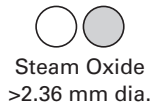


5xD



External Coolant



Straight Shank

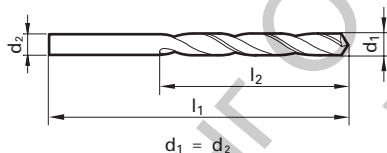
Speeds & Feeds
information pg 345

Series 305

General Purpose

Cobalt, general purpose (Type N), jobber length, 118° point, Form A
web thinned >2.36mm dia., standard straight shank, RH helix

Cut / Shank Dia. = h8 tolerance range



Application Materials:



Universal Steels



Hardened Materials



Cast Iron

Diameter (d1)			mm	l1 mm	l2 mm
Dec. inch	Fract. inch	Wire / letter			
0.0079		92	0.200	19.00	2.50
0.0083		91	0.210	19.00	2.50
0.0087		90	0.220	19.00	2.50
0.0091		89	0.230	19.00	2.50
0.0098		87	0.250	19.00	3.00
0.0102			0.260	19.00	3.00
0.0106		86	0.270	19.00	3.00
0.0110		85	0.280	19.00	3.00
0.0118			0.300	19.00	3.00
0.0122		83	0.310	19.00	4.00
0.0126		82	0.320	19.00	4.00
0.0130		81	0.330	19.00	4.00
0.0134		80	0.340	19.00	4.00
0.0138			0.350	19.00	4.00
0.0146		79	0.370	19.00	4.00
0.0150			0.380	19.00	4.00
0.0157	1/64		0.400	20.00	5.00
0.0161		78	0.410	20.00	5.00
0.0165			0.420	20.00	5.00
0.0169			0.430	20.00	5.00
0.0173			0.440	20.00	5.00
0.0177			0.450	20.00	5.00
0.0181		77	0.460	20.00	5.00
0.0185			0.470	20.00	5.00
0.0189			0.480	20.00	5.00

Diameter (d1)			mm	l1 mm	l2 mm
Dec. inch	Fract. inch	Wire / letter			
0.0193			0.490	22.00	6.00
0.0197			0.500	22.00	6.00
0.0201		76	0.510	22.00	6.00
0.0205			0.520	22.00	6.00
0.0209		75	0.530	22.00	6.00
0.0213			0.540	24.00	7.00
0.0217			0.550	24.00	7.00
0.0220			0.560	24.00	7.00
0.0224		74	0.570	24.00	7.00
0.0232			0.590	24.00	7.00
0.0236			0.600	24.00	7.00
0.0240		73	0.610	26.00	8.00
0.0244			0.620	26.00	8.00
0.0252		72	0.640	26.00	8.00
0.0256			0.650	26.00	8.00
0.0260		71	0.660	26.00	8.00
0.0264			0.670	26.00	8.00
0.0268			0.680	28.00	9.00
0.0276			0.700	28.00	9.00
0.0280		70	0.710	28.00	9.00
0.0283			0.720	28.00	9.00
0.0291		69	0.740	28.00	9.00
0.0295			0.750	28.00	9.00
0.0299			0.760	30.00	10.00
0.0303			0.770	30.00	10.00

Diameter (d1)			mm	l1 mm	l2 mm
Dec. inch	Fract. inch	Wire / letter			
0.0307			0.780	30.00	10.00
0.0311	1/32	68	0.790	30.00	10.00
0.0315			0.800	30.00	10.00
0.0319		67	0.810	30.00	10.00
0.0323			0.820	30.00	10.00
0.0331		66	0.840	30.00	10.00
0.0335			0.850	30.00	10.00
0.0339			0.860	32.00	11.00
0.0343			0.870	32.00	11.00
0.0346			0.880	32.00	11.00
0.0350		65	0.890	32.00	11.00
0.0354			0.900	32.00	11.00
0.0358		64	0.910	32.00	11.00
0.0362			0.920	32.00	11.00
0.0370		63	0.940	32.00	11.00
0.0374			0.950	32.00	11.00
0.0378			0.960	34.00	12.00
0.0382		62	0.970	34.00	12.00
0.0390		61	0.990	34.00	12.00
0.0394			1.000	34.00	12.00
0.0398			1.010	34.00	12.00
0.0402		60	1.020	34.00	12.00
0.0406			1.030	34.00	12.00
0.0409		59	1.040	34.00	12.00
0.0413			1.050	34.00	12.00

Series 305

Speeds & Feeds information pg 345

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.0421		58	1.070	36.00	14.00
0.0425			1.080	36.00	14.00
0.0429		57	1.090	36.00	14.00
0.0433			1.100	36.00	14.00
0.0449			1.140	36.00	14.00
0.0453			1.150	36.00	14.00
0.0457			1.160	36.00	14.00
0.0461			1.170	36.00	14.00
0.0465		56	1.180	36.00	14.00
0.0469	3/64		1.190	38.00	16.00
0.0472			1.200	38.00	16.00
0.0480			1.220	38.00	16.00
0.0484			1.230	38.00	16.00
0.0492			1.250	38.00	16.00
0.0508			1.290	38.00	16.00
0.0512			1.300	38.00	16.00
0.0520		55	1.320	38.00	16.00
0.0524			1.330	40.00	18.00
0.0531			1.350	40.00	18.00
0.0535			1.360	40.00	18.00
0.0539			1.370	40.00	18.00
0.0543			1.380	40.00	18.00
0.0551		54	1.400	40.00	18.00
0.0555			1.410	40.00	18.00
0.0559			1.420	40.00	18.00
0.0563			1.430	40.00	18.00
0.0567			1.440	40.00	18.00
0.0571			1.450	40.00	18.00
0.0583			1.480	40.00	18.00
0.0591			1.500	40.00	18.00
0.0594		53	1.510	43.00	20.00
0.0598			1.520	43.00	20.00
0.0602			1.530	43.00	20.00
0.0610			1.550	43.00	20.00
0.0614			1.560	43.00	20.00
0.0618			1.570	43.00	20.00
0.0622			1.580	43.00	20.00
0.0626	1/16		1.590	43.00	20.00
0.0630			1.600	43.00	20.00
0.0634		52	1.610	43.00	20.00
0.0638			1.620	43.00	20.00
0.0646			1.640	43.00	20.00
0.0650			1.650	43.00	20.00
0.0654			1.660	43.00	20.00
0.0657			1.670	43.00	20.00
0.0661			1.680	43.00	20.00
0.0669		51	1.700	43.00	20.00
0.0673			1.710	46.00	22.00
0.0677			1.720	46.00	22.00
0.0681			1.730	46.00	22.00
0.0689			1.750	46.00	22.00
0.0693			1.760	46.00	22.00
0.0701		50	1.780	46.00	22.00
0.0705			1.790	46.00	22.00
0.0709			1.800	46.00	22.00
0.0713			1.810	46.00	22.00
0.0717			1.820	46.00	22.00
0.0720			1.830	46.00	22.00
0.0724			1.840	46.00	22.00
0.0728		49	1.850	46.00	22.00
0.0732			1.860	46.00	22.00
0.0748			1.900	46.00	22.00
0.0760		48	1.930	49.00	24.00
0.0768			1.950	49.00	24.00
0.0776			1.970	49.00	24.00
0.0780	5/64		1.980	49.00	24.00
0.0783		47	1.990	49.00	24.00

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.0787			2.000	49.00	24.00
0.0791			2.010	49.00	24.00
0.0795			2.020	49.00	24.00
0.0799			2.030	49.00	24.00
0.0803			2.040	49.00	24.00
0.0807			2.050	49.00	24.00
0.0811		46	2.060	49.00	24.00
0.0819		45	2.080	49.00	24.00
0.0827			2.100	49.00	24.00
0.0846			2.150	53.00	27.00
0.0858		44	2.180	53.00	27.00
0.0866			2.200	53.00	27.00
0.0878			2.230	53.00	27.00
0.0886			2.250	53.00	27.00
0.0890		43	2.260	53.00	27.00
0.0906			2.300	53.00	27.00
0.0925			2.350	53.00	27.00
0.0933		42	2.370	57.00	30.00
0.0937	3/32		2.380	57.00	30.00
0.0945			2.400	57.00	30.00
0.0961		41	2.440	57.00	30.00
0.0965			2.450	57.00	30.00
0.0972			2.470	57.00	30.00
0.0980		40	2.490	57.00	30.00
0.0984			2.500	57.00	30.00
0.0992			2.520	57.00	30.00
0.0996		39	2.530	57.00	30.00
0.1004			2.550	57.00	30.00
0.1016		38	2.580	57.00	30.00
0.1024			2.600	57.00	30.00
0.1039		37	2.640	57.00	30.00
0.1043			2.650	57.00	30.00
0.1063			2.700	61.00	33.00
0.1067		36	2.710	61.00	33.00
0.1083			2.750	61.00	33.00
0.1094	7/64		2.780	61.00	33.00
0.1098		35	2.790	61.00	33.00
0.1102			2.800	61.00	33.00
0.1110		34	2.820	61.00	33.00
0.1122			2.850	61.00	33.00
0.1130		33	2.870	61.00	33.00
0.1142			2.900	61.00	33.00
0.1150			2.920	61.00	33.00
0.1161		32	2.950	61.00	33.00
0.1169			2.970	61.00	33.00
0.1181			3.000	61.00	33.00
0.1193			3.030	65.00	36.00
0.1201		31	3.050	65.00	36.00
0.1220			3.100	65.00	36.00
0.1240			3.150	65.00	36.00
0.1248	1/8		3.170	65.00	36.00
0.1260			3.200	65.00	36.00
0.1280			3.250	65.00	36.00
0.1283		30	3.260	65.00	36.00
0.1299			3.300	65.00	36.00
0.1311			3.330	65.00	36.00
0.1319			3.350	65.00	36.00
0.1339			3.400	70.00	39.00
0.1358		29	3.450	70.00	39.00
0.1378			3.500	70.00	39.00
0.1406	9/64	28	3.570	70.00	39.00
0.1417			3.600	70.00	39.00
0.1441		27	3.660	70.00	39.00
0.1457			3.700	70.00	39.00
0.1469		26	3.730	70.00	39.00
0.1476			3.750	70.00	39.00
0.1496		25	3.800	75.00	43.00

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.1516			3.850	75.00	43.00
0.1520		24	3.860	75.00	43.00
0.1535			3.900	75.00	43.00
0.1539		23	3.910	75.00	43.00
0.1563	5/32		3.970	75.00	43.00
0.1571		22	3.990	75.00	43.00
0.1575			4.000	75.00	43.00
0.1591		21	4.040	75.00	43.00
0.1610		20	4.090	75.00	43.00
0.1614			4.100	75.00	43.00
0.1622			4.120	75.00	43.00
0.1634			4.150	75.00	43.00
0.1642			4.170	75.00	43.00
0.1654			4.200	75.00	43.00
0.1661		19	4.220	75.00	43.00
0.1673			4.250	75.00	43.00
0.1693		18	4.300	80.00	47.00
0.1720	11/64		4.370	80.00	47.00
0.1728		17	4.390	80.00	47.00
0.1732			4.400	80.00	47.00
0.1752			4.450	80.00	47.00
0.1772		16	4.500	80.00	47.00
0.1799		15	4.570	80.00	47.00
0.1811			4.600	80.00	47.00
0.1819		14	4.620	80.00	47.00
0.1831			4.650	80.00	47.00
0.1850		13	4.700	80.00	47.00
0.1870			4.750	80.00	47.00
0.1874	3/16		4.760	86.00	52.00
0.1890		12	4.800	86.00	52.00
0.1909		11	4.850	86.00	52.00
0.1929			4.900	86.00	52.00
0.1937		10	4.920	86.00	52.00
0.1961		9	4.980	86.00	52.00
0.1969			5.000	86.00	52.00
0.1992		8	5.060	86.00	52.00
0.2008			5.100	86.00	52.00
0.2012		7	5.110	86.00	52.00
0.2031	13/64		5.160	86.00	52.00
0.2039		6	5.180	86.00	52.00
0.2047			5.200	86.00	52.00
0.2055		5	5.220	86.00	52.00
0.2067			5.250	86.00	52.00
0.2087			5.300	86.00	52.00
0.2091		4	5.310	93.00	57.00
0.2126			5.400	93.00	57.00
0.2130		3	5.410	93.00	57.00
0.2165			5.500	93.00	57.00
0.2189	7/32		5.560	93.00	57.00
0.2205			5.600	93.00	57.00
0.2209		2	5.610	93.00	57.00
0.2224			5.650	93.00	57.00
0.2244			5.700	93.00	57.00
0.2264			5.750	93.00	57.00
0.2280		1	5.790	93.00	57.00
0.2283			5.800	93.00	57.00
0.2303			5.850	93.00	57.00
0.2323			5.900	93.00	57.00
0.2339		A	5.940	93.00	57.00
0.2343	15/64		5.950	93.00	57.00
0.2362			6.000	93.00	57.00
0.2378		B	6.040	101.00	63.00
0.2402			6.100	101.00	63.00
0.2421		C	6.150	101.00	63.00
0.2441			6.200	101.00	63.00
0.2461		D	6.250	101.00	63.00
0.2480			6.300	101.00	63.00

Series 305

Speeds & Feeds information pg 345

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.2500	1/4	E	6.350	101.00	63.00
0.2520			6.400	101.00	63.00
0.2539			6.450	101.00	63.00
0.2559			6.500	101.00	63.00
0.2571		F	6.530	101.00	63.00
0.2598			6.600	101.00	63.00
0.2610		G	6.630	101.00	63.00
0.2638			6.700	101.00	63.00
0.2657	17/64	H	6.750	109.00	69.00
0.2677			6.800	109.00	69.00
0.2717		I	6.900	109.00	69.00
0.2736			6.950	109.00	69.00
0.2756			7.000	109.00	69.00
0.2768		J	7.030	109.00	69.00
0.2776			7.050	109.00	69.00
0.2795			7.100	109.00	69.00
0.2811	9/32	K	7.140	109.00	69.00
0.2835			7.200	109.00	69.00
0.2854			7.250	109.00	69.00
0.2874			7.300	109.00	69.00
0.2902		L	7.370	109.00	69.00
0.2913			7.400	109.00	69.00
0.2949		M	7.490	109.00	69.00
0.2953			7.500	109.00	69.00
0.2969	19/64		7.540	117.00	75.00
0.2992			7.600	117.00	75.00
0.3020		N	7.670	117.00	75.00
0.3031			7.700	117.00	75.00
0.3051			7.750	117.00	75.00
0.3071			7.800	117.00	75.00
0.3110			7.900	117.00	75.00
0.3126	5/16		7.940	117.00	75.00
0.3150			8.000	117.00	75.00
0.3161		O	8.030	117.00	75.00
0.3189			8.100	117.00	75.00
0.3228		P	8.200	117.00	75.00
0.3248			8.250	117.00	75.00
0.3268			8.300	117.00	75.00
0.3280	21/64		8.330	117.00	75.00
0.3307			8.400	117.00	75.00
0.3319		Q	8.430	117.00	75.00
0.3346			8.500	117.00	75.00
0.3386			8.600	125.00	81.00
0.3390		R	8.610	125.00	81.00
0.3425			8.700	125.00	81.00
0.3437	11/32		8.730	125.00	81.00
0.3445			8.750	125.00	81.00
0.3465			8.800	125.00	81.00
0.3480		S	8.840	125.00	81.00
0.3504			8.900	125.00	81.00
0.3543			9.000	125.00	81.00

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.3579		T	9.090	125.00	81.00
0.3583			9.100	125.00	81.00
0.3594	23/64		9.130	125.00	81.00
0.3622			9.200	125.00	81.00
0.3642			9.250	125.00	81.00
0.3661			9.300	125.00	81.00
0.3677		U	9.340	125.00	81.00
0.3701			9.400	125.00	81.00
0.3740			9.500	125.00	81.00
0.3748	3/8		9.520	133.00	87.00
0.3772		V	9.580	133.00	87.00
0.3780			9.600	133.00	87.00
0.3799			9.650	133.00	87.00
0.3819			9.700	133.00	87.00
0.3839			9.750	133.00	87.00
0.3858		W	9.800	133.00	87.00
0.3878			9.850	133.00	87.00
0.3898			9.900	133.00	87.00
0.3906	25/64		9.920	133.00	87.00
0.3937			10.000	133.00	87.00
0.3969		X	10.080	133.00	87.00
0.3976			10.100	133.00	87.00
0.4016			10.200	133.00	87.00
0.4039		Y	10.260	133.00	87.00
0.4055			10.300	133.00	87.00
0.4063	13/32		10.320	133.00	87.00
0.4094			10.400	133.00	87.00
0.4130		Z	10.490	133.00	87.00
0.4134			10.500	133.00	87.00
0.4173			10.600	133.00	87.00
0.4213			10.700	142.00	94.00
0.4220	27/64		10.720	142.00	94.00
0.4232			10.750	142.00	94.00
0.4252			10.800	142.00	94.00
0.4291			10.900	142.00	94.00
0.4331			11.000	142.00	94.00
0.4374	7/16		11.110	142.00	94.00
0.4409			11.200	142.00	94.00
0.4429			11.250	142.00	94.00
0.4449			11.300	142.00	94.00
0.4488			11.400	142.00	94.00
0.4528			11.500	142.00	94.00
0.4531	29/64		11.510	142.00	94.00
0.4567			11.600	142.00	94.00
0.4626			11.750	142.00	94.00
0.4646			11.800	142.00	94.00
0.4685			11.900	151.00	101.00
0.4689	15/32		11.910	151.00	101.00
0.4724			12.000	151.00	101.00
0.4764			12.100	151.00	101.00
0.4803			12.200	151.00	101.00

Diameter (d1)					
Dec. inch	Fract. inch	Wire / letter	mm	I1 mm	I2 mm
0.4843	31/64		12.300	151.00	101.00
0.4882			12.400	151.00	101.00
0.4921			12.500	151.00	101.00
0.4961			12.600	151.00	101.00
0.5000	1/2		12.700	151.00	101.00
0.5039			12.800	151.00	101.00
0.5079			12.900	151.00	101.00
0.5118			13.000	151.00	101.00
0.5157	33/64		13.100	151.00	101.00
0.5197			13.200	151.00	101.00
0.5236			13.300	160.00	108.00
0.5311	17/32		13.490	160.00	108.00
0.5315			13.500	160.00	108.00
0.5354			13.600	160.00	108.00
0.5413			13.750	160.00	108.00
0.5433			13.800	160.00	108.00
0.5469	35/64		13.890	160.00	108.00
0.5512			14.000	160.00	108.00
0.5591			14.200	169.00	114.00
0.5626	9/16		14.290	169.00	114.00
0.5669			14.400	169.00	114.00
0.5709			14.500	169.00	114.00
0.5780	37/64		14.680	169.00	114.00
0.5807			14.750	169.00	114.00
0.5906			15.000	169.00	114.00
0.5945			15.100	178.00	120.00
0.6004			15.250	178.00	120.00
0.6024			15.300	178.00	120.00
0.6094	39/64		15.480	178.00	120.00
0.6102			15.500	178.00	120.00
0.6201			15.750	178.00	120.00
0.6248	5/8		15.870	178.00	120.00
0.6299			16.000	178.00	120.00
0.6496			16.500	184.00	125.00
0.6563	21/32		16.670	184.00	125.00
0.6693			17.000	184.00	125.00
0.6874	11/16		17.460	191.00	130.00
0.6890			17.500	191.00	130.00
0.7087			18.000	191.00	130.00
0.7283			18.500	198.00	135.00
0.7480			19.000	198.00	135.00
0.7677			19.500	205.00	140.00
0.7811	25/32		19.840	205.00	140.00
0.7874			20.000	205.00	140.00

Alternative Drill Series:

#651 HSS, GP, 5xD, 118 pt, TiN
 #605 Cobalt, GU500, 5xD, 118 pt, Bright
 #5519 Cobalt, GU500, 5xD, 118 pt, TiN
 #732 Carbide, GP, 5xD, 130 pt, Bright