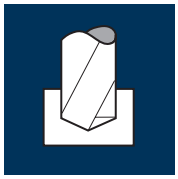
Application



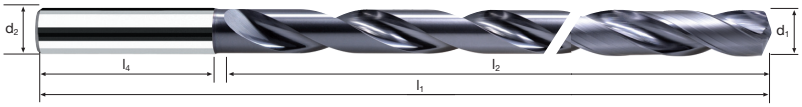
Material	d1 [mm]	v_c [m/min]	f [mm]	n [min⁻¹]	v_f [mm/min]	Q [cm³/min]	T [sek]
Steel < 500 N/mm²	3.00	100	0.120	10610	1275	9.0	3.3
	4.00	100	0.120	7960	955	12.0	5.0
	5.00	100	0.120	6365	765	15.0	8.0
	6.00	100	0.150	5305	795	22.5	9.1
	8.00	100	0.150	3980	595	30.0	16.2
	10.00	100	0.200	3185	635	50.0	19.2
	12.00	100	0.200	2655	530	60.0	27.2
	14.00	100	0.240	2275	545	84.0	31.0
	16.00	100	0.240	1990	480	96.5	40.5
Steel 500 - 850 N/mm²	3.00	75	0.115	7960	915	6.5	4.6
	4.00	75	0.115	5970	685	8.5	7.0
	5.00	75	0.115	4775	550	11.0	11.1
	6.00	75	0.145	3980	575	16.5	12.6
	8.00	75	0.145	2985	435	22.0	22.2
	10.00	75	0.190	2385	455	35.5	26.8
	12.00	75	0.190	1990	380	43.0	37.9
	14.00	75	0.230	1705	390	60.0	43.4
	16.00	75	0.230	1490	345	69.5	56.3
Steel 850 - 1100 N/mm²	3.00	50	0.100	5305	530	3.5	7.9
	4.00	50	0.100	3980	400	5.0	12.0
	5.00	50	0.100	3185	320	6.5	19.0
	6.00	50	0.140	2655	370	10.5	19.6
	8.00	50	0.140	1990	280	14.0	34.5
	10.00	50	0.180	1590	285	22.5	42.7
	12.00	50	0.180	1325	240	27.0	60.0
	14.00	50	0.220	1135	250	38.5	67.7
	16.00	50	0.220	995	220	44.0	88.4
Steel 1100 - 1300 N/mm²	3.00	35	0.090	3715	335	2.5	12.4
	4.00	35	0.090	2785	250	3.0	19.2
	5.00	35	0.090	2230	200	4.0	30.4
	6.00	35	0.125	1855	230	6.5	31.6
	8.00	35	0.125	1395	175	9.0	55.2
	10.00	35	0.160	1115	180	14.0	67.7
	12.00	35	0.160	930	150	17.0	96.0
	14.00	35	0.200	795	160	24.5	105.8
	16.00	35	0.200	695	140	28.0	138.9

Material	d1 [mm]	v_c [m/min]	f [mm]	n [min⁻¹]	v_f [mm/min]	Q [cm³/min]	T [sek]
Cold work tool steel (12% Cr) high alloyed [1.2379]	3.00	40	0.100	4245	425	3.0	9.8
	4.00	40	0.100	3185	320	4.0	15.0
	5.00	40	0.100	2545	255	5.0	23.9
	6.00	40	0.140	2120	295	8.5	24.6
	8.00	40	0.140	1590	225	11.5	42.9
	10.00	40	0.180	1275	230	18.0	53.0
	12.00	40	0.180	1060	190	21.5	75.8
	14.00	40	0.220	910	200	31.0	84.6
	16.00	40	0.220	795	175	35.0	111.1
Cast iron (lamellar / spheroidal)	3.00	80	0.160	8490	1360	9.5	3.1
	4.00	80	0.160	6365	1020	13.0	4.7
	5.00	80	0.160	5095	815	16.0	7.5
	6.00	80	0.210	4245	890	25.0	8.2
	8.00	80	0.210	3185	670	33.5	14.4
	10.00	80	0.260	2545	660	52.0	18.5
	12.00	80	0.260	2120	550	62.0	26.2
	14.00	80	0.320	1820	580	89.5	29.2
	16.00	80	0.320	1590	510	102.5	38.1

Deep hole drills

20xd

HM MGD²



Rm < 850	**Rm** 850-1100	**Rm** 1100-1300							**GG(G)**

Example: **Order-N°.** Article-N°. **B52920** ø-Code **.0300**

ø Code	d_1 h7	d_2 h6	l_1	l_2	l_4	L_{max}		DURO-D² **B52920**
.0300	3.0	4	110	74	32	69.5		●
.0350	3.5	4	120	86	32	81.0		●
.0400	4.0	4	120	86	32	80.0		●
.0450	4.5	5	135	98	34	91.5		●
.0500	5.0	5	145	109	34	101.5		●
.0550	5.5	6	160	120	36	112.0		●
.0600	6.0	6	170	130	36	121.0		●
.0700	7.0	7	190	150	38	139.5		●
.0800	8.0	8	215	173	40	161.0		●
.0900	9.0	9	240	196	40	182.5		●
.1000	10.0	10	260	218	40	203.0		●
.1100	11.0	11	285	238	45	221.5		●
.1200	12.0	12	305	258	45	240.0		●
.1300	13.0	13	330	283	45	263.5		●
.1400	14.0	14	355	303	50	282.0		●
.1500	15.0	15	375	323	50	300.5		●
.1600	16.0	16	400	348	50	324.0		●

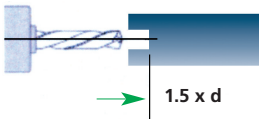
Technical notes, page 428

A pilot hole is required!

Technical notes regarding use of deep hole drills

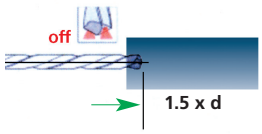
Fraisa SA recommends the following drilling strategy to increase both service life and reliability:

Step 1



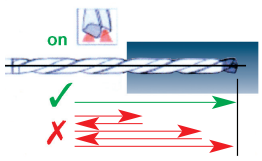
Pilot hole = 1.5 x d.
e.g. Supradrill® U 3xd. B62011.
The pilot hole must be free of chips prior to insertion of the deep-hole drill!

Step 2



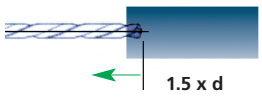
Insert the tool into the hole at max. 300 1/min
and v_f = 1000mm/min.
Without cooling up to 1 mm from the bottom of the pilot hole.

Step 3



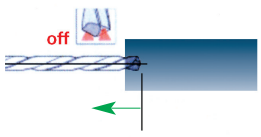
Coolant supply on.
Drill using recommended cutting data and without chip breaking.
When drilling **through-holes**, reduce the feed rate by at least 25% before retracting from the hole.

Step 4



Retract the deep-hole drill with double the feed rate (=2 x v_f) – until 1.5 x d after entering the hole. Position as stated in Step 2.

Step 5



Next reduce the spindle speed to max. 300 1/min.
Coolant feed is switched off.
Withdraw the drill from the drilled hole. (max. 1000 mm/min).

SAFETY NOTE

Outside of the drill hole, long deep-hole drills may only turn at a low speed (max. 300 1/min).
Higher spindle speeds can cause such tools to vibrate, leading to spontaneous failure.