

## **NX-Drills**

A modern „universal“ drill

Chip – by Chip – to the Top

# NX - the „new universal“ drill

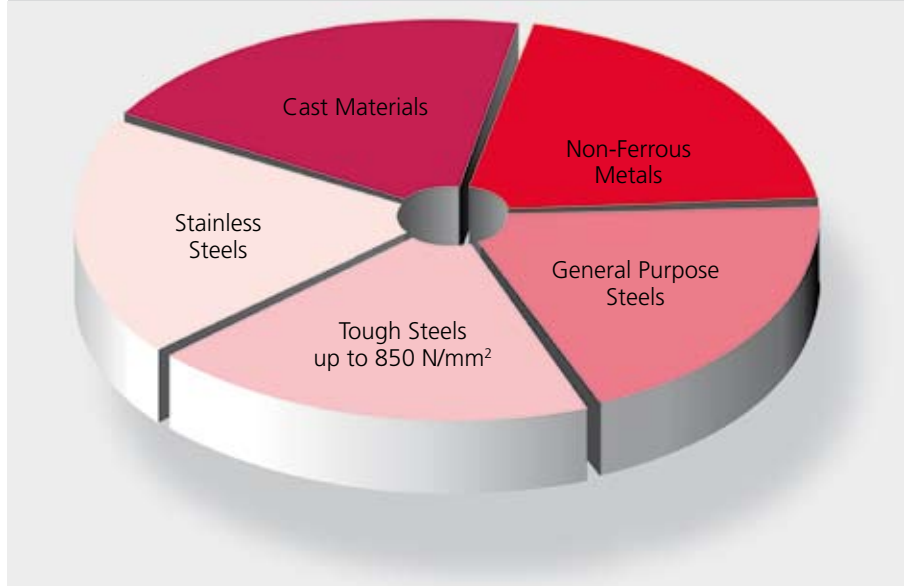
For all low to medium tensile strength materials Stock offers now a universal twist drill. The NX-drill is highly suited to a very broad range of applications.

The NX-drill is recommended for

- non-ferrous metals,
- construction and carbon steels,
- high-alloyed steels,
- tool steels,
- cast and cast alloys,
- magnesium alloys,
- plastics and
- aluminium

The NX-drill reduces confusing one drill type for the other and enables users to reduce their inventory, thus allowing for greater economy.

**Application Range of NX-Drills: universal in a broad range of materials**



A modified secondary relief cone combined with a special self-centering web thinning let the NX-drill run smoothly at minimum required feed forces. This in turn results in a greater bore accuracy. Additional the NX-drill has a rounded flute form allowing improved chip removal. The TiN-coating increases the tool life and reduces cutting edge build-up.

See for yourself how universally applicable the Stock NX is!

	Catalog no.		Catalog no.
	71221		71220
	61221		61220
	61121		61120
<b>STOCK-Std. / Dimensions to</b>	<b>DIN 338</b>		<b>DIN 1897</b>
<b>Tool material</b>	<b>HSS-Co</b>		<b>HSS-Co</b>
<b>Surface finish</b>	<b>bright/TiN</b>		<b>bright/TiN</b>
<b>Drilling depth</b>	<b>5 x D</b>		<b>3 x D</b>
<b>Point angle</b>	<b>118°</b>		<b>118°</b>
<b>Ø-Tolerance</b>	<b>h8</b>		<b>h8</b>
<b>Shank</b>	<b>Reinforced shank to DIN 1835 A (form B on request) or straight shank (DZ)</b>		

**NEW: The Stock NX set in metal case**

The Stock NX set includes a composition of 24 drills, catalog no. 71221, from diameter 1.0 to 10.5 mm in increments of 0.5 mm and supplementary the tapping hole sizes 3.3/4.2/6.8/10.2 mm.



	Catalog no.
	<b>78879</b>
<b>Std./Dimensions to</b>	<b>DIN 338</b>
<b>Tool material</b>	<b>HSS-Co</b>
<b>Surface finish</b>	<b>bright</b>
<b>Drilling depth</b>	<b>5 x D</b>
<b>Point angle</b>	<b>118°</b>
<b>Ø-Tolerance</b>	<b>h8</b>
<b>Shank</b>	<b>DZ</b>

# Application Recommendations NX-Drills

Feed column										
Code-letter	A	B	C	D	E	F	G	H	I	
drill-Ø mm	<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
	<b>40.00</b>	0.200	0.250	0.315	0.400	0.500	0.630	0.800	1.000	1.250
<b>50.00</b>	0.250	0.310	0.400	0.500	0.630	0.800	1.000	1.250	1.250	
<b>63.00</b>	0.315	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600	
<b>80.00</b>	0.400	0.500	0.630	0.800	1.000	1.250	1.600	1.600	2.000	

NX-Drills with feed rate code **in bold** are the preferred choices for the respective material group.

Catalog No.

Cutting Material  
DIN/Norm

**71220**  
**61220**  
**61120**

HSS-Co  
DIN 1897

**71221**  
**61221**  
**61121**

HSS-Co  
DIN 338



### Coolants & Lubricants:

- Cutting oil, highly activated (surface active)
- Soluble oil (emulsion)
- None

Material Group	Material Group Example Codes in bold = material to DIN EN	Tensile str. N/mm <sup>2</sup>	Hard- ness	Cool- ant
Common structural steels	<b>1.0035</b> S185(S133), <b>1.0486</b> P275N(S1E285), <b>1.0345</b> P235GH(H1), <b>1.0425</b> <b>1.0050</b> E295 (S50-2), <b>1.0070</b> E360 (S170-2), <b>1.8937</b> P500NH	≤500 >500-850		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Unalloyed temper 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		<input checked="" type="checkbox"/>
Alloyed temper 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		<input checked="" type="checkbox"/>
Unalloyed case hard. steels	<b>1.0301</b> (C10), <b>1.1121</b> C10E (Ck10)	≤750		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Nitrided steels	<b>1.8504</b> 34CrAl6 <b>1.8519</b> 31CrMoV9, <b>1.8550</b> 34CrAlNi7	≥850-≤1000 >1000-1200		<input checked="" type="checkbox"/>
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>	≤850 >850-1000		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Spring steels	<b>1.5026</b> 55Si7, <b>1.7176</b> 55Cr3, <b>1.8159</b> 51CrV4 (51CrV4)	≤330 HB		<input checked="" type="checkbox"/>
Stainless steels, sulphured , austenitic , martensitic	<b>1.4005</b> X12CrS13, <b>1.4104</b> X14CrMoS17, <b>1.4105</b> X6CrMoS17, <b>1.4305</b> <b>1.4301</b> X5CrNi18-10, <b>1.4541</b> X6CrNiTi18-10, <b>1.4571</b> <b>1.4057</b> X20CrNi17.2 (X17CrNi16-2), <b>1.4122</b> X39CrMo17-1, <b>1.4521</b>	≤850 ≤850 ≤850		<input checked="" type="checkbox"/>
Hardened steels	-	≤40-48 HRC >48-60 HRC		<input checked="" type="checkbox"/>
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Chilled cast iron	-	≤350 HB		<input checked="" type="checkbox"/>
Titanium 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>3.7164</b> TiAl6V4, <b>3.7184</b> TiAl4Mo4Sn2.5,	≤850 >850-1200		<input checked="" type="checkbox"/>
Aluminium and Al-alloys	<b>3.0255</b> Al99.5, <b>3.2315</b> AlMgSi1, <b>3.3515</b> AlMg1	≤400		<input checked="" type="checkbox"/>
Al-wrought alloys	<b>3.0615</b> AlMgSiPb, <b>3.1325</b> AlCuMg1, <b>3.3245</b> AlMg3Si, <b>3.4365</b>	≤450		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Magnesium alloys > 10 % Si	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤450		<input type="checkbox"/>
Copper, low alloyed	<b>2.0070</b> SE-Cu, <b>2.1020</b> CuSn6, <b>2.1096</b> G-CuSn5ZnPb	≤400		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
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		<input checked="" type="checkbox"/>
Bronze, long chipping	<b>2.0916</b> CuAl15, <b>2.0960</b> CuAl9Mn, <b>2.1050</b> CuSn10 <b>2.0980</b> CuAl11Ni, <b>2.1247</b> CuBe2	≤850 >850-1000		<input checked="" type="checkbox"/>
Duroplastics	Bakelit, Resopal, Pertinax, Moltopren	-		<input type="checkbox"/>
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon	-		<input checked="" type="checkbox"/>
Kevlar	Kevlar	-		<input type="checkbox"/>
Glass/carbon-plastics	GFK/CFK	-		<input type="checkbox"/>

bright	TiN		Feed Rate Code	bright	TiN		Feed Rate Code
	v <sub>c</sub> m/mn	v <sub>c</sub> m/mn			v <sub>c</sub> m/mn	v <sub>c</sub> m/mn	
35	45	F	35	45	F		
30	35	E	30	35	E		
45	50	F	45	50	F		
35	40	F	35	40	F		
35	42	F	35	42	F		
30	35	F	30	35	F		
20	22	E	20	22	E		
20	18	D	20	18	D		
15	15	C	15	15	C		
30	40	F	30	40	F		
15	20	D	15	20	D		
15	15	C	15	15	C		
15	18	D	15	18	D		
15	12	C	15	12	C		
20	18	D	20	18	D		
10	13	C	10	13	C		
10	13	C	10	13	C		
20	18	D	20	18	D		
15	12	D	15	12	D		
15	15	D	15	15	D		
35	45	F	35	45	F		
30	36	F	30	36	F		
30	40	F	30	40	F		
25	28	F	25	28	F		
50	70	G	50	70	G		
50	70	G	50	70	G		
65	85	G	65	89	G		
60	70	F	60	70	F		
60	70	F	60	70	F		
25	32	E	25	32	E		
45	63	E	45	63	E		
30	40	E	30	40	E		
35	50	D	35	50	D		
25	35	D	25	35	D		
30	32	D	30	32	D		
25	28	D	25	28	D		
20	25	D	20	25	D		
20	15	D	20	15	D		



## **Our Program**

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