	50	0.045	4545	205	2.0	5.8
3.80	50	0.050	4190	210	2.5	7.8
4.00	50	0.050	3980	200	2.5	8.1
4.20	50	0.055	3790	210	3.0	7.7

Cast iron  
(lamellar / spheroidal)

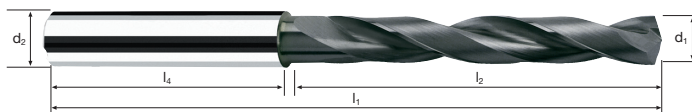
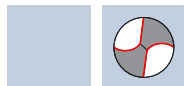
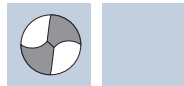
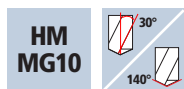
2.50	160	0.065	20370	1325	6.5	0.9
2.70	160	0.070	18865	1320	7.5	0.9
2.90	160	0.075	17560	1315	8.5	0.9
3.00	160	0.075	16975	1275	9.0	1.0
3.30	160	0.085	15435	1310	11.0	0.9
3.50	160	0.090	14550	1310	12.5	0.9
3.80	160	0.100	13405	1340	15.0	1.2
4.00	160	0.105	12730	1335	17.0	1.2
4.20	160	0.110	12125	1335	18.5	1.2

Wrought aluminium  
alloys Si < 6%

2.50	220	0.050	28010	1400	7.0	0.9
2.70	220	0.055	25935	1425	8.0	0.9
2.90	220	0.060	24150	1450	9.5	0.8
3.00	220	0.060	23345	1400	10.0	0.9
3.30	220	0.065	21220	1380	12.0	0.9
3.50	220	0.070	20010	1400	13.5	0.8
3.80	220	0.075	18430	1380	15.5	1.2
4.00	220	0.080	17505	1400	17.5	1.2
4.20	220	0.085	16675	1415	19.5	1.1

# Spiral flute drills Supradrill® U

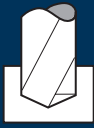
5xd



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500						GG(G) Aluminium
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Example: Order-N°.		Article-N°.		ø-Code				NANO-U <sup>2</sup>	
		<b>B62014</b>		<b>.0250</b>				<b>B62014</b>	
								<b>B63014</b>	
ø Code	d1 m7	d2 h5	l1	l2	l4	L <sub>max</sub>			
.0250	2.50	6	66	28	36	20.8			●
.0255	2.55	6	66	28	36	20.7			●
.0260	2.60	6	66	28	36	20.6			●
.0265	2.65	6	66	28	36	20.6			●
.0270	2.70	6	66	28	36	20.6			●
.0280	2.80	6	66	28	36	20.4			●
.0285	2.85	6	66	28	36	20.4			●
.0290	2.90	6	66	28	36	20.4			●
.0295	2.95	6	66	28	36	20.3			●
.0300	3.00	6	66	28	36	20.2			●
.0310	3.10	6	66	28	36	20.2			●
.0320	3.20	6	66	28	36	20.0			●
.0330	3.30	6	66	28	36	20.0			●
.0340	3.40	6	66	28	36	19.8			●
.0350	3.50	6	66	28	36	19.8			●
.0360	3.60	6	66	28	36	19.6			●
.0370	3.70	6	66	28	36	19.6			●
.0380	3.80	6	74	36	36	27.4			●
.0390	3.90	6	74	36	36	27.4			●
.0400	4.00	6	74	36	36	26.9			●
.0410	4.10	6	74	36	36	26.9			●
.0420	4.20	6	74	36	36	26.8			●
.0430	4.30	6	74	36	36	26.8			●

## Application



## Material

Steel  
< 500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
4.50	140	0.105	9905	1040	16.5	1.5
4.80	140	0.115	9285	1070	19.5	1.9
5.00	140	0.120	8915	1070	21.0	2.0
5.10	140	0.120	8740	1050	21.5	2.0
5.50	140	0.130	8100	1055	25.0	2.0
5.80	140	0.135	7685	1035	27.5	2.0
6.00	140	0.140	7425	1040	29.5	2.0
6.10	140	0.145	7305	1060	31.0	2.3
6.50	140	0.155	6855	1065	35.5	2.3

Steel  
500 - 850 N/mm<sup>2</sup>

4.50	110	0.105	7780	815	13.0	2.0
4.80	110	0.115	7295	840	15.0	2.5
5.00	110	0.120	7005	840	16.5	2.5
5.10	110	0.120	6865	825	17.0	2.5
5.50	110	0.130	6365	825	19.5	2.5
5.80	110	0.135	6035	815	21.5	2.5
6.00	110	0.140	5835	815	23.0	2.5
6.10	110	0.145	5740	830	24.5	3.0
6.50	110	0.155	5385	835	27.5	2.9

Steel  
850 - 1100 N/mm<sup>2</sup>

4.50	80	0.080	5660	455	7.0	3.5
4.80	80	0.085	5305	450	8.0	4.6
5.00	80	0.090	5095	460	9.0	4.5
5.10	80	0.090	4995	450	9.0	4.6
5.50	80	0.100	4630	465	11.0	4.4
5.80	80	0.105	4390	460	12.0	4.5
6.00	80	0.110	4245	465	13.0	4.5
6.10	80	0.110	4175	460	13.5	5.4
6.50	80	0.115	3920	450	15.0	5.5

Steel  
1100 - 1300 N/mm<sup>2</sup>

4.50	55	0.070	3890	270	4.5	5.9
4.80	55	0.070	3645	255	4.5	8.1
5.00	55	0.075	3500	265	5.0	7.9
5.10	55	0.075	3435	260	5.5	8.0
5.50	55	0.085	3185	270	6.5	7.7
5.80	55	0.085	3020	255	6.5	8.1
6.00	55	0.090	2920	265	7.5	7.8
6.10	55	0.090	2870	260	7.5	9.5
6.50	55	0.100	2695	270	9.0	9.1

## Material

Steel  
1300 - 1500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
4.50	25	0.045	1770	80	1.5	19.9
4.80	25	0.050	1660	85	1.5	24.3
5.00	25	0.050	1590	80	1.5	26.1
5.10	25	0.050	1560	80	1.5	26.0
5.50	25	0.055	1445	80	2.0	25.8
5.80	25	0.060	1370	80	2.0	25.8
6.00	25	0.060	1325	80	2.5	25.9
6.10	25	0.060	1305	80	2.5	31.0
6.50	25	0.065	1225	80	2.5	30.8

Cold work tool steel  
(12% Cr)  
high alloyed  
[1.2379]

4.50	50	0.060	3535	210	3.5	7.6
4.80	50	0.060	3315	200	3.5	10.3
5.00	50	0.065	3185	205	4.0	10.2
5.10	50	0.065	3120	205	4.0	10.1
5.50	50	0.070	2895	205	5.0	10.1
5.80	50	0.075	2745	205	5.5	10.1
6.00	50	0.075	2655	200	5.5	10.3
6.10	50	0.080	2610	210	6.0	11.8
6.50	50	0.085	2450	210	7.0	11.7

Cast iron  
(lamellar / spheroidal)

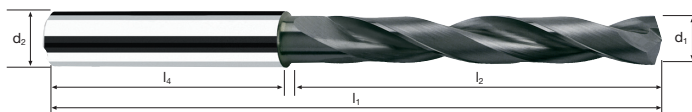
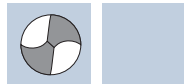
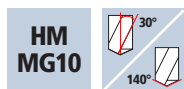
4.50	160	0.115	11320	1300	20.5	1.2
4.80	160	0.125	10610	1325	24.0	1.6
5.00	160	0.130	10185	1325	26.0	1.6
5.10	160	0.130	9985	1300	26.5	1.6
5.50	160	0.140	9260	1295	31.0	1.6
5.80	160	0.150	8780	1315	34.5	1.6
6.00	160	0.155	8490	1315	37.0	1.6
6.10	160	0.155	8350	1295	38.0	1.9
6.50	160	0.165	7835	1295	43.0	1.9

Wrought aluminium  
alloys Si < 6%

4.50	220	0.090	15560	1400	22.5	1.1
4.80	220	0.095	14590	1385	25.0	1.5
5.00	220	0.100	14005	1400	27.5	1.5
5.10	220	0.100	13730	1375	28.0	1.5
5.50	220	0.110	12730	1400	33.5	1.5
5.80	220	0.115	12075	1390	36.5	1.5
6.00	220	0.120	11670	1400	39.5	1.5
6.10	220	0.120	11480	1380	40.5	1.8
6.50	220	0.130	10775	1400	46.5	1.8

# Spiral flute drills Supradrill® U

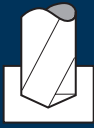
5xd



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500						GG(G) Aluminium
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Example: Order-N°.		Article-N°.		ø-Code				NANO-U <sup>2</sup>	
		<b>B62014</b>		<b>.0440</b>				<b>B62014</b>	
								<b>B63014</b>	
ø Code	d1 m7	d2 h5	l1	l2	l4	L <sub>max</sub>			
.0440	4.40	6	74	36	36	26.6			●
.0450	4.50	6	74	36	36	26.6			●
.0460	4.60	6	74	36	36	26.5			●
.0470	4.70	6	74	36	36	26.5			●
.0480	4.80	6	82	44	36	34.4			●
.0490	4.90	6	82	44	36	34.4			●
.0500	5.00	6	82	44	36	34.8			●
.0510	5.10	6	82	44	36	34.7			●
.0520	5.20	6	82	44	36	34.6			●
.0530	5.30	6	82	44	36	34.6			●
.0540	5.40	6	82	44	36	34.5			●
.0550	5.50	6	82	44	36	34.5			●
.0560	5.60	6	82	44	36	34.4			●
.0570	5.70	6	82	44	36	34.4			●
.0580	5.80	6	82	44	36	34.4			●
.0590	5.90	6	82	44	36	34.5			●
.0600	6.00	6	82	44	36	34.5			●
.0610	6.10	8	91	53	36	41.4			●
.0620	6.20	8	91	53	36	41.2			●
.0630	6.30	8	91	53	36	41.2			●
.0640	6.40	8	91	53	36	41.1			●
.0650	6.50	8	91	53	36	41.1			●
.0660	6.60	8	91	53	36	41.0			●

## Application



## Material

Steel  
< 500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
6.80	140	0.160	6555	1050	38.0	2.3
6.90	140	0.165	6460	1065	40.0	2.3
7.00	140	0.165	6365	1050	40.5	2.3
7.50	140	0.180	5940	1070	47.5	2.3
7.80	140	0.185	5715	1055	50.5	2.3
8.00	140	0.190	5570	1060	53.5	2.3
8.20	140	0.195	5435	1060	56.0	2.6
8.50	140	0.200	5245	1050	59.5	2.6
8.60	140	0.205	5180	1060	61.5	2.6

Steel  
500 - 850 N/mm<sup>2</sup>

6.80	110	0.160	5150	825	30.0	3.0
6.90	110	0.165	5075	835	31.0	2.9
7.00	110	0.165	5000	825	31.5	3.0
7.50	110	0.180	4670	840	37.0	2.9
7.80	110	0.185	4490	830	39.5	2.9
8.00	110	0.190	4375	830	41.5	2.9
8.20	110	0.195	4270	835	44.0	3.3
8.50	110	0.200	4120	825	47.0	3.3
8.60	110	0.205	4070	835	48.5	3.3

Steel  
850 - 1100 N/mm<sup>2</sup>

6.80	80	0.120	3745	450	16.5	5.5
6.90	80	0.125	3690	460	17.0	5.3
7.00	80	0.125	3640	455	17.5	5.4
7.50	80	0.135	3395	460	20.5	5.3
7.80	80	0.140	3265	455	21.5	5.3
8.00	80	0.145	3185	460	23.0	5.3
8.20	80	0.150	3105	465	24.5	6.0
8.50	80	0.155	2995	465	26.5	5.9
8.60	80	0.155	2960	460	26.5	6.0

Steel  
1100 - 1300 N/mm<sup>2</sup>

6.80	55	0.100	2575	260	9.5	9.4
6.90	55	0.105	2535	265	10.0	9.2
7.00	55	0.105	2500	265	10.0	9.2
7.50	55	0.115	2335	270	12.0	9.0
7.80	55	0.115	2245	260	12.5	9.3
8.00	55	0.120	2190	265	13.5	9.1
8.20	55	0.125	2135	265	14.0	10.5
8.50	55	0.130	2060	270	15.5	10.2
8.60	55	0.130	2035	265	15.5	10.4

## Material

Steel  
1300 - 1500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
6.80	25	0.070	1170	80	3.0	30.7
6.90	25	0.070	1155	80	3.0	30.6
7.00	25	0.070	1135	80	3.0	30.5
7.50	25	0.075	1060	80	3.5	30.3
7.80	25	0.080	1020	80	4.0	30.3
8.00	25	0.080	995	80	4.0	30.3
8.20	25	0.080	970	80	4.0	34.6
8.50	25	0.085	935	80	4.5	34.5
8.60	25	0.085	925	80	4.5	34.5

Cold work tool steel  
(12% Cr)  
high alloyed  
[1.2379]

6.80	50	0.085	2340	200	7.5	12.3
6.90	50	0.090	2305	205	7.5	12.0
7.00	50	0.090	2275	205	8.0	11.9
7.50	50	0.095	2120	200	9.0	12.1
7.80	50	0.100	2040	205	10.0	11.8
8.00	50	0.105	1990	210	10.5	11.5
8.20	50	0.105	1940	205	11.0	13.5
8.50	50	0.110	1870	205	11.5	13.5
8.60	50	0.110	1850	205	12.0	13.5

Cast iron  
(lamellar / spheroidal)

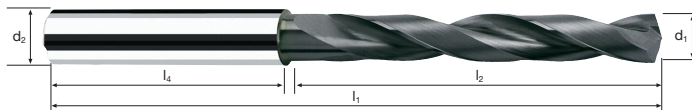
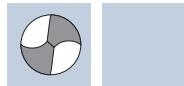
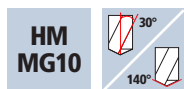
6.80	160	0.175	7490	1310	47.5	1.9
6.90	160	0.175	7380	1290	48.0	1.9
7.00	160	0.180	7275	1310	50.5	1.9
7.50	160	0.195	6790	1325	58.5	1.8
7.80	160	0.200	6530	1305	62.5	1.9
8.00	160	0.205	6365	1305	65.5	1.9
8.20	160	0.210	6210	1305	69.0	2.1
8.50	160	0.220	5990	1320	75.0	2.1
8.60	160	0.220	5920	1300	75.5	2.1

Wrought aluminium  
alloys Si < 6%

6.80	220	0.135	10300	1390	50.5	1.8
6.90	220	0.140	10150	1420	53.0	1.7
7.00	220	0.140	10005	1400	54.0	1.7
7.50	220	0.150	9335	1400	62.0	1.7
7.80	220	0.155	8980	1390	66.5	1.7
8.00	220	0.160	8755	1400	70.5	1.7
8.20	220	0.165	8540	1410	74.5	2.0
8.50	220	0.170	8240	1400	79.5	2.0
8.60	220	0.170	8145	1385	80.5	2.0

# Spiral flute drills Supradrill® U

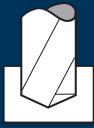
5xd



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500						GG(G) Aluminium
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Example: Order-N°.							Article-N°.		ø-Code				NANO-U <sup>2</sup>	
							<b>B62014</b>		<b>.0670</b>				<b>B62014</b>	
													<b>B63014</b>	
ø Code	d1 m7	d2 h5	l1	l2	l4	L <sub>max</sub>								
.0670	6.70	8	91	53	36	41.0								●
.0680	6.80	8	91	53	36	40.9								●
.0690	6.90	8	91	53	36	40.9								●
.0700	7.00	8	91	53	36	40.7								●
.0710	7.10	8	91	53	36	40.7								●
.0720	7.20	8	91	53	36	40.6								●
.0730	7.30	8	91	53	36	40.6								●
.0740	7.40	8	91	53	36	40.5								●
.0750	7.50	8	91	53	36	40.5								●
.0760	7.60	8	91	53	36	40.4								●
.0770	7.70	8	91	53	36	40.4								●
.0780	7.80	8	91	53	36	40.4								●
.0790	7.90	8	91	53	36	40.4								●
.0800	8.00	8	91	53	36	40.4								●
.0810	8.10	10	103	61	40	46.3								●
.0820	8.20	10	103	61	40	46.2								●
.0830	8.30	10	103	61	40	46.2								●
.0840	8.40	10	103	61	40	46.1								●
.0850	8.50	10	103	61	40	46.1								●
.0860	8.60	10	103	61	40	46.0								●
.0870	8.70	10	103	61	40	46.0								●
.0880	8.80	10	103	61	40	45.9								●
.0890	8.90	10	103	61	40	45.8								●

## Application



## Material

Steel < 500 N/mm <sup>2</sup>
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d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
9.00	140	0.215	4950	1065	68.0	2.6
9.50	140	0.225	4690	1055	75.0	2.6
9.80	140	0.230	4545	1045	79.0	2.6
10.00	140	0.235	4455	1045	82.0	2.6
10.20	140	0.240	4370	1050	86.0	3.0
10.40	140	0.245	4285	1050	89.0	3.0
10.50	140	0.250	4245	1060	92.0	3.0
10.80	140	0.255	4125	1050	96.0	3.0
11.00	140	0.260	4050	1055	100.5	3.0

Steel 500 - 850 N/mm <sup>2</sup>
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9.00	110	0.215	3890	835	53.0	3.3
9.50	110	0.225	3685	830	59.0	3.3
9.80	110	0.230	3575	820	62.0	3.3
10.00	110	0.235	3500	825	65.0	3.3
10.20	110	0.240	3435	825	67.5	3.9
10.40	110	0.245	3365	825	70.0	3.9
10.50	110	0.250	3335	835	72.5	3.8
10.80	110	0.255	3240	825	75.5	3.8
11.00	110	0.260	3185	830	79.0	3.8

Steel 850 - 1100 N/mm <sup>2</sup>
---------------------------------------

9.00	80	0.160	2830	455	29.0	6.0
9.50	80	0.170	2680	455	32.5	6.0
9.80	80	0.175	2600	455	34.5	6.0
10.00	80	0.180	2545	460	36.0	5.9
10.20	80	0.185	2495	460	37.5	6.9
10.40	80	0.185	2450	455	38.5	7.0
10.50	80	0.190	2425	460	40.0	6.9
10.80	80	0.195	2360	460	42.0	6.9
11.00	80	0.200	2315	465	44.0	6.8

Steel 1100 - 1300 N/mm <sup>2</sup>
--

9.00	55	0.135	1945	265	17.0	10.3
9.50	55	0.145	1845	270	19.0	10.1
9.80	55	0.145	1785	260	19.5	10.5
10.00	55	0.150	1750	265	21.0	10.3
10.20	55	0.155	1715	265	21.5	12.0
10.40	55	0.155	1685	260	22.0	12.3
10.50	55	0.160	1665	265	23.0	12.0
10.80	55	0.160	1620	260	24.0	12.2
11.00	55	0.165	1590	260	24.5	12.2

## Material

Steel 1300 - 1500 N/mm <sup>2</sup>
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d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
9.00	25	0.090	885	80	5.0	34.3
9.50	25	0.095	840	80	5.5	34.1
9.80	25	0.100	810	80	6.0	34.0
10.00	25	0.100	795	80	6.5	34.0
10.20	25	0.100	780	80	6.5	39.9
10.40	25	0.105	765	80	7.0	39.8
10.50	25	0.105	760	80	7.0	39.8
10.80	25	0.110	735	80	7.5	39.6
11.00	25	0.110	725	80	7.5	39.5

Cold work tool steel (12% Cr) high alloyed [1.2379]
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9.00	50	0.115	1770	205	13.0	13.4
9.50	50	0.120	1675	200	14.0	13.6
9.80	50	0.125	1625	205	15.5	13.3
10.00	50	0.130	1590	205	16.0	13.3
10.20	50	0.130	1560	205	17.0	15.6
10.40	50	0.135	1530	205	17.5	15.5
10.50	50	0.135	1515	205	18.0	15.5
10.80	50	0.140	1475	205	19.0	15.5
11.00	50	0.140	1445	200	19.0	15.8

Cast iron (lamellar / spheroidal)
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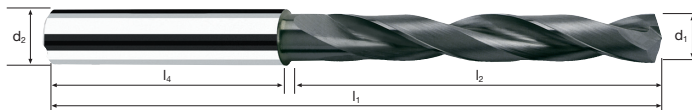
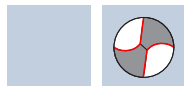
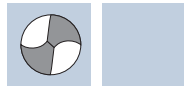
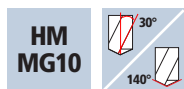
9.00	160	0.230	5660	1300	82.5	2.1
9.50	160	0.245	5360	1315	93.0	2.1
9.80	160	0.250	5195	1300	98.0	2.1
10.00	160	0.255	5095	1300	102.0	2.1
10.20	160	0.260	4995	1300	106.0	2.5
10.40	160	0.265	4895	1295	110.0	2.5
10.50	160	0.270	4850	1310	113.5	2.4
10.80	160	0.280	4715	1320	121.0	2.4
11.00	160	0.285	4630	1320	125.5	2.4

Wrought aluminium alloys Si < 6%
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9.00	220	0.180	7780	1400	89.0	2.0
9.50	220	0.190	7370	1400	99.0	1.9
9.80	220	0.195	7145	1395	105.0	1.9
10.00	220	0.200	7005	1400	110.0	1.9
10.20	220	0.205	6865	1405	115.0	2.3
10.40	220	0.210	6735	1415	120.0	2.3
10.50	220	0.210	6670	1400	121.0	2.3
10.80	220	0.215	6485	1395	128.0	2.3
11.00	220	0.220	6365	1400	133.0	2.3

# Spiral flute drills Supradrill® U

5xd

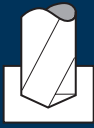


Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500						GG(G) Aluminium
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Example: Order-N°.		Article-N°.		ø-Code				NANO-U <sup>2</sup>	
		B62014		.0900				B62014	
								B63014	
ø Code	d1 m7	d2 h5	l1	l2	l4	L <sub>max</sub>			
.0900	9.00	10	103	61	40	45.7			●
.0910	9.10	10	103	61	40	45.7			●
.0920	9.20	10	103	61	40	45.6			●
.0930	9.30	10	103	61	40	45.6			●
.0940	9.40	10	103	61	40	45.5			●
.0950	9.50	10	103	61	40	45.5			●
.0960	9.60	10	103	61	40	45.4			●
.0970	9.70	10	103	61	40	45.4			●
.0980	9.80	10	103	61	40	45.3			●
.0990	9.90	10	103	61	40	45.4			●
.1000	10.00	10	103	61	40	45.4			●
.1010	10.10	12	118	71	45	53.3			●
.1020	10.20	12	118	71	45	53.2			●
.1030	10.30	12	118	71	45	53.2			●
.1040	10.40	12	118	71	45	53.1			●
.1050	10.50	12	118	71	45	53.1			●
.1060	10.60	12	118	71	45	53.0			●
.1070	10.70	12	118	71	45	52.9			●
.1080	10.80	12	118	71	45	52.8			●
.1090	10.90	12	118	71	45	52.8			●
.1100	11.00	12	118	71	45	52.7			●
.1110	11.10	12	118	71	45	52.7			●
.1120	11.20	12	118	71	45	52.6			●



## Application



## Material

Steel  
< 500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
11.50	140	0.270	3875	1045	108.5	3.0
11.70	140	0.275	3810	1050	113.0	3.0
12.00	140	0.285	3715	1060	120.0	3.0
12.50	140	0.295	3565	1050	129.0	3.2
13.00	140	0.310	3430	1065	141.5	3.1
14.00	140	0.330	3185	1050	161.5	3.2
15.00	140	0.355	2970	1055	186.5	3.3
15.50	140	0.365	2875	1050	198.0	3.3
16.00	140	0.380	2785	1060	213.0	3.3

Steel  
500 - 850 N/mm<sup>2</sup>

11.50	110	0.270	3045	820	85.0	3.8
11.70	110	0.275	2995	825	88.5	3.8
12.00	110	0.285	2920	830	94.0	3.8
12.50	110	0.295	2800	825	101.0	4.1
13.00	110	0.310	2695	835	111.0	4.0
14.00	110	0.330	2500	825	127.0	4.0
15.00	110	0.355	2335	830	146.5	4.2
15.50	110	0.365	2260	825	155.5	4.2
16.00	110	0.380	2190	830	167.0	4.2

Steel  
850 - 1100 N/mm<sup>2</sup>

11.50	80	0.205	2215	455	47.5	6.9
11.70	80	0.210	2175	455	49.0	6.9
12.00	80	0.215	2120	455	51.5	6.9
12.50	80	0.225	2035	460	56.5	7.3
13.00	80	0.235	1960	460	61.0	7.3
14.00	80	0.250	1820	455	70.0	7.3
15.00	80	0.270	1700	460	81.5	7.7
15.50	80	0.280	1645	460	87.0	7.6
16.00	80	0.290	1590	460	92.5	7.6

Steel  
1100 - 1300 N/mm<sup>2</sup>

11.50	55	0.175	1520	265	27.5	11.9
11.70	55	0.175	1495	260	28.0	12.1
12.00	55	0.180	1460	265	30.0	11.8
12.50	55	0.190	1400	265	32.5	12.7
13.00	55	0.195	1345	260	34.5	12.9
14.00	55	0.210	1250	265	41.0	12.5
15.00	55	0.225	1165	260	46.0	13.5
15.50	55	0.235	1130	265	50.0	13.2
16.00	55	0.240	1095	265	53.5	13.2

## Material

Steel  
1300 - 1500 N/mm<sup>2</sup>

d1 [mm]	v <sub>c</sub> [m/min]	f [mm]	n [min <sup>-1</sup> ]	v <sub>f</sub> [mm/min]	Q [cm <sup>3</sup> /min]	T [sek]
11.50	25	0.115	690	80	8.5	39.3
11.70	25	0.115	680	80	8.5	39.3
12.00	25	0.120	665	80	9.0	39.2
12.50	25	0.125	635	80	10.0	42.0
13.00	25	0.130	610	80	10.5	41.8
14.00	25	0.140	570	80	12.5	41.5
15.00	25	0.150	530	80	14.0	44.0
15.50	25	0.155	515	80	15.0	43.8
16.00	25	0.160	495	80	16.0	43.7

Cold work tool steel  
(12% Cr)  
high alloyed  
[1.2379]

11.50	50	0.150	1385	210	22.0	15.0
11.70	50	0.150	1360	205	22.0	15.3
12.00	50	0.155	1325	205	23.0	15.3
12.50	50	0.160	1275	205	25.0	16.4
13.00	50	0.165	1225	200	26.5	16.7
14.00	50	0.180	1135	205	31.5	16.2
15.00	50	0.195	1060	205	36.0	17.2
15.50	50	0.200	1025	205	38.5	17.1
16.00	50	0.205	995	205	41.0	17.1

Cast iron  
(lamellar / spheroidal)

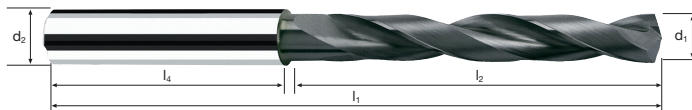
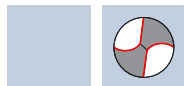
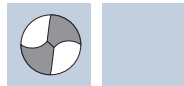
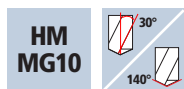
11.50	160	0.295	4430	1305	135.5	2.4
11.70	160	0.300	4355	1305	140.5	2.4
12.00	160	0.310	4245	1315	148.5	2.4
12.50	160	0.320	4075	1305	160.0	2.6
13.00	160	0.335	3920	1315	174.5	2.5
14.00	160	0.360	3640	1310	201.5	2.5
15.00	160	0.385	3395	1305	230.5	2.7
15.50	160	0.400	3285	1315	248.0	2.7
16.00	160	0.410	3185	1305	262.5	2.7

Wrought aluminium  
alloys Si < 6%

11.50	220	0.230	6090	1400	145.5	2.2
11.70	220	0.235	5985	1405	151.0	2.2
12.00	220	0.240	5835	1400	158.5	2.2
12.50	220	0.250	5600	1400	172.0	2.4
13.00	220	0.260	5385	1400	186.0	2.4
14.00	220	0.280	5000	1400	215.5	2.4
15.00	220	0.300	4670	1400	247.5	2.5
15.50	220	0.310	4520	1400	264.0	2.5
16.00	220	0.320	4375	1400	281.5	2.5

# Spiral flute drills Supradrill® U

5xd



Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500						GG(G) Aluminium
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Example: Order-N°.		Article-N°.		ø-Code				NANO-U <sup>2</sup>	
		B62014		.1130				B62014	
								B63014	
ø Code	d1 m7	d2 h5	l1	l2	l4	L <sub>max</sub>			
.1130	11.30	12	118	71	45	52.6			●
.1140	11.40	12	118	71	45	52.5			●
.1150	11.50	12	118	71	45	52.4			●
.1160	11.60	12	118	71	45	52.4			●
.1170	11.70	12	118	71	45	52.4			●
.1180	11.80	12	118	71	45	52.3			●
.1190	11.90	12	118	71	45	52.4			●
.1200	12.00	12	118	71	45	52.3			●
.1250	12.50	14	124	77	45	56.1			●
.1280	12.80	14	124	77	45	55.8			●
.1300	13.00	14	124	77	45	55.7			●
.1350	13.50	14	124	77	45	55.4			●
.1380	13.80	14	124	77	45	55.3			●
.1400	14.00	14	124	77	45	55.3			●
.1450	14.50	16	133	83	48	59.1			●
.1480	14.80	16	133	83	48	58.8			●
.1500	15.00	16	133	83	48	58.7			●
.1550	15.50	16	133	83	48	58.4			●
.1580	15.80	16	133	83	48	58.3			●
.1600	16.00	16	133	83	48	58.3			●