

## HT 800 WP Application Recommendations

All data are approximate values. The actually achievable cutting speeds and feed rates depend on the respective machining conditions. We recommend suitable drilling trials.

- for through holes supporting lands must remain in permanent contact.
- don't apply drilling tool without trial for interrupted cutting (grooves, transverse holes). For interrupted cutting (max. 0.2xD) it is recommended to reduce the feed rate whenever possible.
- in contrast to conventional indexable inserts, HT 800 tools are also suitable for the drilling of stacked sheets.
- on a lathe (stationary tool) it must be ensured that the tool is accurately centred.
- pre-condition for optimal machining results is a sufficient cooling lubricant supply with soluble or neat oil.
- the tool is only of limited suitability for dry machining or MQL. For MQL application we recommend the use of the conical MQL shank end as well as Guhring MQL components. Please contact our Sales Management.

Drill-Ø mm	Feed column no.								
	1	2	3	4	5	6	7	8	9
	f (mm/rev.)								
<b>0.50</b>	0.004	0.006	0.007	0.008	0.010	0.012	0.014	0.016	0.019
<b>1.00</b>	0.006	0.008	0.012	0.014	0.016	0.018	0.020	0.023	0.025
<b>2.00</b>	0.020	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125
<b>2.50</b>	0.025	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160
<b>3.15</b>	0.032	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.160
<b>4.00</b>	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.200
<b>5.00</b>	0.040	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250
<b>6.30</b>	0.050	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315
<b>8.00</b>	0.063	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.315
<b>10.00</b>	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.400
<b>12.50</b>	0.080	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500
<b>16.00</b>	0.100	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630
<b>20.00</b>	0.125	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.630
<b>25.00</b>	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	0.800
<b>31.50</b>	0.160	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000

Coolant:  
 ○ air  
 ● neat oil  
 ● soluble oil

Material group	Material examples, <b>new description</b> (old description in brackets) <i>Figures in bold = material no. to DIN EN</i>	Tensile strength MPa (N/mm <sup>2</sup> )	Hard- ness	Cool- ant
Common structural steels	<b>1.0035</b> S185(St33), <b>1.0486</b> P275N(StE285), <b>1.0345</b> P235GH(H1), <b>1.0425</b> P265GH(H2) <b>1.0050</b> E295 (St50-2), <b>1.0070</b> E360 (St70-2), <b>1.8937</b> P500NH (WStE500)	≤500 >500-850		○ ○
Free-cutting steels	<b>1.0718</b> 11SMnPb30 (9SMnPb28), <b>1.0736</b> 11SMn37 (9SMn36) <b>1.0727</b> 46S20 (45S20), <b>1.0728</b> (60S20), <b>1.0757</b> 46SPb20 (45SPb20)	≤850 850-1000		○ ○
Unalloyed heat-treatable steels	<b>1.0402</b> C22, <b>1.1178</b> C30E (Ck30) <b>1.0503</b> C45, <b>1.1191</b> C45E (Ck45) <b>1.0601</b> C60, <b>1.1221</b> C60E (Ck60)	≤ 700 700-850 850-1000		○ ○ ○
Alloyed heat-treatable steels	<b>1.5131</b> 50MnSi4, <b>1.7003</b> 38Cr2, <b>1.7030</b> 28Cr4 <b>1.5710</b> 36NiCr6, <b>1.7035</b> 41Cr4, <b>1.7225</b> 42CrMo4	850-≤1000 1000-1200		○ ○
Unalloyed case hardened steels	<b>1.0301</b> (C10), <b>1.1121</b> C10E (Ck10)	≤750		○
Alloyed case hardened steels	<b>1.7043</b> 38Cr4 <b>1.5752</b> 15NiCr13 (15NiCr13), <b>1.7131</b> 16MnCr5, <b>1.7264</b> 20CrMo5	850-≤1000 1000-1200		○ ●
Nitriding steels	<b>1.8504</b> 34CrAl6 <b>1.8519</b> 31CrMoV9, <b>1.8550</b> 34CrAlNi7	≥850-≤1000 >1000-1200		○ ○
Tool steels	<b>1.1750</b> C75W, <b>1.2067</b> 102Cr6, <b>1.2307</b> 29CrMoV9 <b>1.2080</b> X210Cr12, <b>1.2083</b> X42Cr13, <b>1.2419</b> 105WCr6, <b>1.2767</b> X45NiCrMo4	≤850 >850-1000		○ ○
High speed steels	<b>1.3243</b> S 6-5-2-5, <b>1.3343</b> S 6-5-2, <b>1.3344</b> S 6-5-3	≥650-1000		○
Spring steels	<b>1.5026</b> 55Si7, <b>1.7176</b> 55Cr3, <b>1.8159</b> 51CrV4 (51CrV4)		≤330 HB	○
Stainless steels, sulphured austenitic martensitic	<b>1.4005</b> X12CrS13, <b>1.4104</b> X14CrMoS17, <b>1.4105</b> X6CrMoS17, <b>1.4305</b> X8CrNiS18-9 <b>1.4301</b> X5CrNi18-10 (V2A), <b>1.4541</b> X6CrNiTi18-10, <b>1.4571</b> X6CrNiMoTi 17-12-2 (V4A) <b>1.4057</b> X20CrNi 17 2 (X17CrNi16-2), <b>1.4122</b> X39CrMo17-1, <b>1.4521</b> X2CrMoTi18-2	≤850 ≤850 ≤850		○ ○ ○
Hardened steels	-		≤40-48 HRC >48-60 HRC	○ ○
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		○
Cast iron	<b>0.6010</b> EN-GJL-100(GG10), <b>0.6020</b> EN-GJL-200(GG20) <b>0.6025</b> EN-GJL-250(GG25), <b>0.6035</b> EN-GJL-350(GG35)		≤240 HB <300 HB	○ ○
New cast materials CGI	<b>EN-GJV250</b> (GGV25), <b>EN-GJV350</b> (GGV35) <b>EN-GJV400</b> (GGV40), <b>EN-GJV500</b> (GGV50), SiMo 6		≤220 HB <300 HB	○ ○
New cast materials ADI	<b>EN-GJS-800-8</b> (ADI800), <b>EN-GJS-1000-5</b> (ADI1000) <b>EN-GJS-1200-2</b> (ADI1200), <b>EN-GJS-1400-1</b> (ADI1400)	800-1000 1200-1400		○ ○
Spheroidal graphite iron and malleable cast iron	<b>0.7050</b> EN-GJS-500-7(GGG50), <b>0.8035</b> EN-GJMW-350-4(GTW35) <b>0.7070</b> EN-GJS-700-2(GGG70), <b>0.8170</b> EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	○ ○
Chilled cast iron	-		≤350 HB	○
Ti and Ti-alloys	<b>3.7024</b> Ti99,5, <b>3.7114</b> TiAl5Sn2,5, <b>3.7124</b> TiCu2 <b>3.7154</b> TiAl6Zr5, <b>3.7165</b> TiAl6V4, <b>3.7184</b> TiAl4Mo4Sn2,5, -TiAl8Mo1V1	≤850 >850-1200		○ ○
Aluminium and Al-alloys	<b>3.0255</b> Al99,5, <b>3.2315</b> AlMgSi1, <b>3.3515</b> AlMg1		≤400	○
Al wrought alloys	<b>3.0615</b> AlMgSiPb, <b>3.1325</b> AlCuMg1, <b>3.3245</b> AlMg3Si, <b>3.4365</b> AlZnMgCu1,5		≤450	○
Al cast alloys ≤ 10 % Si > 10 % Si	<b>3.2131</b> G-AlSi5Cu1, <b>3.2153</b> G-AlSi7Cu3, <b>3.2573</b> G-AlSi9 <b>3.2581</b> G-AlSi12, <b>3.2583</b> G-AlSi12Cu, - G-AlSi12CuNiMg		≤600 ≤600	○ ○
Magnesium alloys	<b>3.5200</b> MgMn2, <b>3.5812.05</b> G-MgAl8Zn1, <b>3.5612.05</b> G-MgAl6Zn1		≤450	○
Copper, low-alloyed	<b>2.0070</b> SE-Cu, <b>2.1020</b> CuSn6, <b>2.1096</b> G-CuSn5ZnPb		≤400	○
Brass, short-chipping long-chipping	<b>2.0380</b> CuZn39Pb2, <b>2.0401</b> CuZn39Pb3, <b>2.0410</b> CuZn43Pb2 <b>2.0250</b> CuZn20, <b>2.0280</b> CuZn33, <b>2.0332</b> CuZn37Pb0,5		≤600 ≤600	○ ○
Bronze, short-chipping	<b>2.1090</b> CuSn7ZnPb, <b>2.1170</b> CuPb5Sn5, <b>2.1176</b> CuPb10Sn <b>2.0790</b> CuNi18Zn19Pb		≤600 >600-850	○ ○
Bronze, long-chipping	<b>2.0916</b> CuAl5, <b>2.0960</b> CuAl9Mn, <b>2.1050</b> CuSn10 <b>2.0980</b> CuAl11Ni, <b>2.1247</b> CuBe2		≤850 >850-1000	○ ○