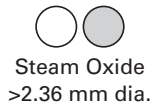


# 5xD



External Coolant



Straight Shank

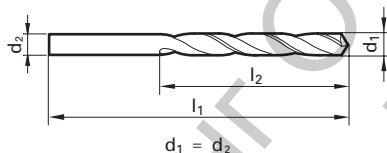
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## Series 305

### 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<br>mm | l2<br>mm |
|---------------|----------------|------------------|-------|----------|----------|
| Dec.<br>inch  | Fract.<br>inch | Wire /<br>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<br>mm | l2<br>mm |
|---------------|----------------|------------------|-------|----------|----------|
| Dec.<br>inch  | Fract.<br>inch | Wire /<br>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<br>mm | l2<br>mm |
|---------------|----------------|------------------|-------|----------|----------|
| Dec.<br>inch  | Fract.<br>inch | Wire /<br>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    |

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| 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 |

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| 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