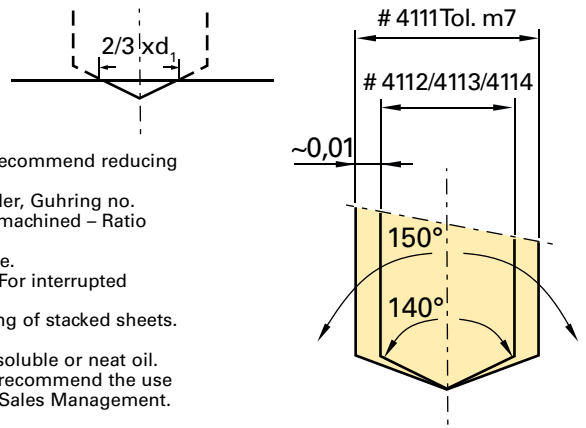


## HT 800 WP Application Recommendations

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. In addition, we recommend reducing the feed rate prior to exiting.
- for drilling depths from 5xD we generally recommend centring or pilot drilling with holder, Guhring no. 4105, and pilot insert, Guhring no. 4111. Alternatively – depending on the material to be machined – Ratio drills type RT 100 U or RT 100VA can be applied.
- for drilling without centring we recommend reducing the feed rate at the start of the hole.
- 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)	≤500 >500-850		<input type="radio"/>
Free-cutting steels	<b>1.0050</b> E295 (St50-2), <b>1.0070</b> E360 (St70-2), <b>1.8937</b> P500NH (WStE500)	≤850 850-1000		<input type="radio"/>
Unalloyed heat-treatable steels	<b>1.0718</b> 11SMnPb30 (9SMnPb28), <b>1.0736</b> 11SMn37 (9SMn36)	≤700 700-850 850-1000		<input type="radio"/>
Alloyed heat-treatable steels	<b>1.0727</b> 46S20 (45S20), <b>1.0728</b> (60S20), <b>1.0757</b> 46SPb20 (45SPb20)	≤700 700-850 850-1000		<input type="radio"/>
Unalloyed case hardened steels	<b>1.0402</b> C22, <b>1.1178</b> C30E (Ck30)	850-≤1000 1000-1200		<input type="radio"/>
Alloyed case hardened steels	<b>1.0503</b> C45, <b>1.1191</b> C45E (Ck45)	≤750		<input type="radio"/>
Nitriding steels	<b>1.0601</b> C60, <b>1.1221</b> C60E (Ck60)	850-≤1000 1000-1200		<input type="radio"/>
Tool steels	<b>1.5131</b> 50MnSi4, <b>1.7003</b> 38Cr2, <b>1.7030</b> 28Cr4	≥850-≤1000 >1000-1200		<input type="radio"/>
High speed steels	<b>1.5710</b> 36NiCr6, <b>1.7035</b> 41Cr4, <b>1.7225</b> 42CrMo4	850-≤1000 1000-1200		<input type="radio"/>
Spring steels	<b>1.0301</b> (C10), <b>1.1121</b> C10E (Ck10)	≥750		<input type="radio"/>
Stainless steels, sulphured	<b>1.7043</b> 38Cr4	850-≤1000 1000-1200		<input type="radio"/>
austenitic	<b>1.5752</b> 15NiCr13 (15NiCr13), <b>1.7131</b> 16MnCr5, <b>1.7264</b> 20CrMo5	≥850-≤1000 >1000-1200		<input type="radio"/>
martensitic	<b>1.8504</b> 34CrAl6	≥850-≤1000 >1000-1200		<input type="radio"/>
Hardened steels	<b>1.8519</b> 31CrMoV9, <b>1.8550</b> 34CrAlNi7	≥850 >850-1000		<input type="radio"/>
Special alloys	<b>1.1750</b> C75W, <b>1.2067</b> 102Cr6, <b>1.2307</b> 29CrMoV9	≤330 HB		<input type="radio"/>
Cast iron	<b>1.2080</b> X210Cr12, <b>1.2083</b> X42Cr13, <b>1.2419</b> 105WCr6, <b>1.2767</b> X45NiCrMo4	≤850 >850-1000		<input type="radio"/>
New cast materials CGI	<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		<input type="radio"/>
Aluminum and Al-alloys	<b>1.5026</b> 55Si7, <b>1.7176</b> 55Cr3, <b>1.8159</b> 51CrV4 (51CrV4)	≤850 ≤850 ≤850		<input type="radio"/>
Al wrought alloys	<b>1.4005</b> X12CrS13, <b>1.4104</b> X14CrMoS17, <b>1.4105</b> X6CrMoS17, <b>1.4305</b> X8CrNiS18-9	≤850 ≤850 ≤850		<input type="radio"/>
Al cast alloys ≤ 10 % Si	<b>1.4301</b> X5CrNi18-10 (V2A), <b>1.4541</b> X6CrNiTi18-10, <b>1.4571</b> X6CrNiMoTi 17-12-2 (V4A)	≤850 ≤850		<input type="radio"/>
> 10 % Si	<b>1.4057</b> X20CrNi 17 2 (X17CrNi16-2), <b>1.4122</b> X39CrMo17-1, <b>1.4521</b> X2CrMoTi18-2	≤850		<input type="radio"/>
Magnesium alloys	-	≤40-48 HRC >48-60 HRC		<input type="radio"/>
Copper, low-alloyed	Nimonic, Inconel, Monel, Hastelloy	≤1200		<input type="radio"/>
Brass, short-chipping	<b>0.6010</b> EN-GJL-100(GG10), <b>0.6020</b> EN-GJL-200(GG20)	≤240 HB <300 HB		<input type="radio"/>
long-chipping	<b>0.6025</b> EN-GJL-250(GG25), <b>0.6035</b> EN-GJL-350(GG35)	≤220 HB <300 HB		<input type="radio"/>
Bronze, short-chipping	<b>EN-GJV250</b> (GGV25), <b>EN-GJV350</b> (GGV35)	800-1000 1200-1400		<input type="radio"/>
Bronze, long-chipping	<b>EN-GJV400</b> (GGV40), <b>EN-GJV500</b> (GGV50), SiMo 6	≤400 ≤450		<input type="radio"/>
Aluminum and Al-alloys	<b>EN-GJS-800-8</b> (ADI800), <b>EN-GJS-1000-5</b> (ADI1000)	≤400 ≤450		<input type="radio"/>
Al wrought alloys	<b>EN-GJS-1200-2</b> (ADI1200), <b>EN-GJS-1400-1</b> (ADI1400)	≤400 ≤450		<input type="radio"/>
Al cast alloys ≤ 10 % Si	<b>3.0255</b> Al99,5, <b>3.2315</b> AlMgSi1, <b>3.3515</b> AlMg1	≤600 ≤600		<input type="radio"/>
> 10 % Si	<b>3.0615</b> AlMgSiPb, <b>3.1325</b> AlCuMg1, <b>3.3245</b> AlMg3Si, <b>3.4365</b> AlZnMgCu1,5	≤450		<input type="radio"/>
Magnesium alloys	<b>3.2131</b> G-AlSi5Cu1, <b>3.2153</b> G-AlSi7Cu3, <b>3.2573</b> G-AlSi9	≤450		<input type="radio"/>
Copper, low-alloyed	<b>3.2581</b> G-AlSi12, <b>3.2583</b> G-AlSi12Cu, - G-AlSi12CuNiMg	≤450		<input type="radio"/>
Brass, short-chipping	<b>3.5200</b> MgMn2, <b>3.5812.05</b> G-MgAl8Zn1, <b>3.5612.05</b> G-MgAl6Zn1	≤450		<input type="radio"/>
long-chipping	<b>2.0070</b> SE-Cu, <b>2.1020</b> CuSn6, <b>2.1096</b> G-CuSn5ZnPb	≤400		<input type="radio"/>
Bronze, short-chipping	<b>2.0380</b> CuZn39Pb2, <b>2.0401</b> CuZn39Pb3, <b>2.0410</b> CuZn43Pb2	≤600 ≤600		<input type="radio"/>
long-chipping	<b>2.0250</b> CuZn20, <b>2.0280</b> CuZn33, <b>2.0332</b> CuZn37Pb0,5	≤600 >600-850		<input type="radio"/>
Bronze, long-chipping	<b>2.1090</b> CuSn7ZnPb, <b>2.1170</b> CuPb5Sn5, <b>2.1176</b> CuPb10Sn	≤600 >600-850		<input type="radio"/>
Aluminum and Al-alloys	<b>2.0790</b> CuNi18Zn19Pb	≤850 >850-1000		<input type="radio"/>
Al cast alloys ≤ 10 % Si	<b>2.0916</b> CuAl5, <b>2.0960</b> CuAl9Mn, <b>2.1050</b> CuSn10	≤850 >850-1000		<input type="radio"/>
> 10 % Si	<b>2.0980</b> CuAl11Ni, <b>2.1247</b> CuBe2	≤850 >850-1000		<input type="radio"/>