

# Pictorial Index - Drills

## HIGH PERFORMANCE DRILLS



**D.25-26**

BLACKMAMBA - The Coolant Fed Drills  
2 Flute - 5XD - 30° Helix - 140° Point Angle



**D.27-28**

BLACKMAMBA - The Coolant Fed Drills  
2 Flute - 5XD - 30° Helix - 140° Point Angle  
- Metric



**D.29-31**

BLACKMAMBA - The Coolant Fed Drills  
2 Flute - 8XD - 30° Helix - 140° Point Angle



**D.45**

Drills Set  
- 2 Flute 30° Helix & 142° Point Angle

## GENERAL PURPOSE DRILLS



**D.01-08**

Jobber Length Drills  
- 118° Point Angle



**D.09-11**

Jobber Length Drills - DIN 338  
- 118° Point Angle



**D.12-16**

Slow Spiral Drills  
- 135° Point Angle



**D.17-21**

Straight Flute Drills  
- 140° Point Angle



**D.22-24**

3 Fluted Drills  
- 150° Point Angle - 20° Helix



**D.32**

Spade Drills  
- 118° Point Angle



**D.33**

N/C Spotting Drills  
- 90° & 120° Point Angle



**D.34-35**

Combined Drills & Countersink  
- 60° & 80° & 90° Plain Type



**D.36-37**

Countersinks  
- 60°, 80°, 90° & 100°  
- Single & 6 Flute



**D.39-46**

Chucking Reamers

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

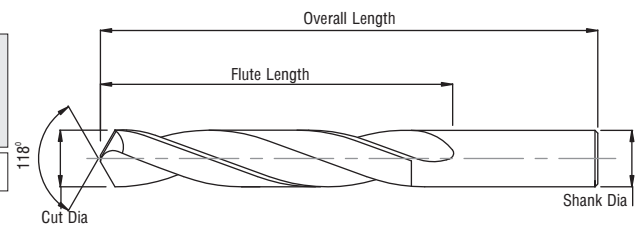
- Manufactured from premium sub micron grain carbide.
- Precision Ground Carbide Drills are designed for high feed rate & good chip evacuation.
- 118° Four Facet point angle. Right hand cut -Right hand spiral.



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            |             |                |                        |                 | ●         |          |

● Excellent ○ Good



## Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | 80               | 0.34        | 0.0135         | 3/16"        | 1-1/4"         | 30020    | \$ 16.60   | 30021        | \$ 19.95   |
| ---       | 79               | 0.37        | 0.0145         | 3/16"        | 1-1/4"         | 30022    | 16.60      | 30023        | 19.95      |
| 1/64"     | ---              | 0.40        | 0.0156         | 3/16"        | 1-1/4"         | 30018    | 16.60      | 30019        | 19.95      |
| ---       | 78               | 0.41        | 0.0160         | 3/16"        | 1-1/4"         | 30024    | 16.60      | 30025        | 19.95      |
| ---       | 77               | 0.46        | 0.0180         | 3/16"        | 1-1/4"         | 30026    | 16.60      | 30028        | 19.95      |
| ---       | 76               | 0.51        | 0.0200         | 1/4"         | 1-1/4"         | 30030    | 16.00      | 30032        | 19.35      |
| ---       | 75               | 0.53        | 0.0210         | 1/4"         | 1-1/4"         | 30034    | 16.00      | 30036        | 19.35      |
| ---       | 74               | 0.57        | 0.0225         | 1/4"         | 1-1/4"         | 30038    | 16.00      | 30040        | 19.35      |
| ---       | 73               | 0.61        | 0.0240         | 1/4"         | 1-1/4"         | 30042    | 16.00      | 30044        | 19.35      |
| ---       | 72               | 0.64        | 0.0250         | 5/16"        | 1-1/4"         | 30046    | 14.00      | 30048        | 17.35      |
| ---       | 71               | 0.66        | 0.0260         | 5/16"        | 1-1/4"         | 30050    | 14.00      | 30052        | 17.35      |
| ---       | 70               | 0.71        | 0.0280         | 5/16"        | 1-1/4"         | 30054    | 14.00      | 30056        | 17.35      |
| ---       | 69               | 0.74        | 0.0292         | 5/16"        | 1-1/4"         | 30058    | 14.00      | 30060        | 17.35      |
| ---       | 68               | 0.79        | 0.0310         | 5/16"        | 1-1/4"         | 30062    | 12.50      | 30063        | 15.85      |
| 1/32"     | ---              | 0.80        | 0.0312         | 5/16"        | 1-1/4"         | 30066    | 12.50      | 30068        | 15.85      |
| ---       | ---              | 0.80        | 0.3150         | 12mm         | 31mm           | 30067    | 12.50      | 30069        | 15.85      |
| ---       | 67               | 0.81        | 0.0320         | 5/16"        | 1-1/4"         | 30064    | 12.50      | 30065        | 15.85      |
| ---       | 66               | 0.84        | 0.0330         | 5/16"        | 1-1/4"         | 30074    | 12.50      | 30076        | 15.85      |
| ---       | 65               | 0.89        | 0.0350         | 5/8"         | 1-3/8"         | 30078    | 12.50      | 30080        | 15.85      |
| ---       | ---              | 0.90        | 0.0354         | 16mm         | 35mm           | 30081    | 12.50      | 30083        | 15.85      |
| ---       | 64               | 0.91        | 0.0360         | 5/8"         | 1-3/8"         | 30082    | 12.50      | 30084        | 15.85      |
| ---       | 63               | 0.94        | 0.0370         | 5/8"         | 1-3/8"         | 30086    | 12.50      | 30088        | 15.85      |
| ---       | 62               | 0.97        | 0.0380         | 5/8"         | 1-3/8"         | 30090    | 11.90      | 30092        | 15.25      |
| ---       | 61               | 0.99        | 0.0390         | 5/8"         | 1-3/8"         | 30094    | 11.90      | 30096        | 15.25      |
| ---       | ---              | 1.00        | 0.0393         | 16mm         | 38mm           | 30098    | 11.90      | 30100        | 15.25      |
| ---       | 60               | 1.02        | 0.0400         | 3/4"         | 1-1/2"         | 30102    | 10.90      | 30104        | 14.25      |

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# Drills

Micro Grain Solid Carbide

## Jobber Length Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | 59               | 1.04        | 0.0410         | 3/4"         | 1-1/2"         | 30106    | \$ 10.90   | 30108        | \$ 14.25   |
| ---       | 58               | 1.07        | 0.0420         | 3/4"         | 1-1/2"         | 30110    | 10.90      | 30112        | 14.25      |
| ---       | 57               | 1.09        | 0.0430         | 3/4"         | 1-1/2"         | 30114    | 10.90      | 30116        | 14.25      |
| ---       | ---              | 1.10        | 0.0433         | 19mm         | 38mm           | 30118    | 10.90      | 30120        | 14.25      |
| ---       | 56               | 1.18        | 0.0465         | 3/4"         | 1-1/2"         | 30122    | 10.90      | 30123        | 14.25      |
| 3/64"     | ---              | 1.19        | 0.0469         | 3/4"         | 1-1/2"         | 30126    | 10.90      | 30128        | 14.25      |
| ---       | ---              | 1.20        | 0.0472         | 19mm         | 38mm           | 30130    | 10.90      | 30131        | 14.25      |
| ---       | ---              | 1.25        | 0.0492         | 19mm         | 38mm           | 30132    | 10.90      | 30133        | 14.25      |
| ---       | ---              | 1.30        | 0.0512         | 19mm         | 38mm           | 30134    | 10.90      | 30136        | 14.25      |
| ---       | 55               | 1.32        | 0.0520         | 3/4"         | 1-1/2"         | 30138    | 10.90      | 30139        | 14.25      |
| ---       | 54               | 1.40        | 0.0550         | 3/4"         | 1-1/2"         | 30142    | 10.90      | 30143        | 14.25      |
| ---       | ---              | 1.40        | 0.0551         | 19mm         | 38mm           | 30146    | 10.90      | 30147        | 14.25      |
| ---       | ---              | 1.45        | 0.0571         | 19mm         | 38mm           | 30148    | 11.90      | 30149        | 15.25      |
| ---       | ---              | 1.50        | 0.0591         | 19mm         | 38mm           | 30150    | 11.90      | 30152        | 15.25      |
| ---       | 53               | 1.51        | 0.0595         | 3/4"         | 1-1/2"         | 30154    | 10.90      | 30155        | 14.25      |
| 1/16"     | ---              | 1.59        | 0.0625         | 3/4"         | 1-1/2"         | 30158    | 10.90      | 30159        | 14.25      |
| ---       | ---              | 1.60        | 0.0630         | 19mm         | 38mm           | 30162    | 10.90      | 30164        | 14.25      |
| ---       | 52               | 1.61        | 0.0635         | 3/4"         | 1-1/2"         | 30166    | 10.50      | 30167        | 13.85      |
| ---       | ---              | 1.70        | 0.0669         | 19mm         | 38mm           | 30170    | 10.50      | 30172        | 13.85      |
| ---       | 51               | 1.70        | 0.0670         | 3/4"         | 1-1/2"         | 30174    | 10.50      | 30175        | 13.85      |
| ---       | 50               | 1.78        | 0.0700         | 7/8"         | 1-3/4"         | 30178    | 10.50      | 30179        | 13.85      |
| ---       | ---              | 1.80        | 0.0709         | 22mm         | 44mm           | 30182    | 10.50      | 30184        | 13.85      |
| ---       | 49               | 1.85        | 0.0730         | 7/8"         | 1-3/4"         | 30186    | 10.50      | 30187        | 13.85      |
| ---       | ---              | 1.90        | 0.0748         | 22mm         | 44mm           | 30190    | 10.50      | 30192        | 13.85      |
| ---       | 48               | 1.93        | 0.0760         | 7/8"         | 1-3/4"         | 30194    | 10.90      | 30195        | 14.25      |
| 5/64"     | ---              | 1.98        | 0.0781         | 7/8"         | 1-3/4"         | 30198    | 10.90      | 30199        | 14.25      |
| ---       | 47               | 1.99        | 0.0785         | 7/8"         | 1-3/4"         | 30202    | 10.90      | 30203        | 14.25      |
| ---       | ---              | 2.00        | 0.0787         | 22mm         | 44mm           | 30206    | 10.90      | 30208        | 14.25      |
| ---       | ---              | 2.05        | 0.0807         | 22mm         | 44mm           | 30209    | 10.90      | 30212        | 14.25      |
| ---       | 46               | 2.06        | 0.0810         | 7/8"         | 1-3/4"         | 30210    | 10.90      | 30211        | 14.25      |
| ---       | 45               | 2.08        | 0.0820         | 7/8"         | 1-3/4"         | 30214    | 10.90      | 30215        | 14.25      |
| ---       | ---              | 2.10        | 0.0827         | 22mm         | 44mm           | 30218    | 10.90      | 30220        | 14.25      |
| ---       | 44               | 2.18        | 0.0860         | 1"           | 2"             | 30222    | 11.50      | 30223        | 14.85      |
| ---       | ---              | 2.20        | 0.0866         | 25mm         | 50mm           | 30226    | 11.50      | 30228        | 14.85      |
| ---       | 43               | 2.26        | 0.0890         | 1"           | 2"             | 30230    | 11.50      | 30231        | 14.85      |
| ---       | ---              | 2.30        | 0.0906         | 25mm         | 50mm           | 30234    | 11.50      | 30236        | 14.85      |
| ---       | 42               | 2.37        | 0.0935         | 1"           | 2"             | 30238    | 11.50      | 30239        | 14.85      |
| 3/32"     | ---              | 2.38        | 0.0938         | 1"           | 2"             | 30242    | 11.90      | 30243        | 15.25      |

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General Drills

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | ---              | 2.40        | 0.0945         | 25mm         | 50mm           | 30246    | \$ 11.90   | 30248        | \$ 15.25   |
| ---       | 41               | 2.44        | 0.0960         | 1"           | 2"             | 30250    | 11.90      | 30251        | 15.25      |
| ---       | 40               | 2.49        | 0.0980         | 1"           | 2"             | 30254    | 11.90      | 30255        | 15.25      |
| ---       | ---              | 2.50        | 0.0984         | 25mm         | 50mm           | 30258    | 13.25      | 30260        | 16.60      |
| ---       | 39               | 2.53        | 0.0995         | 1-1/4"       | 2-1/4"         | 30262    | 12.70      | 30263        | 16.05      |
| ---       | 38               | 2.58        | 0.1015         | 1-1/4"       | 2-1/4"         | 30266    | 12.70      | 30267        | 16.05      |
| ---       | ---              | 2.60        | 0.1024         | 32mm         | 57mm           | 30270    | 12.70      | 30272        | 16.05      |
| ---       | 37               | 2.64        | 0.1040         | 1-1/4"       | 2-1/4"         | 30274    | 13.00      | 30275        | 16.35      |
| ---       | ---              | 2.70        | 0.1063         | 32mm         | 57mm           | 30278    | 13.00      | 30280        | 16.35      |
| ---       | 36               | 2.71        | 0.1065         | 1-1/4"       | 2-1/4"         | 30282    | 12.50      | 30283        | 15.85      |
| 7/64"     | ---              | 2.78        | 0.1094         | 1-1/4"       | 2-1/4"         | 30286    | 12.50      | 30287        | 15.85      |
| ---       | 35               | 2.79        | 0.1100         | 1-1/4"       | 2-1/4"         | 30290    | 12.50      | 30291        | 15.85      |
| ---       | ---              | 2.80        | 0.1102         | 32mm         | 57mm           | 30294    | 12.50      | 30296        | 15.85      |
| ---       | 34               | 2.82        | 0.1110         | 1-1/4"       | 2-1/4"         | 30298    | 12.90      | 30299        | 16.25      |
| ---       | 33               | 2.87        | 0.1130         | 1-1/4"       | 2-1/4"         | 30302    | 12.90      | 30303        | 16.25      |
| ---       | ---              | 2.90        | 0.1142         | 32mm         | 57mm           | 30306    | 12.90      | 30308        | 16.25      |
| ---       | 32               | 2.95        | 0.1160         | 1-1/4"       | 2-1/4"         | 30310    | 12.90      | 30311        | 16.25      |
| ---       | ---              | 3.00        | 0.1181         | 32mm         | 57mm           | 30314    | 13.90      | 30316        | 17.25      |
| ---       | 31               | 3.05        | 0.1200         | 1-1/4"       | 2-1/4"         | 30318    | 12.90      | 30319        | 16.25      |
| ---       | ---              | 3.10        | 0.1220         | 32mm         | 57mm           | 30322    | 12.90      | 30324        | 16.25      |
| 1/8"      | ---              | 3.18        | 0.1250         | 1-1/4"       | 2-1/4"         | 30326    | 12.90      | 30329        | 16.25      |
| ---       | ---              | 3.20        | 0.1260         | 32mm         | 57mm           | 30330    | 12.80      | 30332        | 17.60      |
| ---       | 30               | 3.26        | 0.1285         | 1-1/4"       | 2-1/4"         | 30334    | 12.80      | 30335        | 17.60      |
| ---       | ---              | 3.30        | 0.1299         | 32mm         | 57mm           | 30338    | 12.80      | 30340        | 17.60      |
| ---       | ---              | 3.40        | 0.1339         | 35mm         | 63mm           | 30342    | 12.80      | 30344        | 17.60      |
| ---       | 29               | 3.45        | 0.1360         | 1-3/8"       | 2-1/2"         | 30346    | 12.80      | 30347        | 17.60      |
| ---       | ---              | 3.50        | 0.1378         | 35mm         | 63mm           | 30350    | 12.80      | 30352        | 17.60      |
| ---       | 28               | 3.57        | 0.1405         | 1-3/8"       | 2-1/2"         | 30354    | 13.00      | 30355        | 18.30      |
| 9/64"     | ---              | 3.57        | 0.1406         | 1-3/8"       | 2-1/2"         | 30358    | 13.20      | 30359        | 18.50      |
| ---       | ---              | 3.60        | 0.1417         | 35mm         | 63mm           | 30362    | 13.20      | 30364        | 18.50      |
| ---       | 27               | 3.66        | 0.1440         | 1-3/8"       | 2-1/2"         | 30366    | 13.20      | 30367        | 18.50      |
| ---       | ---              | 3.70        | 0.1457         | 35mm         | 63mm           | 30370    | 13.20      | 30372        | 18.50      |
| ---       | 26               | 3.73        | 0.1470         | 1-3/8"       | 2-1/2"         | 30374    | 13.40      | 30375        | 18.70      |
| ---       | 25               | 3.80        | 0.1495         | 1-3/8"       | 2-1/2"         | 30378    | 13.40      | 30379        | 18.70      |
| ---       | ---              | 3.80        | 0.1496         | 35mm         | 63mm           | 30382    | 13.40      | 30384        | 18.70      |
| ---       | 24               | 3.86        | 0.1520         | 1-3/8"       | 2-1/2"         | 30386    | 13.40      | 30387        | 18.70      |
| ---       | ---              | 3.90        | 0.1535         | 35mm         | 63mm           | 30390    | 13.90      | 30392        | 19.20      |
| ---       | 23               | 3.91        | 0.1540         | 1-3/8"       | 2-1/2"         | 30394    | 13.90      | 30395        | 19.20      |

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# Drills

Micro Grain Solid Carbide

## Jobber Length Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 5/32"     | ---              | 3.97        | 0.1562         | 1-3/8"       | 2-1/2"         | 30398    | \$ 14.20   | 30399        | \$ 19.50   |
| ---       | 22               | 3.99        | 0.1570         | 1-3/8"       | 2-1/2"         | 30402    | 14.60      | 30403        | 19.90      |
| ---       | ---              | 4.00        | 0.1575         | 35mm         | 63mm           | 30406    | 15.40      | 30408        | 20.70      |
| ---       | 21               | 4.04        | 0.1590         | 1-3/8"       | 2-1/2"         | 30410    | 14.70      | 30411        | 20.00      |
| ---       | 20               | 4.09        | 0.1610         | 1-3/8"       | 2-1/2"         | 30414    | 14.80      | 30415        | 20.10      |
| ---       | ---              | 4.10        | 0.1614         | 35mm         | 63mm           | 30418    | 15.00      | 30420        | 20.30      |
| ---       | ---              | 4.20        | 0.1654         | 41mm         | 70mm           | 30422    | 15.00      | 30424        | 20.30      |
| ---       | 19               | 4.22        | 0.1660         | 1-5/8"       | 2-3/4"         | 30426    | 15.00      | 30427        | 20.30      |
| ---       | ---              | 4.30        | 0.1693         | 41mm         | 70mm           | 30430    | 15.10      | 30432        | 21.20      |
| ---       | 18               | 4.31        | 0.1695         | 1-5/8"       | 2-3/4"         | 30434    | 15.10      | 30435        | 20.40      |
| 11/64"    | ---              | 4.37        | 0.1719         | 1-5/8"       | 2-3/4"         | 30438    | 16.00      | 30439        | 21.30      |
| ---       | 17               | 4.39        | 0.1730         | 1-5/8"       | 2-3/4"         | 30442    | 16.00      | 30443        | 21.30      |
| ---       | ---              | 4.40        | 0.1732         | 41mm         | 70mm           | 30446    | 16.20      | 30448        | 22.30      |
| ---       | 16               | 4.50        | 0.1770         | 1-5/8"       | 2-3/4"         | 30450    | 16.20      | 30451        | 21.50      |
| ---       | ---              | 4.50        | 0.1772         | 41mm         | 70mm           | 30454    | 18.60      | 30456        | 24.70      |
| ---       | 15               | 4.57        | 0.1800         | 1-5/8"       | 2-3/4"         | 30458    | 16.40      | 30459        | 21.70      |
| ---       | ---              | 4.60        | 0.1811         | 41mm         | 70mm           | 30462    | 16.60      | 30464        | 22.70      |
| ---       | 14               | 4.62        | 0.1820         | 1-5/8"       | 2-3/4"         | 30466    | 16.60      | 30467        | 21.90      |
| ---       | ---              | 4.70        | 0.1850         | 41mm         | 70mm           | 30470    | 17.10      | 30472        | 23.20      |
| ---       | 13               | 4.70        | 0.1850         | 1-5/8"       | 2-3/4"         | 30474    | 16.70      | 30475        | 22.00      |
| 3/16"     | ---              | 4.76        | 0.1875         | 1-5/8"       | 2-3/4"         | 30478    | 16.00      | 30480        | 21.30      |
| ---       | ---              | 4.80        | 0.1890         | 41mm         | 70mm           | 30482    | 17.00      | 30484        | 25.10      |
| ---       | 12               | 4.80        | 0.1890         | 1-5/8"       | 2-3/4"         | 30486    | 17.10      | 30487        | 25.20      |
| ---       | 11               | 4.85        | 0.1910         | 1-5/8"       | 2-3/4"         | 30490    | 17.40      | 30491        | 25.50      |
| ---       | ---              | 4.90        | 0.1929         | 41mm         | 70mm           | 30494    | 18.70      | 30496        | 26.80      |
| ---       | 10               | 4.91        | 0.1935         | 1-5/8"       | 2-3/4"         | 30498    | 19.00      | 30499        | 27.10      |
| ---       | 9                | 4.98        | 0.1960         | 1-3/4"       | 3"             | 30502    | 19.00      | 30503        | 27.10      |
| ---       | ---              | 5.00        | 0.1968         | 44mm         | 75mm           | 30506    | 20.00      | 30508        | 28.10      |
| ---       | 8                | 5.05        | 0.1990         | 1-3/4"       | 3"             | 30510    | 19.00      | 30511        | 26.80      |
| ---       | ---              | 5.10        | 0.2008         | 44mm         | 75mm           | 30514    | 20.00      | 30516        | 28.10      |
| ---       | 7                | 5.11        | 0.2010         | 1-3/4"       | 3"             | 30518    | 18.70      | 30519        | 26.80      |
| 13/64"    | ---              | 5.16        | 0.2031         | 1-3/4"       | 3"             | 30522    | 19.90      | 30523        | 28.00      |
| ---       | 6                | 5.18        | 0.2040         | 1-3/4"       | 3"             | 30526    | 19.00      | 30527        | 27.10      |
| ---       | ---              | 5.20        | 0.2047         | 44mm         | 75mm           | 30530    | 24.00      | 30532        | 32.10      |
| ---       | 5                | 5.22        | 0.2055         | 1-3/4"       | 3"             | 30534    | 19.20      | 30535        | 27.30      |
| ---       | ---              | 5.30        | 0.2087         | 44mm         | 75mm           | 30538    | 24.00      | 30540        | 32.10      |
| ---       | 4                | 5.31        | 0.2090         | 1-3/4"       | 3"             | 30542    | 20.20      | 30543        | 28.30      |
| ---       | ---              | 5.40        | 0.2126         | 44mm         | 75mm           | 30546    | 24.00      | 30548        | 32.10      |

Continued...

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | 3                | 5.41        | 0.2130         | 1-3/4"       | 3"             | 30550    | \$ 20.60   | 30551        | \$ 28.70   |
| ---       | ---              | 5.50        | 0.2165         | 44mm         | 75mm           | 30554    | 24.00      | 30556        | 32.10      |
| 7/32"     | ---              | 5.55        | 0.2187         | 1-3/4"       | 3"             | 30558    | 21.10      | 30559        | 29.20      |
| ---       | ---              | 5.60        | 0.2205         | 44mm         | 75mm           | 30562    | 25.40      | 30564        | 33.50      |
| ---       | 2                | 5.61        | 0.2210         | 1-3/4"       | 3"             | 30566    | 21.50      | 30567        | 29.60      |
| ---       | ---              | 5.70        | 0.2244         | 44mm         | 75mm           | 30570    | 25.40      | 30572        | 33.50      |
| ---       | 1                | 5.79        | 0.2280         | 1-3/4"       | 3"             | 30574    | 21.80      | 30575        | 29.90      |
| ---       | ---              | 5.80        | 0.2283         | 50mm         | 82mm           | 30578    | 25.40      | 30580        | 33.50      |
| ---       | ---              | 5.90        | 0.2323         | 50mm         | 82mm           | 30582    | 25.40      | 30584        | 33.50      |
| ---       | A                | 5.94        | 0.2340         | 2"           | 3-1/4"         | 30590    | 24.60      | 30591        | 32.70      |
| 15/64"    | ---              | 5.95        | 0.2344         | 2"           | 3-1/4"         | 30594    | 24.00      | 30595        | 32.10      |
| ---       | ---              | 6.00        | 0.2362         | 50mm         | 82mm           | 30598    | 25.40      | 30600        | 33.50      |
| ---       | B                | 6.04        | 0.2380         | 2"           | 3-1/4"         | 30602    | 26.30      | 30603        | 34.40      |
| ---       | ---              | 6.10        | 0.2402         | 50mm         | 82mm           | 30606    | 32.00      | 30608        | 40.10      |
| ---       | C                | 6.15        | 0.2420         | 2"           | 3-1/4"         | 30610    | 26.40      | 30611        | 34.50      |
| ---       | ---              | 6.20        | 0.2441         | 50mm         | 82mm           | 30614    | 32.00      | 30616        | 40.10      |
| ---       | D                | 6.25        | 0.2460         | 2"           | 3-1/4"         | 30618    | 26.70      | 30619        | 34.80      |
| ---       | ---              | 6.30        | 0.2480         | 50mm         | 82mm           | 30622    | 32.00      | 30624        | 40.10      |
| 1/4"      | E                | 6.35        | 0.2500         | 2"           | 3-1/4"         | 30626    | 26.00      | 30628        | 34.10      |
| ---       | ---              | 6.40        | 0.2520         | 50mm         | 82mm           | 30630    | 32.00      | 30632        | 45.40      |
| ---       | ---              | 6.50        | 0.2559         | 50mm         | 82mm           | 30634    | 34.70      | 30636        | 48.10      |
| ---       | F                | 6.53        | 0.2570         | 2"           | 3-1/4"         | 30638    | 34.70      | 30639        | 48.10      |
| ---       | ---              | 6.60        | 0.2598         | 50mm         | 82mm           | 30642    | 34.70      | 30644        | 48.10      |
| ---       | G                | 6.63        | 0.2610         | 2-1/8"       | 3-1/2"         | 30646    | 35.20      | 30647        | 48.60      |
| ---       | ---              | 6.70        | 0.2638         | 54mm         | 89mm           | 30650    | 36.00      | 30652        | 49.40      |
| 17/64"    | ---              | 6.75        | 0.2656         | 2-1/8"       | 3-1/2"         | 30654    | 32.00      | 30655        | 45.40      |
| ---       | H                | 6.76        | 0.2660         | 2-1/8"       | 3-1/2"         | 30658    | 37.40      | 30659        | 50.80      |
| ---       | ---              | 6.80        | 0.2677         | 54mm         | 89mm           | 30662    | 37.40      | 30664        | 53.60      |
| ---       | ---              | 6.90        | 0.2717         | 54mm         | 89mm           | 30666    | 37.40      | 30668        | 53.60      |
| ---       | I                | 6.91        | 0.2720         | 2-1/8"       | 3-1/2"         | 30670    | 37.40      | 30671        | 50.80      |
| ---       | ---              | 7.00        | 0.2756         | 54mm         | 89mm           | 30674    | 38.70      | 30676        | 54.90      |
| ---       | J                | 7.04        | 0.2770         | 2-1/8"       | 3-1/2"         | 30678    | 34.70      | 30679        | 48.10      |
| ---       | ---              | 7.10        | 0.2795         | 54mm         | 89mm           | 30682    | 36.00      | 30684        | 52.30      |
| ---       | K                | 7.14        | 0.2810         | 2-1/8"       | 3-1/2"         | 30686    | 37.40      | 30687        | 50.80      |
| 9/32"     | ---              | 7.14        | 0.2812         | 2-1/8"       | 3-1/2"         | 30690    | 34.70      | 30691        | 48.10      |
| ---       | ---              | 7.20        | 0.2835         | 54mm         | 89mm           | 30694    | 36.00      | 30695        | 52.30      |
| ---       | ---              | 7.25        | 0.2854         | 54mm         | 89mm           | 30696    | 36.00      | 30697        | 52.30      |
| ---       | ---              | 7.30        | 0.2874         | 54mm         | 89mm           | 30698    | 36.00      | 30700        | 52.30      |

Continued...

# Drills

Micro Grain Solid Carbide

## Jobber Length Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | L                | 7.37        | 0.2900         | 2-1/8"       | 3-1/2"         | 30702    | \$ 36.00   | 30703        | \$ 52.30   |
| ---       | ---              | 7.40        | 0.2913         | 54mm         | 89mm           | 30706    | 36.00      | 30708        | 52.30      |
| ---       | M                | 7.49        | 0.2950         | 2-3/8"       | 3-3/4"         | 30710    | 38.70      | 30711        | 52.75      |
| ---       | ---              | 7.50        | 0.2953         | 60mm         | 95mm           | 30714    | 38.70      | 30716        | 52.75      |
| 19/64"    | ---              | 7.54        | 0.2969         | 2-3/8"       | 3-3/4"         | 30718    | 38.70      | 30719        | 52.75      |
| ---       | ---              | 7.60        | 0.2992         | 60mm         | 95mm           | 30722    | 42.70      | 30724        | 58.90      |
| ---       | N                | 7.67        | 0.3020         | 2-3/8"       | 3-3/4"         | 30726    | 42.70      | 30727        | 58.90      |
| ---       | ---              | 7.70        | 0.3031         | 60mm         | 95mm           | 30730    | 42.70      | 30732        | 58.90      |
| ---       | ---              | 7.80        | 0.3071         | 60mm         | 95mm           | 30734    | 42.70      | 30736        | 58.90      |
| ---       | ---              | 7.90        | 0.3110         | 60mm         | 95mm           | 30738    | 42.70      | 30740        | 58.90      |
| 5/16"     | ---              | 7.94        | 0.3125         | 2-3/8"       | 3-3/4"         | 30742    | 37.10      | 30744        | 50.50      |
| ---       | ---              | 8.00        | 0.3150         | 60mm         | 95mm           | 30746    | 42.70      | 30748        | 58.90      |
| ---       | O                | 8.03        | 0.3160         | 2-3/8"       | 3-3/4"         | 30750    | 42.70      | 30751        | 58.90      |
| ---       | ---              | 8.10        | 0.3189         | 60mm         | 95mm           | 30754    | 42.70      | 30756        | 58.90      |
| ---       | ---              | 8.20        | 0.3228         | 60mm         | 95mm           | 30758    | 42.70      | 30760        | 58.90      |
| ---       | P                | 8.21        | 0.3230         | 2-3/8"       | 3-3/4"         | 30762    | 40.30      | 30763        | 53.70      |
| ---       | ---              | 8.30        | 0.3268         | 60mm         | 95mm           | 30766    | 44.00      | 30768        | 60.30      |
| 21/64"    | ---              | 8.33        | 0.3281         | 2-1/2"       | 4"             | 30770    | 40.70      | 30771        | 54.10      |
| ---       | ---              | 8.40        | 0.3307         | 63mm         | 100mm          | 30774    | 44.00      | 30776        | 60.30      |
| ---       | Q                | 8.43        | 0.3320         | 2-1/2"       | 4"             | 30778    | 44.00      | 30779        | 60.30      |
| ---       | ---              | 8.50        | 0.3346         | 63mm         | 100mm          | 30782    | 48.00      | 30784        | 64.30      |
| ---       | ---              | 8.60        | 0.3386         | 63mm         | 100mm          | 30786    | 48.00      | 30788        | 64.30      |
| ---       | R                | 8.61        | 0.3390         | 2-1/2"       | 4"             | 30790    | 46.70      | 30791        | 60.10      |
| ---       | ---              | 8.70        | 0.3425         | 63mm         | 100mm          | 30794    | 48.00      | 30796        | 64.30      |
| 11/32"    | ---              | 8.73        | 0.3438         | 2-1/2"       | 4"             | 30798    | 48.00      | 30799        | 64.30      |
| ---       | ---              | 8.80        | 0.3465         | 63mm         | 100mm          | 30802    | 56.00      | 30804        | 72.30      |
| ---       | S                | 8.84        | 0.3480         | 2-1/2"       | 4"             | 30806    | 56.00      | 30807        | 72.30      |
| ---       | ---              | 8.90        | 0.3504         | 63mm         | 100mm          | 30810    | 56.00      | 30812        | 72.30      |
| ---       | ---              | 9.00        | 0.3543         | 70mm         | 100mm          | 30814    | 56.00      | 30816        | 72.30      |
| ---       | T                | 9.09        | 0.3580         | 2-3/4"       | 4-1/4"         | 30818    | 51.40      | 30819        | 64.80      |
| ---       | ---              | 9.10        | 0.3583         | 70mm         | 108mm          | 30822    | 56.00      | 30824        | 72.30      |
| 23/64"    | ---              | 9.13        | 0.3594         | 2-3/4"       | 4-1/4"         | 30826    | 51.10      | 30827        | 67.30      |
| ---       | ---              | 9.20        | 0.3622         | 70mm         | 108mm          | 30830    | 56.00      | 30832        | 72.30      |
| ---       | ---              | 9.30        | 0.3661         | 70mm         | 108mm          | 30834    | 56.00      | 30836        | 72.30      |
| ---       | U                | 9.35        | 0.3680         | 2-3/4"       | 4-1/4"         | 30838    | 53.40      | 30839        | 69.60      |
| ---       | ---              | 9.40        | 0.3701         | 70mm         | 108mm          | 30842    | 56.00      | 30844        | 72.30      |
| ---       | ---              | 9.50        | 0.3740         | 70mm         | 108mm          | 30846    | 53.90      | 30848        | 70.10      |
| 3/8"      | ---              | 9.53        | 0.3750         | 2-3/4"       | 4-1/4"         | 30850    | 56.00      | 30851        | 72.30      |

Continued...



## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | V                | 9.58        | 0.3770         | 2-3/4"       | 4-1/4"         | 30854    | \$ 57.40   | 30855        | \$ 77.70   |
| ---       | ---              | 9.60        | 0.3780         | 70mm         | 108mm          | 30858    | 72.00      | 30860        | 95.60      |
| ---       | ---              | 9.70        | 0.3819         | 70mm         | 108mm          | 30862    | 72.00      | 30864        | 95.60      |
| ---       | ---              | 9.80        | 0.3858         | 70mm         | 108mm          | 30866    | 72.00      | 30868        | 95.60      |
| ---       | W                | 9.81        | 0.3860         | 2-7/8"       | 4-1/2"         | 30870    | 58.70      | 30871        | 79.00      |
| ---       | ---              | 9.90        | 0.3898         | 73mm         | 114mm          | 30874    | 72.00      | 30876        | 95.60      |
| 25/64"    | ---              | 9.92        | 0.3906         | 2-7/8"       | 4-1/2"         | 30878    | 62.40      | 30879        | 82.70      |
| ---       | ---              | 10.00       | 0.3937         | 73mm         | 114mm          | 30882    | 72.00      | 30884        | 95.60      |
| ---       | X                | 10.08       | 0.3970         | 2-7/8"       | 4-1/2"         | 30886    | 69.00      | 30887        | 89.30      |
| ---       | ---              | 10.20       | 0.4016         | 73mm         | 114mm          | 30894    | 80.00      | 30896        | 103.60     |
| ---       | Y                | 10.26       | 0.4040         | 2-7/8"       | 4-1/2"         | 30898    | 69.20      | 30899        | 89.50      |
| ---       | ---              | 10.30       | 0.4055         | 73mm         | 114mm          | 30900    | 69.20      | 30902        | 89.50      |
| 13/32"    | ---              | 10.32       | 0.4062         | 2-7/8"       | 4-1/2"         | 30906    | 69.40      | 30907        | 89.70      |
| ---       | Z                | 10.49       | 0.4130         | 2-7/8"       | 4-1/2"         | 30914    | 70.00      | 30915        | 90.30      |
| ---       | ---              | 10.50       | 0.4134         | 73mm         | 114mm          | 30918    | 80.00      | 30920        | 103.60     |
| 27/64"    | ---              | 10.72       | 0.4219         | 2-7/8"       | 4-1/2"         | 30930    | 74.70      | 30931        | 95.00      |
| ---       | ---              | 10.75       | 0.4232         | 73mm         | 114mm          | 30936    | 100.00     | 30937        | 111.60     |
| ---       | ---              | 11.00       | 0.4331         | 73mm         | 114mm          | 30942    | 88.00      | 30944        | 111.60     |
| 7/16"     | ---              | 11.11       | 0.4375         | 2-7/8"       | 4-1/2"         | 30950    | 80.00      | 30952        | 100.30     |
| ---       | ---              | 11.25       | 0.4429         | 76mm         | 120mm          | 30962    | 105.25     | 30963        | 128.50     |
| ---       | ---              | 11.50       | 0.4528         | 76mm         | 120mm          | 30966    | 96.00      | 30968        | 119.60     |
| 29/64"    | ---              | 11.51       | 0.4531         | 3"           | 4-3/4"         | 30970    | 86.20      | 30971        | 106.50     |
| 15/32"    | ---              | 11.91       | 0.4688         | 3"           | 4-3/4"         | 30990    | 90.40      | 30991        | 110.70     |
| ---       | ---              | 12.00       | 0.4724         | 76mm         | 120mm          | 30994    | 96.00      | 30996        | 119.60     |
| 31/64"    | ---              | 12.30       | 0.4844         | 3"           | 4-3/4"         | 31010    | 104.00     | 31011        | 127.60     |
| ---       | ---              | 12.50       | 0.4920         | 76mm         | 120mm          | 31014    | 104.00     | 31016        | 127.60     |
| 1/2"      | ---              | 12.70       | 0.5000         | 3"           | 4-3/4"         | 31026    | 106.70     | 31028        | 129.30     |
| ---       | ---              | 12.90       | 0.5079         | 76mm         | 120mm          | 31029    | 137.68     | 31033        | 159.98     |
| ---       | ---              | 13.00       | 0.5118         | 76mm         | 120mm          | 31030    | 180.00     | 31031        | 202.40     |
| 17/32"    | ---              | 13.49       | 0.5313         | 4"           | 6"             | 31036    | 194.29     | 31032        | 221.09     |
| ---       | ---              | 13.50       | 0.5315         | 76mm         | 120mm          | 31041    | 194.29     | 31044        | 221.09     |
| ---       | ---              | 14.00       | 0.5512         | 76mm         | 120mm          | 31052    | 196.99     | 31056        | 227.89     |
| 9/16"     | ---              | 14.29       | 0.5625         | 4"           | 6"             | 31034    | 191.51     | 31035        | 218.31     |
| ---       | ---              | 14.50       | 0.5709         | 100mm        | 150mm          | 31059    | 201.68     | 31060        | 232.48     |
| ---       | ---              | 15.00       | 0.5906         | 100mm        | 150mm          | 31062    | 210.61     | 31063        | 253.21     |
| 19/32"    | ---              | 15.08       | 0.5937         | 4"           | 6"             | 31038    | 210.61     | 31039        | 253.21     |
| ---       | ---              | 15.50       | 0.6102         | 100mm        | 150mm          | 31065    | 210.61     | 31098        | 253.21     |
| 5/8"      | ---              | 15.88       | 0.6250         | 4"           | 6"             | 31042    | 210.61     | 31043        | 253.21     |

Continued...



# Drills

Micro Grain Solid Carbide

## Jobber Length Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

#### Features :

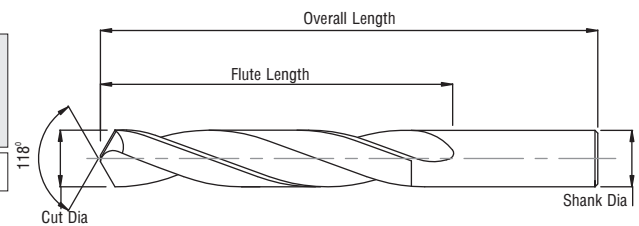
- Manufactured from premium sub micron grain carbide.
- Precision Ground Carbide Drills are designed for high feed rate & good chip evacuation.
- 118° Four Facet point angle. Right hand cut -Right hand spiral.



#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            |             |                |                        |                 | ●         |          |

● Excellent ○ Good



### Regular Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| ---       | ---              | 16.00       | 0.6299         | 100mm        | 150mm          | 31071    | \$ 210.61  | 31072        | \$ 253.21  |
| ---       | ---              | 16.50       | 0.6496         | 100mm        | 150mm          | 31080    | 210.61     | 31081        | 253.21     |
| 21/32"    | ---              | 16.67       | 0.6562         | 4"           | 6"             | 31046    | 210.61     | 31047        | 253.21     |
| ---       | ---              | 17.00       | 0.6693         | 100mm        | 150mm          | 31083    | 210.61     | 31084        | 253.21     |
| 11/16"    | ---              | 17.46       | 0.6875         | 4"           | 6"             | 31050    | 256.00     | 31051        | 298.40     |
| ---       | ---              | 17.50       | 0.6890         | 100mm        | 150mm          | 31086    | 255.99     | 31087        | 297.50     |
| ---       | ---              | 18.00       | 0.7087         | 100mm        | 150mm          | 31089    | 257.18     | 31090        | 299.78     |
| 23/32"    | ---              | 18.25       | 0.7187         | 4"           | 6"             | 31054    | 257.18     | 31055        | 299.78     |
| ---       | ---              | 18.50       | 0.7283         | 100mm        | 150mm          | 31092    | 257.18     | 31093        | 299.78     |
| ---       | ---              | 19.00       | 0.7480         | 100mm        | 150mm          | 31095    | 257.18     | 31096        | 299.78     |
| 3/4"      | ---              | 19.05       | 0.7500         | 4"           | 6"             | 31066    | 308.31     | 31099        | 338.71     |
| 25/32"    | ---              | 19.87       | 0.7812         | 4"           | 6"             | 31067    | 385.00     | 31068        | 423.39     |
| ---       | ---              | 20.00       | 0.7874         | 100mm        | 150mm          | 31101    | 385.00     | 31102        | 423.39     |
| 7/8"      | ---              | 22.22       | 0.8750         | 4"           | 6"             | 31104    | 385.00     | 31105        | 423.39     |
| 1"        | ---              | 25.40       | 1.0000         | 4"           | 6"             | 31074    | 450.00     | 31075        | 529.23     |

# Jobber Length Drills

## Drills

Micro Grain Solid Carbide

### Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### DIN 338

| Drill Dia. | Description  |                | Uncoated |            | TiAlN Coated |            |
|------------|--------------|----------------|----------|------------|--------------|------------|
|            | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 0.80       | 10           | 30             | 51000    | \$ 12.50   | 58000        | \$ 15.85   |
| 1.00       | 12           | 34             | 51002    | 11.90      | 58002        | 15.25      |
| 1.10       | 14           | 36             | 51004    | 10.90      | 58004        | 14.25      |
| 1.20       | 16           | 38             | 51006    | 10.90      | 58006        | 14.25      |
| 1.30       | 16           | 38             | 51008    | 10.90      | 58008        | 14.25      |
| 1.40       | 18           | 40             | 51010    | 11.03      | 58010        | 14.54      |
| 1.50       | 18           | 40             | 51012    | 12.50      | 58012        | 16.01      |
| 1.60       | 20           | 43             | 51014    | 12.21      | 58014        | 15.96      |
| 1.70       | 20           | 43             | 51016    | 11.76      | 58016        | 15.51      |
| 1.80       | 22           | 46             | 51018    | 10.92      | 58018        | 14.40      |
| 1.90       | 22           | 46             | 51020    | 10.92      | 58020        | 14.40      |
| 2.00       | 24           | 49             | 51022    | 13.09      | 58022        | 15.68      |
| 2.10       | 24           | 49             | 51024    | 11.99      | 58024        | 15.68      |
| 2.20       | 27           | 53             | 51026    | 12.19      | 58026        | 15.74      |
| 2.30       | 27           | 53             | 51028    | 12.19      | 58028        | 15.74      |
| 2.40       | 30           | 57             | 51030    | 13.33      | 58030        | 17.08      |
| 2.50       | 30           | 57             | 51032    | 14.84      | 58032        | 18.59      |
| 2.60       | 30           | 57             | 51034    | 12.70      | 58034        | 16.05      |
| 2.70       | 33           | 61             | 51036    | 13.91      | 58036        | 17.49      |
| 2.80       | 33           | 61             | 51038    | 13.38      | 58038        | 16.96      |
| 2.90       | 33           | 61             | 51040    | 13.80      | 58040        | 17.39      |
| 3.00       | 33           | 61             | 51042    | 14.87      | 58042        | 18.46      |
| 3.10       | 36           | 65             | 51044    | 14.45      | 58044        | 18.20      |
| 3.20       | 36           | 65             | 51046    | 12.77      | 58046        | 18.70      |
| 3.30       | 36           | 65             | 51048    | 13.74      | 58048        | 19.71      |
| 3.40       | 39           | 70             | 51050    | 15.23      | 58050        | 21.54      |
| 3.50       | 39           | 70             | 51052    | 13.86      | 58052        | 19.69      |
| 3.60       | 39           | 70             | 51054    | 14.52      | 58054        | 20.35      |
| 3.70       | 39           | 70             | 51056    | 14.52      | 58056        | 20.35      |
| 3.80       | 43           | 75             | 51058    | 15.54      | 58058        | 21.69      |
| 3.90       | 43           | 75             | 51060    | 16.12      | 58060        | 22.27      |
| 4.00       | 43           | 75             | 51062    | 17.86      | 58062        | 24.01      |
| 4.10       | 43           | 75             | 51064    | 17.40      | 58064        | 23.55      |
| 4.20       | 43           | 75             | 51066    | 16.05      | 58066        | 21.72      |
| 4.30       | 47           | 80             | 51068    | 17.06      | 58068        | 23.96      |
| 4.40       | 47           | 80             | 51070    | 18.31      | 58070        | 25.20      |
| 4.50       | 47           | 80             | 51072    | 21.02      | 58072        | 27.91      |
| 4.60       | 47           | 80             | 51074    | 18.76      | 58074        | 25.65      |

Continued...

# Drills

Micro Grain Solid Carbide

## Jobber Length Drills

### Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### DIN 338

| Drill Dia. | Description  |                | Uncoated |            | TiAlN Coated |            |
|------------|--------------|----------------|----------|------------|--------------|------------|
|            | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 4.70       | 47           | 80             | 51076    | \$ 19.32   | 58076        | \$ 26.22   |
| 4.80       | 52           | 86             | 51078    | 20.23      | 58078        | 29.87      |
| 4.90       | 52           | 86             | 51080    | 22.25      | 58080        | 31.89      |
| 5.00       | 52           | 86             | 51082    | 22.60      | 58082        | 31.75      |
| 5.10       | 52           | 86             | 51084    | 22.60      | 58084        | 31.75      |
| 5.20       | 52           | 86             | 51086    | 27.12      | 58086        | 36.27      |
| 5.30       | 52           | 86             | 51088    | 27.12      | 58088        | 36.27      |
| 5.40       | 57           | 93             | 51090    | 28.56      | 58090        | 38.20      |
| 5.50       | 57           | 93             | 51092    | 28.56      | 58092        | 38.20      |
| 5.60       | 57           | 93             | 51094    | 30.23      | 58094        | 39.87      |
| 5.70       | 57           | 93             | 51096    | 30.23      | 58096        | 39.87      |
| 5.80       | 57           | 93             | 51098    | 28.45      | 58098        | 37.52      |
| 5.90       | 57           | 93             | 51100    | 28.45      | 58100        | 37.52      |
| 6.00       | 57           | 93             | 51102    | 28.45      | 58102        | 37.52      |
| 6.10       | 63           | 101            | 51104    | 38.08      | 58104        | 47.72      |
| 6.20       | 63           | 101            | 51106    | 38.08      | 58106        | 47.72      |
| 6.30       | 63           | 101            | 51108    | 38.08      | 58108        | 47.72      |
| 6.40       | 63           | 101            | 51110    | 38.08      | 58110        | 54.03      |
| 6.50       | 63           | 101            | 51112    | 41.29      | 58112        | 57.24      |
| 6.60       | 63           | 101            | 51114    | 41.29      | 58114        | 57.24      |
| 6.70       | 63           | 101            | 51116    | 40.32      | 58116        | 55.33      |
| 6.80       | 69           | 109            | 51118    | 44.13      | 58118        | 63.25      |
| 6.90       | 69           | 109            | 51120    | 44.13      | 58120        | 63.25      |
| 7.00       | 69           | 109            | 51122    | 45.67      | 58122        | 64.78      |
| 7.10       | 69           | 109            | 51124    | 42.48      | 58124        | 61.71      |
| 7.20       | 69           | 109            | 51126    | 42.48      | 58126        | 61.71      |
| 7.30       | 69           | 109            | 51128    | 42.48      | 58128        | 61.71      |
| 7.40       | 69           | 109            | 51130    | 42.48      | 58130        | 61.71      |
| 7.50       | 69           | 109            | 51132    | 40.68      | 58132        | 59.10      |
| 7.60       | 75           | 117            | 51134    | 50.81      | 58134        | 70.09      |
| 7.70       | 75           | 117            | 51136    | 50.81      | 58136        | 70.09      |
| 7.80       | 75           | 117            | 51138    | 50.81      | 58138        | 70.09      |
| 7.90       | 75           | 117            | 51140    | 50.81      | 58140        | 70.09      |
| 8.00       | 75           | 117            | 51142    | 50.81      | 58142        | 70.09      |
| 8.10       | 75           | 117            | 51144    | 50.81      | 58144        | 70.09      |
| 8.20       | 75           | 117            | 51146    | 50.81      | 58146        | 70.09      |
| 8.30       | 75           | 117            | 51148    | 52.36      | 58148        | 71.76      |
| 8.40       | 75           | 117            | 51150    | 50.60      | 58150        | 69.35      |

Continued...

## Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## DIN 338

| Drill Dia. | Description  |                | Uncoated |            | TiAlN Coated |            |
|------------|--------------|----------------|----------|------------|--------------|------------|
|            | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 8.50       | 75           | 117            | 51152    | \$ 55.20   | 58152        | \$ 73.95   |
| 8.60       | 81           | 125            | 51154    | 57.60      | 58154        | 77.16      |
| 8.70       | 81           | 125            | 51156    | 57.60      | 58156        | 77.16      |
| 8.80       | 81           | 125            | 51158    | 67.20      | 58158        | 86.76      |
| 8.90       | 81           | 125            | 51160    | 67.20      | 58160        | 86.76      |
| 9.00       | 81           | 125            | 51162    | 67.20      | 58162        | 86.76      |
| 9.10       | 81           | 125            | 51164    | 63.84      | 58164        | 82.42      |
| 9.20       | 81           | 125            | 51166    | 63.84      | 58166        | 82.42      |
| 9.30       | 81           | 125            | 51168    | 63.84      | 58168        | 82.42      |
| 9.40       | 81           | 125            | 51170    | 63.84      | 58170        | 82.42      |
| 9.50       | 81           | 125            | 51172    | 61.45      | 58172        | 79.91      |
| 9.60       | 87           | 133            | 51174    | 85.68      | 58174        | 113.76     |
| 9.70       | 87           | 133            | 51176    | 85.68      | 58176        | 113.76     |
| 9.80       | 87           | 133            | 51178    | 85.68      | 58178        | 113.76     |
| 9.90       | 87           | 133            | 51180    | 82.08      | 58180        | 108.98     |
| 10.00      | 87           | 133            | 51182    | 82.08      | 58182        | 108.98     |
| 10.20      | 87           | 133            | 51184    | 91.20      | 58184        | 118.10     |
| 10.30      | 87           | 133            | 51186    | 78.89      | 58186        | 102.03     |
| 10.50      | 87           | 133            | 51188    | 91.20      | 58188        | 118.10     |
| 11.00      | 94           | 142            | 51190    | 105.60     | 58190        | 133.92     |
| 11.50      | 94           | 142            | 51192    | 110.40     | 58192        | 137.54     |
| 12.00      | 101          | 151            | 51194    | 116.16     | 58194        | 144.72     |
| 12.50      | 101          | 151            | 51196    | 125.84     | 58196        | 154.40     |
| 12.90      | 101          | 151            | 51198    | 166.59     | 58198        | 193.58     |
| 13.00      | 101          | 151            | 51200    | 217.80     | 58200        | 244.90     |
| 13.50      | 108          | 160            | 51202    | 242.86     | 58202        | 281.49     |
| 14.00      | 108          | 160            | 51204    | 246.24     | 58204        | 284.86     |
| 14.50      | 114          | 169            | 51206    | 223.86     | 58206        | 258.05     |
| 15.00      | 114          | 169            | 51208    | 233.78     | 58208        | 267.97     |
| 15.50      | 120          | 178            | 51210    | 244.31     | 58210        | 280.15     |
| 16.00      | 120          | 178            | 51212    | 244.31     | 58212        | 285.26     |
| 16.50      | 125          | 184            | 51214    | 248.52     | 58214        | 298.91     |
| 17.00      | 125          | 184            | 51216    | 248.51     | 58216        | 298.79     |
| 17.50      | 130          | 191            | 51218    | 309.75     | 58218        | 361.29     |
| 18.00      | 130          | 191            | 51220    | 311.19     | 58220        | 362.73     |
| 18.50      | 130          | 191            | 51222    | 311.19     | 58222        | 362.73     |
| 19.00      | 130          | 191            | 51224    | 311.19     | 58224        | 362.73     |
| 20.00      | 130          | 191            | 51226    | 544.50     | 58226        | 631.62     |

# Drills

Micro Grain Solid Carbide

## Slow Spiral Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

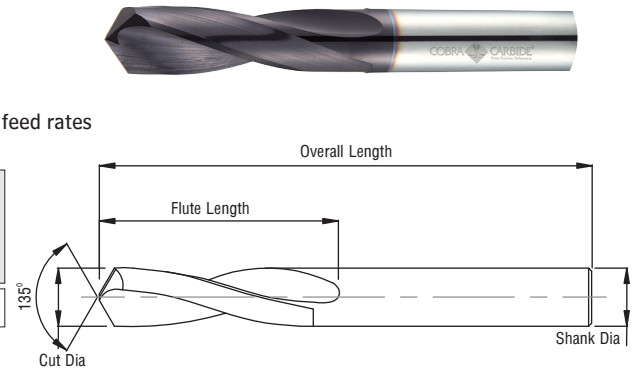
#### Features :

- Excellent results in hardening and gummy materials
- Produces very close hole size and location.
- For use in drilling alloy steels, stainless steels, and high strength alloys.
- Produces a tight, double curl chip for excellent chip flow
- 135° Point angle with stubby design provides for more rigidity and higher feed rates

#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           |                |                        | ●               | ●         |          |

● Excellent ● Good



### Stub Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 1/32"     | ---              | 0.795       | 0.0312         | 1/2"         | 1-1/2"         | 35014    | \$ 12.50   | 35015        | \$ 15.85   |
| ---       | ---              | 1.00        | 0.0394         | 13mm         | 35mm           | 35016    | 11.90      | 35017        | 15.25      |
| ---       | 60               | 1.02        | 0.0400         | 1/2"         | 1-1/2"         | 35000    | 10.90      | 35001        | 14.25      |
| ---       | 59               | 1.04        | 0.0410         | 1/2"         | 1-1/2"         | 35002    | 10.90      | 35003        | 14.25      |
| ---       | 58               | 1.07        | 0.0420         | 1/2"         | 1-1/2"         | 35004    | 10.90      | 35005        | 14.25      |
| ---       | 57               | 1.09        | 0.0430         | 1/2"         | 1-1/2"         | 35006    | 10.90      | 35007        | 14.25      |
| ---       | 56               | 1.18        | 0.0465         | 1/2"         | 1-1/2"         | 35018    | 10.90      | 35019        | 14.25      |
| 3/64"     | ---              | 1.19        | 0.0469         | 1/2"         | 1-1/2"         | 35022    | 10.90      | 35023        | 14.25      |
| ---       | 55               | 1.32        | 0.0520         | 1/2"         | 1-1/2"         | 35034    | 10.90      | 35035        | 14.25      |
| ---       | 54               | 1.40        | 0.0550         | 1/2"         | 1-1/2"         | 35038    | 10.90      | 35039        | 14.25      |
| ---       | ---              | 1.50        | 0.0591         | 13mm         | 38mm           | 35046    | 11.90      | 35047        | 15.25      |
| ---       | 53               | 1.51        | 0.0595         | 1/2"         | 1-1/2"         | 35050    | 10.90      | 35051        | 14.25      |
| 1/16"     | ---              | 1.59        | 0.0625         | 5/8"         | 1-5/8"         | 35054    | 10.90      | 35055        | 14.25      |
| ---       | ---              | 1.60        | 0.0630         | 16mm         | 41mm           | 35058    | 10.90      | 35059        | 14.25      |
| ---       | 52               | 1.61        | 0.0635         | 11/16"       | 1-11/16"       | 35062    | 10.50      | 35063        | 13.85      |
| ---       | ---              | 1.70        | 0.0669         | 17mm         | 43mm           | 35066    | 10.50      | 35067        | 13.85      |
| ---       | 51               | 1.70        | 0.0670         | 11/16"       | 1-11/16"       | 35070    | 10.50      | 35071        | 13.85      |
| ---       | 50               | 1.78        | 0.0700         | 11/16"       | 1-11/16"       | 35074    | 10.50      | 35075        | 13.85      |
| ---       | ---              | 1.80        | 0.0709         | 17mm         | 43mm           | 35078    | 10.50      | 35079        | 13.85      |
| ---       | 49               | 1.85        | 0.0730         | 11/16"       | 1-11/16"       | 35082    | 10.90      | 35083        | 14.25      |
| ---       | ---              | 1.90        | 0.0748         | 17mm         | 43mm           | 35086    | 10.90      | 35087        | 14.25      |
| ---       | 48               | 1.93        | 0.0760         | 11/16"       | 1-11/16"       | 35090    | 10.90      | 35091        | 14.25      |
| 5/64"     | ---              | 1.98        | 0.0781         | 11/16"       | 1-11/16"       | 35094    | 10.90      | 35095        | 14.25      |
| ---       | 47               | 1.99        | 0.0785         | 3/4"         | 1-3/4"         | 35098    | 10.90      | 35099        | 14.25      |
| ---       | ---              | 2.00        | 0.0787         | 19mm         | 45mm           | 35102    | 11.90      | 35103        | 15.25      |
| ---       | 46               | 2.06        | 0.0810         | 3/4"         | 1-3/4"         | 35106    | 10.90      | 35107        | 14.25      |
| ---       | 45               | 2.08        | 0.0820         | 3/4"         | 1-3/4"         | 35110    | 10.90      | 35111        | 14.25      |

Continued...

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Stub Length

| Drill Dia | Numbers/ Letters | Description<br>Metric | Decimal<br>Equiv. | Flute<br>Length | Overall<br>Length | Uncoated<br>EDP # | List<br>Price | TiAlN Coated<br>EDP # | List<br>Price |
|-----------|------------------|-----------------------|-------------------|-----------------|-------------------|-------------------|---------------|-----------------------|---------------|
| ---       | ---              | 2.10                  | 0.0827            | 19mm            | 45mm              | 35114             | \$ 10.90      | 35115                 | \$ 14.25      |
| ---       | 44               | 2.18                  | 0.0860            | 3/4"            | 1-3/4"            | 35118             | 11.50         | 35119                 | 14.85         |
| ---       | ---              | 2.20                  | 0.0866            | 19mm            | 45mm              | 35122             | 11.50         | 35123                 | 14.85         |
| ---       | 43               | 2.26                  | 0.0890            | 3/4"            | 1-3/4"            | 35126             | 11.50         | 35127                 | 14.85         |
| ---       | ---              | 2.30                  | 0.0906            | 19mm            | 45mm              | 35130             | 11.50         | 35131                 | 14.85         |
| ---       | 42               | 2.37                  | 0.0935            | 3/4"            | 1-3/4"            | 35134             | 11.50         | 35135                 | 14.85         |
| 3/32"     | ---              | 2.38                  | 0.0938            | 3/4"            | 1-3/4"            | 35138             | 11.90         | 35139                 | 15.25         |
| ---       | ---              | 2.40                  | 0.0945            | 19mm            | 44mm              | 35142             | 11.90         | 35143                 | 15.25         |
| ---       | 41               | 2.44                  | 0.0960            | 13/16"          | 1-13/16"          | 35146             | 11.90         | 35147                 | 15.25         |
| ---       | 40               | 2.49                  | 0.0980            | 13/16"          | 1-13/16"          | 35150             | 11.90         | 35151                 | 15.25         |
| ---       | ---              | 2.50                  | 0.0984            | 21mm            | 46mm              | 35154             | 13.25         | 35155                 | 16.58         |
| ---       | 39               | 2.53                  | 0.0995            | 13/16"          | 1-13/16"          | 35158             | 12.70         | 35159                 | 16.05         |
| ---       | 38               | 2.58                  | 0.1015            | 13/16"          | 1-13/16"          | 35162             | 12.70         | 35163                 | 16.05         |
| ---       | ---              | 2.60                  | 0.1024            | 21mm            | 46mm              | 35166             | 12.70         | 35167                 | 16.05         |
| ---       | 37               | 2.64                  | 0.1040            | 13/16"          | 1-13/16"          | 35170             | 13.00         | 35171                 | 16.35         |
| ---       | ---              | 2.70                  | 0.1063            | 21mm            | 46mm              | 35174             | 13.00         | 35175                 | 16.35         |
| ---       | 36               | 2.71                  | 0.1065            | 13/16"          | 1-13/16"          | 35178             | 12.50         | 35179                 | 15.85         |
| 7/64"     | ---              | 2.78                  | 0.1094            | 13/16"          | 1-13/16"          | 35182             | 12.50         | 35183                 | 15.85         |
| ---       | 35               | 2.79                  | 0.1100            | 7/8"            | 1-7/8"            | 35186             | 12.50         | 35187                 | 15.85         |
| ---       | ---              | 2.80                  | 0.1102            | 22mm            | 48mm              | 35190             | 12.50         | 35191                 | 15.85         |
| ---       | 34               | 2.82                  | 0.1110            | 7/8"            | 1-7/8"            | 35194             | 12.90         | 35195                 | 16.25         |
| ---       | 33               | 2.87                  | 0.1130            | 7/8"            | 1-7/8"            | 35198             | 12.90         | 35199                 | 16.25         |
| ---       | ---              | 2.90                  | 0.1142            | 22mm            | 48mm              | 35202             | 12.90         | 35203                 | 16.25         |
| ---       | 32               | 2.95                  | 0.1160            | 7/8"            | 1-7/8"            | 35206             | 12.90         | 35207                 | 16.25         |
| ---       | ---              | 3.00                  | 0.1181            | 22mm            | 48mm              | 35210             | 13.90         | 35211                 | 17.25         |
| ---       | 31               | 3.05                  | 0.1200            | 7/8"            | 1-7/8"            | 35214             | 12.90         | 35215                 | 16.25         |
| ---       | ---              | 3.10                  | 0.1220            | 22mm            | 48mm              | 35218             | 12.90         | 35219                 | 16.25         |
| 1/8"      | ---              | 3.18                  | 0.1250            | 7/8"            | 1-7/8"            | 35222             | 12.90         | 35223                 | 16.25         |
| ---       | ---              | 3.20                  | 0.1260            | 22mm            | 48mm              | 35226             | 12.90         | 35227                 | 16.25         |
| ---       | 30               | 3.26                  | 0.1285            | 15/16"          | 1-15/16"          | 35230             | 11.60         | 35231                 | 15.30         |
| ---       | ---              | 3.30                  | 0.1299            | 24mm            | 49mm              | 35234             | 12.90         | 35235                 | 16.25         |
| ---       | ---              | 3.40                  | 0.1339            | 24mm            | 49mm              | 35238             | 12.90         | 35239                 | 16.25         |
| ---       | 29               | 3.45                  | 0.1360            | 15/16"          | 1-15/16"          | 35242             | 12.60         | 35243                 | 16.20         |
| ---       | ---              | 3.50                  | 0.1378            | 24mm            | 52mm              | 35246             | 12.60         | 35247                 | 16.20         |
| ---       | 28               | 3.57                  | 0.1405            | 15/16"          | 1-15/16"          | 35250             | 13.00         | 35251                 | 16.60         |
| 9/64"     | ---              | 3.57                  | 0.1406            | 15/16"          | 1-15/16"          | 35254             | 13.20         | 35255                 | 16.90         |
| ---       | ---              | 3.60                  | 0.1417            | 24mm            | 49mm              | 35258             | 13.20         | 35259                 | 16.90         |
| ---       | 27               | 3.66                  | 0.1440            | 1"              | 2-1/16"           | 35262             | 13.20         | 35263                 | 16.90         |
| ---       | ---              | 3.70                  | 0.1457            | 25mm            | 52mm              | 35266             | 13.20         | 35267                 | 16.90         |

Continued...



# Drills

Micro Grain Solid Carbide

# Slow Spiral Drills

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Stub Length

| Drill Dia | Numbers/ Letters | Description Metric | Decimal Equiv. | Flute Length | Overall Length | Uncoated EDP # | List Price | TiAlN Coated EDP # | List Price |
|-----------|------------------|--------------------|----------------|--------------|----------------|----------------|------------|--------------------|------------|
| ---       | 26               | 3.73               | 0.1470         | 1"           | 2-1/16"        | 35270          | \$ 13.40   | 35271              | \$ 17.00   |
| ---       | 25               | 3.80               | 0.1495         | 1"           | 2-1/16"        | 35274          | 13.40      | 35275              | 17.00      |
| ---       | ---              | 3.80               | 0.1496         | 25mm         | 52mm           | 35278          | 13.40      | 35279              | 17.00      |
| ---       | 24               | 3.86               | 0.1520         | 1"           | 2-1/16"        | 35282          | 13.40      | 35283              | 17.00      |
| ---       | ---              | 3.90               | 0.1535         | 25mm         | 52mm           | 35286          | 13.90      | 35287              | 17.60      |
| ---       | 23               | 3.91               | 0.1540         | 1"           | 2-1/16"        | 35290          | 13.90      | 35291              | 17.60      |
| 5/32"     | ---              | 3.97               | 0.1562         | 1"           | 2-1/16"        | 35294          | 14.20      | 35295              | 18.80      |
| ---       | 22               | 3.99               | 0.1570         | 1-1/16"      | 2-1/8"         | 35298          | 14.60      | 35299              | 19.20      |
| ---       | ---              | 4.00               | 0.1575         | 27mm         | 53mm           | 35302          | 15.40      | 35303              | 20.70      |
| ---       | 21               | 4.04               | 0.1590         | 1-1/16"      | 2-1/8"         | 35306          | 15.00      | 35307              | 20.30      |
| ---       | 20               | 4.09               | 0.1610         | 1-1/16"      | 2-1/8"         | 35310          | 15.00      | 35311              | 20.30      |
| ---       | ---              | 4.10               | 0.1614         | 27mm         | 54mm           | 35314          | 15.00      | 35315              | 20.30      |
| ---       | ---              | 4.20               | 0.1654         | 27mm         | 54mm           | 35318          | 15.00      | 35319              | 20.30      |
| ---       | 19               | 4.22               | 0.1660         | 1-1/16"      | 2-1/8"         | 35322          | 15.00      | 35323              | 20.30      |
| ---       | ---              | 4.30               | 0.1693         | 27mm         | 54mm           | 35326          | 15.10      | 35327              | 20.40      |
| ---       | 18               | 4.31               | 0.1695         | 1-1/16"      | 2-1/8"         | 35330          | 15.10      | 35331              | 20.40      |
| 11/64"    | ---              | 4.37               | 0.1719         | 1-1/16"      | 2-1/8"         | 35334          | 16.00      | 35335              | 21.30      |
| ---       | 17               | 4.39               | 0.1730         | 1-1/8"       | 2-3/16"        | 35338          | 16.00      | 35339              | 21.30      |
| ---       | ---              | 4.40               | 0.1732         | 29mm         | 56mm           | 35342          | 16.20      | 35343              | 21.50      |
| ---       | 16               | 4.50               | 0.1770         | 1-1/8"       | 2-3/16"        | 35346          | 16.20      | 35347              | 21.50      |
| ---       | ---              | 4.50               | 0.1772         | 29mm         | 55mm           | 35350          | 18.60      | 35351              | 23.90      |
| ---       | 15               | 4.57               | 0.1800         | 1-1/8"       | 2-3/16"        | 35354          | 16.40      | 35355              | 21.70      |
| ---       | ---              | 4.60               | 0.1811         | 29mm         | 56mm           | 35358          | 16.60      | 35359              | 21.90      |
| ---       | 14               | 4.62               | 0.1820         | 1-1/8"       | 2-3/16"        | 35362          | 16.60      | 35363              | 21.90      |
| ---       | ---              | 4.70               | 0.1850         | 29mm         | 56mm           | 35366          | 17.10      | 35367              | 22.40      |
| ---       | 13               | 4.70               | 0.1850         | 1-1/8"       | 2-3/16"        | 35370          | 16.70      | 35371              | 22.00      |
| 3/16"     | ---              | 4.76               | 0.1875         | 1-1/8"       | 2-3/16"        | 35374          | 17.20      | 35375              | 22.75      |
| ---       | ---              | 4.80               | 0.1890         | 30mm         | 57mm           | 35378          | 17.20      | 35379              | 22.75      |
| ---       | 12               | 4.80               | 0.1890         | 1-3/16"      | 2-1/4"         | 35382          | 17.20      | 35383              | 22.75      |
| ---       | 11               | 4.85               | 0.1910         | 1-3/16"      | 2-1/4"         | 35386          | 17.40      | 35387              | 23.25      |
| ---       | ---              | 4.90               | 0.1929         | 30mm         | 57mm           | 35390          | 18.70      | 35391              | 26.00      |
| ---       | 10               | 4.91               | 0.1935         | 1-3/16"      | 2-1/4"         | 35394          | 19.00      | 35395              | 26.30      |
| ---       | 9                | 4.98               | 0.1960         | 1-3/16"      | 2-1/4"         | 35398          | 19.00      | 35399              | 26.30      |
| ---       | ---              | 5.00               | 0.1968         | 30mm         | 57mm           | 35402          | 20.00      | 35403              | 27.30      |
| ---       | 8                | 5.05               | 0.1990         | 1-3/16"      | 2-1/4"         | 35406          | 18.70      | 35407              | 26.00      |
| ---       | ---              | 5.10               | 0.2008         | 30mm         | 57mm           | 35410          | 20.00      | 35411              | 27.30      |
| ---       | 7                | 5.11               | 0.2010         | 1-3/16"      | 2-1/4"         | 35414          | 18.70      | 35415              | 26.00      |
| 13/64"    | ---              | 5.16               | 0.2031         | 1-3/16"      | 2-1/4"         | 35418          | 19.90      | 35419              | 27.20      |
| ---       | 6                | 5.18               | 0.2040         | 1-1/4"       | 2-3/8"         | 35422          | 19.00      | 35423              | 26.30      |

Continued...



## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Stub Length

| Drill Dia | Numbers/ Letters | Description<br>Metric | Decimal<br>Equiv. | Flute<br>Length | Overall<br>Length | Uncoated<br>EDP # | List<br>Price | TiAlN Coated<br>EDP # | List<br>Price |
|-----------|------------------|-----------------------|-------------------|-----------------|-------------------|-------------------|---------------|-----------------------|---------------|
| ---       | ---              | 5.20                  | 0.2047            | 32mm            | 60mm              | 35426             | \$ 24.00      | 35427                 | \$ 31.30      |
| ---       | 5                | 5.22                  | 0.2055            | 1-1/4"          | 2-3/8"            | 35430             | 19.20         | 35431                 | 26.50         |
| ---       | ---              | 5.30                  | 0.2087            | 32mm            | 60mm              | 35434             | 24.00         | 35435                 | 31.30         |
| ---       | 4                | 5.31                  | 0.2090            | 1-1/4"          | 2-3/8"            | 35438             | 20.20         | 35439                 | 27.50         |
| ---       | ---              | 5.40                  | 0.2126            | 32mm            | 60mm              | 35442             | 24.00         | 35443                 | 31.30         |
| ---       | 3                | 5.41                  | 0.2130            | 1-1/4"          | 2-3/8"            | 35446             | 20.60         | 35447                 | 27.90         |
| ---       | ---              | 5.50                  | 0.2165            | 32mm            | 60mm              | 35450             | 24.00         | 35451                 | 31.30         |
| 7/32"     | ---              | 5.55                  | 0.2187            | 1-1/4"          | 2-3/8"            | 35454             | 21.50         | 35455                 | 28.40         |
| ---       | ---              | 5.60                  | 0.2205            | 33mm            | 62mm              | 35458             | 25.40         | 35459                 | 32.70         |
| ---       | 2                | 5.61                  | 0.2210            | 1-5/16"         | 2-7/16"           | 35462             | 21.50         | 35463                 | 28.80         |
| ---       | ---              | 5.70                  | 0.2244            | 33mm            | 62mm              | 35466             | 25.40         | 35467                 | 32.70         |
| ---       | 1                | 5.79                  | 0.2280            | 1-5/16"         | 2-7/16"           | 35470             | 21.80         | 35471                 | 29.10         |
| ---       | ---              | 5.80                  | 0.2283            | 33mm            | 62mm              | 35474             | 25.40         | 35475                 | 32.70         |
| ---       | ---              | 5.90                  | 0.2323            | 33mm            | 62mm              | 35478             | 25.40         | 35479                 | 32.70         |
| ---       | A                | 5.94                  | 0.2340            | 1-5/16"         | 2-7/16"           | 35482             | 24.60         | 35483                 | 31.90         |
| 15/64"    | ---              | 5.95                  | 0.2344            | 1-5/16"         | 2-7/16"           | 35486             | 24.00         | 35487                 | 31.30         |
| ---       | ---              | 6.00                  | 0.2362            | 33mm            | 61mm              | 35490             | 25.40         | 35491                 | 32.70         |
| ---       | B                | 6.05                  | 0.2380            | 1-3/8"          | 2-1/2"            | 35494             | 26.30         | 35495                 | 33.60         |
| ---       | ---              | 6.10                  | 0.2402            | 35mm            | 64mm              | 35498             | 32.00         | 35499                 | 39.30         |
| ---       | C                | 6.15                  | 0.2420            | 1-3/8"          | 2-1/2"            | 35502             | 26.40         | 35503                 | 33.70         |
| ---       | ---              | 6.20                  | 0.2441            | 35mm            | 64mm              | 35506             | 32.00         | 35507                 | 39.30         |
| ---       | D                | 6.25                  | 0.2460            | 1-3/8"          | 2-1/2"            | 35510             | 26.70         | 35511                 | 34.00         |
| ---       | ---              | 6.30                  | 0.2480            | 35mm            | 64mm              | 35514             | 32.00         | 35515                 | 39.30         |
| 1/4"      | E                | 6.35                  | 0.2500            | 1-3/8"          | 2-1/2"            | 35518             | 26.00         | 35519                 | 33.30         |
| ---       | ---              | 6.40                  | 0.2520            | 35mm            | 64mm              | 35522             | 32.00         | 35523                 | 42.60         |
| ---       | ---              | 6.50                  | 0.2559            | 35mm            | 63mm              | 35526             | 34.70         | 35527                 | 45.20         |
| ---       | F                | 6.53                  | 0.2570            | 1-7/16"         | 2-5/8"            | 35530             | 34.70         | 35531                 | 45.20         |
| ---       | G                | 6.63                  | 0.2610            | 1-7/16"         | 2-5/8"            | 35538             | 35.20         | 35539                 | 45.80         |
| 17/64"    | ---              | 6.75                  | 0.2656            | 1-7/16"         | 2-5/8"            | 35546             | 32.00         | 35547                 | 42.60         |
| ---       | H                | 6.76                  | 0.2660            | 1-1/2"          | 2-11/16"          | 35550             | 37.40         | 35551                 | 47.90         |
| ---       | ---              | 6.80                  | 0.2677            | 38mm            | 68mm              | 35554             | 37.40         | 35555                 | 47.90         |
| ---       | I                | 6.91                  | 0.2720            | 1-1/2"          | 2-11/16"          | 35562             | 37.40         | 35563                 | 47.90         |
| ---       | ---              | 7.00                  | 0.2756            | 38mm            | 68mm              | 35566             | 38.70         | 35567                 | 49.20         |
| ---       | J                | 7.04                  | 0.2770            | 1-1/2"          | 2-11/16"          | 35570             | 34.70         | 35571                 | 49.20         |
| ---       | K                | 7.14                  | 0.2810            | 1-1/2"          | 2-11/16"          | 35578             | 37.40         | 35579                 | 47.90         |
| 9/32"     | ---              | 7.14                  | 0.2812            | 1-1/2"          | 2-11/16"          | 35582             | 34.70         | 35583                 | 45.20         |
| ---       | L                | 7.37                  | 0.2900            | 1-9/16"         | 2-3/4"            | 35594             | 36.00         | 35595                 | 46.60         |
| ---       | M                | 7.49                  | 0.2950            | 1-9/16"         | 2-3/4"            | 35602             | 38.70         | 35603                 | 49.20         |
| ---       | ---              | 7.50                  | 0.2953            | 40mm            | 70mm              | 35606             | 36.00         | 35607                 | 46.60         |

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# Drills

Micro Grain Solid Carbide

## Slow Spiral Drills

### Fraction, Letter, Number And Metric

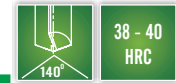


Tolerance - Shank Dia: h6 Drill Dia: h7

### Stub Length

| Drill Dia | Numbers/ Letters | Description |                |              |                | Uncoated |            | TiAlN Coated |            |
|-----------|------------------|-------------|----------------|--------------|----------------|----------|------------|--------------|------------|
|           |                  | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price | EDP #        | List Price |
| 19/64"    | ---              | 7.54        | 0.2969         | 1-9/16"      | 2-3/4"         | 35610    | \$ 38.70   | 35611        | \$ 49.20   |
| ---       | N                | 7.67        | 0.3020         | 1-5/8"       | 2-13/16"       | 35618    | 38.70      | 35619        | 49.20      |
| 5/16"     | ---              | 7.94        | 0.3125         | 1-5/8"       | 2-13/16"       | 35634    | 41.20      | 35635        | 51.60      |
| ---       | ---              | 8.00        | 0.3150         | 41mm         | 71mm           | 35638    | 42.70      | 35639        | 53.20      |
| ---       | O                | 8.03        | 0.3160         | 1-11/16"     | 2-15/16"       | 35642    | 40.00      | 35643        | 50.60      |
| ---       | P                | 8.21        | 0.3230         | 1-11/16"     | 2-15/16"       | 35654    | 40.30      | 35655        | 50.80      |
| 21/64"    | ---              | 8.33        | 0.3281         | 1-11/16"     | 2-15/16"       | 35662    | 40.70      | 35663        | 51.20      |
| ---       | Q                | 8.43        | 0.3320         | 1-11/16"     | 3"             | 35670    | 44.00      | 35671        | 54.60      |
| ---       | ---              | 8.50        | 0.3346         | 43mm         | 76mm           | 35674    | 48.00      | 35675        | 58.60      |
| ---       | R                | 8.61        | 0.3390         | 1-11/16"     | 3"             | 35682    | 46.70      | 35683        | 57.20      |
| 11/32"    | ---              | 8.73        | 0.3438         | 1-11/16"     | 3"             | 35690    | 48.00      | 35691        | 58.60      |
| ---       | S                | 8.84        | 0.3480         | 1-3/4"       | 3-1/16"        | 35698    | 48.30      | 35699        | 58.90      |
| ---       | ---              | 9.00        | 0.3543         | 44mm         | 78mm           | 35706    | 56.00      | 35707        | 69.40      |
| ---       | T                | 9.09        | 0.3580         | 1-3/4"       | 3-1/16"        | 35710    | 51.40      | 35711        | 61.90      |
| 23/64"    | ---              | 9.13        | 0.3594         | 1-3/4"       | 3-1/16"        | 35718    | 51.10      | 35719        | 61.60      |
| ---       | U                | 9.35        | 0.3680         | 1-13/16"     | 3-1/8"         | 35730    | 53.40      | 35731        | 66.80      |
| ---       | ---              | 9.50        | 0.3740         | 46mm         | 79mm           | 35738    | 53.90      | 35739        | 67.30      |
| 3/8"      | ---              | 9.53        | 0.3750         | 1-13/16"     | 3-1/8"         | 35742    | 56.00      | 35743        | 69.40      |
| ---       | V                | 9.58        | 0.3770         | 1-7/8"       | 3-1/4"         | 35746    | 57.40      | 35747        | 74.00      |
| ---       | W                | 9.81        | 0.3860         | 1-7/8"       | 3-1/4"         | 35762    | 58.70      | 35763        | 75.30      |
| 25/64"    | ---              | 9.92        | 0.3906         | 1-7/8"       | 3-1/4"         | 35770    | 62.40      | 35771        | 79.10      |
| ---       | ---              | 10.00       | 0.3937         | 48mm         | 83mm           | 35774    | 72.00      | 35775        | 88.70      |
| ---       | X                | 10.08       | 0.3970         | 1-15/16"     | 3-5/16"        | 35778    | 69.00      | 35779        | 88.60      |
| ---       | Y                | 10.26       | 0.4040         | 1-15/16"     | 3-5/16"        | 35790    | 69.20      | 35791        | 85.90      |
| 13/32"    | ---              | 10.32       | 0.4062         | 1-15/16"     | 3-5/16"        | 35798    | 69.40      | 35799        | 86.00      |
| ---       | Z                | 10.49       | 0.4130         | 2"           | 3-3/8"         | 35806    | 70.00      | 35807        | 86.70      |
| ---       | ---              | 10.50       | 0.4134         | 51mm         | 86mm           | 35810    | 80.00      | 35811        | 96.70      |
| 27/64"    | ---              | 10.72       | 0.4219         | 2"           | 3-3/8"         | 35822    | 74.70      | 35823        | 91.30      |
| ---       | ---              | 11.00       | 0.4331         | 52mm         | 87mm           | 35834    | 88.00      | 35835        | 104.70     |
| 7/16"     | ---              | 11.11       | 0.4375         | 2-1/16"      | 3-7/16"        | 35842    | 80.00      | 35843        | 96.70      |
| ---       | ---              | 11.50       | 0.4528         | 54mm         | 90mm           | 35858    | 96.00      | 35859        | 112.70     |
| 29/64"    | ---              | 11.51       | 0.4531         | 2-1/8"       | 3-9/16"        | 35862    | 86.20      | 35863        | 102.80     |
| 15/32"    | ---              | 11.91       | 0.4688         | 2-1/8"       | 3-5/8"         | 35882    | 90.40      | 35883        | 107.10     |
| ---       | ---              | 12.00       | 0.4724         | 54mm         | 92mm           | 35886    | 96.00      | 35887        | 112.70     |
| 31/64"    | ---              | 12.30       | 0.4844         | 2-3/16"      | 3-11/16"       | 35902    | 104.00     | 35903        | 120.70     |
| ---       | ---              | 12.50       | 0.4921         | 55mm         | 95mm           | 35910    | 104.00     | 35911        | 120.70     |
| 1/2"      | ---              | 12.70       | 0.5000         | 2-1/4"       | 3-3/4"         | 35918    | 106.70     | 35919        | 129.30     |

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

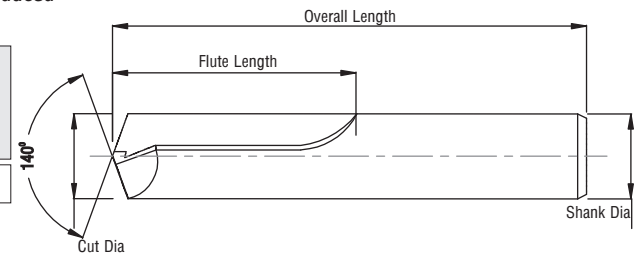
- 140° Point angle - The added web strength of the straight flutes and special point configuration easily penetrate work pieces with minimal deflection.
- For use in hardened, treated & abrasive materials, as well as stainless steel & cryogenic alloys. - Designed to be used in hardened steel, stainless steels, and other exotic materials 38-40 Rockwell "C" scale - Accurately sized holes are produced without annealing or softening the workpiece Reamer type finishes are easily produced



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
|                | ●            | ●           | ●              | ●                      | ●               |           | ●        |

● Excellent ● Good



## Regular Length

| Fraction | Numbers / Letters | Description |                |              |                | Uncoated |            |
|----------|-------------------|-------------|----------------|--------------|----------------|----------|------------|
|          |                   | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| 1/32"    | ---               | 0.79        | 0.0312         | 3/16"        | 1-1/2"         | 32014    | \$ 12.50   |
| ---      | ---               | 1.00        | 0.0394         | 12mm         | 38mm           | 32018    | 11.90      |
| ---      | 60                | ---         | 0.0400         | 1/2"         | 1-1/2"         | 32000    | 10.20      |
| ---      | 59                | ---         | 0.0410         | 1/2"         | 1-1/2"         | 32002    | 10.20      |
| ---      | 58                | ---         | 0.0420         | 1/2"         | 1-1/2"         | 32004    | 10.20      |
| ---      | 57                | ---         | 0.0430         | 1/2"         | 1-1/2"         | 32006    | 10.20      |
| ---      | ---               | 1.10        | 0.0433         | 12mm         | 38mm           | 32020    | 10.20      |
| ---      | 56                | 1.18        | 0.0465         | 1/2"         | 1-1/2"         | 32024    | 10.90      |
| 3/64"    | ---               | 1.19        | 0.0469         | 1/2"         | 1-1/2"         | 32028    | 10.90      |
| ---      | ---               | 1.20        | 0.0472         | 12mm         | 38mm           | 32029    | 10.90      |
| ---      | ---               | 1.30        | 0.0511         | 12mm         | 38mm           | 32030    | 10.90      |
| ---      | 55                | 1.32        | 0.0520         | 1/2"         | 1-1/2"         | 32032    | 10.90      |
| ---      | 54                | ---         | 0.0550         | 1/2"         | 1-1/2"         | 32036    | 10.90      |
| ---      | ---               | 1.40        | 0.0551         | 12mm         | 38mm           | 32038    | 10.90      |
| ---      | ---               | 1.50        | 0.0591         | 12mm         | 38mm           | 32040    | 11.90      |
| ---      | 53                | 1.51        | 0.0595         | 1/2"         | 1-1/2"         | 32044    | 10.90      |
| 1/16"    | ---               | 1.59        | 0.0625         | 5/8"         | 1-1/2"         | 32048    | 10.90      |
| ---      | ---               | 1.60        | 0.0630         | 12mm         | 38mm           | 32050    | 10.90      |
| ---      | 52                | 1.61        | 0.0635         | 11/16"       | 1-11/16"       | 32052    | 10.50      |
| ---      | ---               | 1.70        | 0.0669         | 17mm         | 43mm           | 32054    | 10.50      |
| ---      | 51                | 1.70        | 0.0670         | 11/16"       | 1-11/16"       | 32056    | 10.50      |
| ---      | 50                | 1.78        | 0.0700         | 11/16"       | 1-11/16"       | 32060    | 10.50      |
| ---      | ---               | 1.80        | 0.0708         | 17mm         | 43mm           | 32062    | 10.50      |
| ---      | 49                | 1.85        | 0.0730         | 11/16"       | 1-11/16"       | 32064    | 10.50      |
| ---      | ---               | 1.90        | 0.0748         | 17mm         | 43mm           | 32066    | 10.50      |
| ---      | 48                | 1.93        | 0.0760         | 11/16"       | 1-11/16"       | 32068    | 10.90      |
| 5/64"    | ---               | 1.98        | 0.0781         | 11/16"       | 1-11/16"       | 32072    | 10.90      |

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# Drills

Micro Grain Solid Carbide

## Straight Flute Drills

### Fraction, Letter, Number And Metric



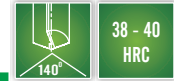
Tolerance - Shank Dia: h6 Drill Dia: h7

### Regular Length

| Fraction | Numbers / Letters | Description |                |              |                | Uncoated |            |
|----------|-------------------|-------------|----------------|--------------|----------------|----------|------------|
|          |                   | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---      | 47                | 1.99        | 0.0785         | 3/4"         | 1-3/4"         | 32076    | \$ 10.90   |
| ---      | ---               | 2.00        | 0.0787         | 19mm         | 44mm           | 32080    | 11.90      |
| ---      | 46                | 2.06        | 0.0810         | 3/4"         | 1-3/4"         | 32084    | 10.90      |
| ---      | 45                | 2.08        | 0.0820         | 3/4"         | 1-3/4"         | 32088    | 10.90      |
| ---      | ---               | 2.10        | 0.0826         | 19mm         | 44mm           | 32090    | 10.90      |
| ---      | 44                | 2.18        | 0.0860         | 3/4"         | 1-3/4"         | 32092    | 11.50      |
| ---      | ---               | 2.20        | 0.0866         | 19mm         | 44mm           | 32094    | 11.50      |
| ---      | 43                | 2.26        | 0.0890         | 3/4"         | 1-3/4"         | 32096    | 11.50      |
| ---      | ---               | 2.30        | 0.0905         | 19mm         | 44mm           | 32098    | 11.50      |
| ---      | 42                | 2.37        | 0.0935         | 3/4"         | 1-3/4"         | 32100    | 11.50      |
| 3/32"    | ---               | 2.38        | 0.0938         | 3/4"         | 1-3/4"         | 32104    | 11.90      |
| ---      | ---               | 2.40        | 0.0944         | 19mm         | 44mm           | 32106    | 11.50      |
| ---      | 41                | 2.44        | 0.0960         | 13/16"       | 1-13/16"       | 32108    | 11.90      |
| ---      | 40                | 2.49        | 0.0980         | 13/16"       | 1-13/16"       | 32112    | 11.90      |
| ---      | ---               | 2.50        | 0.0984         | 21mm         | 46mm           | 32116    | 13.25      |
| ---      | 39                | 2.53        | 0.0995         | 13/16"       | 1-13/16"       | 32120    | 12.70      |
| ---      | 38                | 2.58        | 0.1015         | 13/16"       | 1-13/16"       | 32124    | 12.70      |
| ---      | ---               | 2.60        | 0.1024         | 21mm         | 46mm           | 32126    | 12.50      |
| ---      | 37                | 2.64        | 0.1040         | 13/16"       | 1-13/16"       | 32128    | 13.00      |
| ---      | ---               | 2.70        | 0.1063         | 21mm         | 46mm           | 32130    | 12.50      |
| ---      | 36                | 2.71        | 0.1065         | 13/16"       | 1-13/16"       | 32132    | 12.50      |
| 7/64"    | ---               | 2.78        | 0.1094         | 13/16"       | 1-13/16"       | 32136    | 12.50      |
| ---      | 35                | 2.79        | 0.1100         | 7/8"         | 1-7/8"         | 32140    | 12.50      |
| ---      | ---               | 2.80        | 0.1103         | 22mm         | 48mm           | 32142    | 12.50      |
| ---      | 34                | 2.82        | 0.1110         | 7/8"         | 1-7/8"         | 32144    | 12.90      |
| ---      | 33                | 2.87        | 0.1130         | 7/8"         | 1-7/8"         | 32148    | 12.90      |
| ---      | ---               | 2.90        | 0.1141         | 22mm         | 48mm           | 32150    | 12.50      |
| ---      | 32                | 2.95        | 0.1160         | 7/8"         | 1-7/8"         | 32152    | 12.90      |
| ---      | ---               | 3.00        | 0.1181         | 22mm         | 48mm           | 32156    | 13.25      |
| ---      | 31                | 3.05        | 0.1200         | 7/8"         | 1-7/8"         | 32160    | 12.90      |
| ---      | ---               | 3.10        | 0.1221         | 22mm         | 48mm           | 32164    | 13.30      |
| 1/8"     | ---               | 3.18        | 0.1250         | 7/8"         | 1-7/8"         | 32168    | 12.90      |
| ---      | ---               | 3.20        | 0.1260         | 22mm         | 48mm           | 32172    | 13.30      |
| ---      | 30                | 3.26        | 0.1285         | 15/16"       | 1-15/16"       | 32176    | 11.60      |
| ---      | ---               | 3.30        | 0.1290         | 24mm         | 50mm           | 32180    | 13.70      |
| ---      | ---               | 3.40        | 0.1339         | 24mm         | 50mm           | 32184    | 13.70      |
| ---      | 29                | 3.45        | 0.1360         | 15/16"       | 1-15/16"       | 32188    | 12.60      |
| ---      | ---               | 3.50        | 0.1378         | 24mm         | 52mm           | 32192    | 12.60      |
| ---      | 28                | 3.57        | 0.1405         | 15/16"       | 1-15/16"       | 32196    | 13.20      |

Continued...

## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Regular Length

| Fraction | Numbers / Letters | Description |                |              |                | Uncoated |            |
|----------|-------------------|-------------|----------------|--------------|----------------|----------|------------|
|          |                   | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| 9/64"    | ---               | 3.57        | 0.1406         | 15/16"       | 1-15/16"       | 32200    | \$ 13.20   |
| ---      | ---               | 3.60        | 0.1418         | 24mm         | 50mm           | 32204    | 15.00      |
| ---      | 27                | 3.66        | 0.1440         | 1"           | 2-1/16"        | 32208    | 13.20      |
| ---      | ---               | 3.70        | 0.1457         | 25mm         | 51mm           | 32212    | 15.30      |
| ---      | 26                | 3.73        | 0.1470         | 1"           | 2-1/16"        | 32216    | 13.40      |
| ---      | 25                | ---         | 0.1495         | 1"           | 2-1/16"        | 32220    | 13.40      |
| ---      | ---               | 3.80        | 0.1496         | 25mm         | 51mm           | 32224    | 15.50      |
| ---      | 24                | 3.86        | 0.1520         | 1"           | 2-1/16"        | 32228    | 13.40      |
| ---      | ---               | 3.90        | 0.1535         | 25mm         | 51mm           | 32232    | 15.80      |
| ---      | 23                | 3.91        | 0.1540         | 1"           | 2-1/16"        | 32236    | 13.90      |
| 5/32"    | ---               | 3.97        | 0.1562         | 1"           | 2-1/16"        | 32240    | 14.20      |
| ---      | 22                | 3.99        | 0.1570         | 1-1/16       | 2-1/8"         | 32244    | 14.60      |
| ---      | ---               | 4.00        | 0.1575         | 27mm         | 53mm           | 32248    | 14.70      |
| ---      | 21                | 4.04        | 0.1590         | 1-1/16       | 2-1/8"         | 32252    | 14.80      |
| ---      | 20                | 4.09        | 0.1610         | 1-1/16       | 2-1/8"         | 32256    | 15.00      |
| ---      | ---               | 4.10        | 0.1614         | 27mm         | 53mm           | 32260    | 17.30      |
| ---      | ---               | 4.20        | 0.1654         | 27mm         | 53mm           | 32264    | 17.30      |
| ---      | 19                | 4.22        | 0.1660         | 1-1/16       | 2-1/8"         | 32268    | 15.10      |
| ---      | ---               | 4.30        | 0.1693         | 27mm         | 53mm           | 32272    | 18.00      |
| ---      | 18                | 4.31        | 0.1695         | 1-1/16       | 2-1/8"         | 32276    | 15.10      |
| 11/64"   | ---               | 4.37        | 0.1719         | 1-1/16       | 2-1/8"         | 32280    | 16.00      |
| ---      | 17                | 4.39        | 0.1730         | 1-1/8"       | 2-3/16"        | 32284    | 16.00      |
| ---      | ---               | 4.40        | 0.1732         | 29mm         | 55mm           | 32288    | 20.00      |
| ---      | 16                | 4.50        | 0.1770         | 1-1/8"       | 2-3/16"        | 32292    | 16.20      |
| ---      | ---               | 4.50        | 0.1772         | 29mm         | 55mm           | 32296    | 16.20      |
| ---      | 15                | 4.57        | 0.1800         | 1-1/8"       | 2-3/16"        | 32300    | 16.40      |
| ---      | ---               | 4.60        | 0.1811         | 29mm         | 55mm           | 32304    | 20.50      |
| ---      | 14                | 4.62        | 0.1820         | 1-1/8"       | 2-3/16"        | 32308    | 16.60      |
| ---      | 13                | 4.70        | 0.1850         | 1-1/8"       | 2-3/16"        | 32312    | 16.70      |
| 3/16"    | ---               | 4.76        | 0.1875         | 1-1/8"       | 2-3/16"        | 32316    | 16.00      |
| ---      | ---               | 4.80        | 0.1890         | 29mm         | 55mm           | 32320    | 20.80      |
| ---      | 12                | ---         | 0.1890         | 1-3/16"      | 2-1/4"         | 32324    | 17.10      |
| ---      | 11                | 4.85        | 0.1910         | 1-3/16"      | 2-1/4"         | 32328    | 17.40      |
| ---      | ---               | 4.90        | 0.1930         | 30mm         | 57mm           | 32332    | 21.70      |
| ---      | 10                | 4.91        | 0.1935         | 1-3/16"      | 2-1/4"         | 32336    | 19.00      |
| ---      | 9                 | 4.98        | 0.1960         | 1-3/16"      | 2-1/4"         | 32340    | 19.00      |
| ---      | ---               | 5.00        | 0.1969         | 30mm         | 57mm           | 32344    | 20.00      |
| ---      | 8                 | 5.05        | 0.1990         | 1-3/16"      | 2-1/4"         | 32348    | 19.40      |
| ---      | ---               | 5.10        | 0.2008         | 30mm         | 57mm           | 32352    | 25.00      |

Continued...

# Drills

Micro Grain Solid Carbide

## Straight Flute Drills

### Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

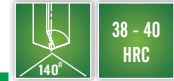
### Regular Length

| Fraction | Numbers / Letters | Description |                |              |                | Uncoated |            |
|----------|-------------------|-------------|----------------|--------------|----------------|----------|------------|
|          |                   | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---      | 7                 | 5.11        | 0.2010         | 1-3/16"      | 2-1/4"         | 32356    | \$ 18.70   |
| 13/64"   | ---               | 5.16        | 0.2031         | 1-3/16"      | 2-1/4"         | 32360    | 19.70      |
| ---      | 6                 | 5.18        | 0.2040         | 1-1/4"       | 2-3/8"         | 32364    | 19.00      |
| ---      | ---               | 5.20        | 0.2047         | 32mm         | 60mm           | 32368    | 25.80      |
| ---      | 5                 | 5.22        | 0.2055         | 1-1/4"       | 2-3/8"         | 32372    | 19.20      |
| ---      | ---               | 5.30        | 0.2087         | 32mm         | 60mm           | 32376    | 26.00      |
| ---      | 4                 | 5.31        | 0.2090         | 1-1/4"       | 2-3/8"         | 32380    | 20.20      |
| ---      | ---               | 5.40        | 0.2126         | 32mm         | 60mm           | 32384    | 26.20      |
| ---      | 3                 | 5.41        | 0.2130         | 1-1/4"       | 2-3/8"         | 32388    | 20.60      |
| ---      | ---               | 5.50        | 0.2165         | 32mm         | 60mm           | 32392    | 20.60      |
| 7/32"    | ---               | 5.55        | 0.2188         | 1-1/4"       | 2-3/8"         | 32396    | 21.10      |
| ---      | ---               | 5.60        | 0.2205         | 32mm         | 60mm           | 32400    | 27.70      |
| ---      | 2                 | 5.61        | 0.2210         | 1-5/16"      | 2-7/16"        | 32404    | 21.50      |
| ---      | ---               | 5.70        | 0.2244         | 33mm         | 62mm           | 32408    | 27.80      |
| ---      | 1                 | 5.79        | 0.2280         | 1-5/16"      | 2-7/16"        | 32412    | 21.80      |
| ---      | ---               | 5.80        | 0.2284         | 33mm         | 62mm           | 32416    | 28.20      |
| ---      | ---               | 5.90        | 0.2324         | 33mm         | 62mm           | 32420    | 28.20      |
| ---      | A                 | 5.94        | 0.2340         | 1-5/16"      | 2-7/16"        | 32424    | 24.60      |
| 15/64"   | ---               | 5.95        | 0.2344         | 1-5/16"      | 2-7/16"        | 32428    | 24.00      |
| ---      | ---               | 6.00        | 0.2362         | 33mm         | 62mm           | 32432    | 25.40      |
| ---      | B                 | 6.05        | 0.2380         | 1-3/8"       | 2-1/2"         | 32436    | 26.30      |
| ---      | ---               | 6.10        | 0.2411         | 35mm         | 64mm           | 32440    | 31.70      |
| ---      | C                 | 6.15        | 0.2420         | 1-3/8"       | 2-1/2"         | 32444    | 26.40      |
| ---      | ---               | 6.20        | 0.2441         | 35mm         | 64mm           | 32448    | 31.70      |
| ---      | D                 | 6.25        | 0.2461         | 1-3/8"       | 2-1/2"         | 32452    | 26.70      |
| ---      | ---               | 6.30        | 0.2480         | 35mm         | 64mm           | 32456    | 31.70      |
| 1/4"     | E                 | 6.35        | 0.2500         | 1-3/8"       | 2-1/2"         | 32460    | 26.00      |
| ---      | ---               | 6.40        | 0.2518         | 35mm         | 64mm           | 32464    | 33.30      |
| ---      | ---               | 6.50        | 0.2559         | 35mm         | 64mm           | 32468    | 32.00      |
| ---      | F                 | 6.53        | 0.2570         | 1-7/16"      | 2-5/8"         | 32472    | 34.70      |
| ---      | G                 | 6.53        | 0.2610         | 1-7/16"      | 2-5/8"         | 32480    | 35.20      |
| 17/64"   | ---               | 6.75        | 0.2656         | 1-7/16"      | 2-5/8"         | 32488    | 36.00      |
| ---      | H                 | 6.76        | 0.2660         | 1-1/2"       | 2-11/16"       | 32492    | 37.40      |
| ---      | I                 | 6.91        | 0.2720         | 1-1/2"       | 2-11/16"       | 32504    | 37.40      |
| ---      | ---               | 7.00        | 0.2756         | 38mm         | 68mm           | 32508    | 37.40      |
| ---      | J                 | 7.04        | 0.2770         | 1-1/2"       | 2-11/16"       | 32512    | 37.40      |
| ---      | K                 | 7.14        | 0.2810         | 1-1/2"       | 2-11/16"       | 32518    | 37.40      |
| 9/32"    | ---               | 7.14        | 0.2812         | 1-1/2"       | 2-11/16"       | 32520    | 34.70      |
| ---      | L                 | 7.37        | 0.2900         | 1-9/16"      | 2-3/4"         | 32532    | 38.70      |

Continued...



## Fraction, Letter, Number And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

## Regular Length

| Fraction | Numbers / Letters | Description |                |              |                | Uncoated |            |
|----------|-------------------|-------------|----------------|--------------|----------------|----------|------------|
|          |                   | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---      | M                 | 7.49        | 0.2950         | 1-9/16"      | 2-3/4"         | 32540    | \$ 38.70   |
| ---      | ---               | 7.50        | 0.2953         | 40mm         | 70mm           | 32544    | 38.70      |
| 19/64"   | ---               | 7.54        | 0.2969         | 1-9/16"      | 2-3/4"         | 32548    | 38.70      |
| ---      | N                 | 7.67        | 0.3020         | 1-5/8"       | 2-13/16"       | 32556    | 38.70      |
| 5/16"    | ---               | 7.94        | 0.3125         | 1-5/8"       | 2-13/16"       | 32572    | 37.10      |
| ---      | ---               | 8.00        | 0.3150         | 41mm         | 71mm           | 32576    | 42.70      |
| ---      | O                 | 8.03        | 0.3160         | 1-11/16"     | 2-15/16"       | 32580    | 42.70      |
| ---      | P                 | 8.21        | 0.3230         | 1-11/16"     | 2-15/16"       | 32592    | 42.70      |
| 21/64"   | ---               | 8.33        | 0.3281         | 1-11/16"     | 2-15/16"       | 32600    | 40.70      |
| ---      | Q                 | 8.43        | 0.3320         | 1-11/16"     | 3"             | 32608    | 44.00      |
| ---      | ---               | 8.50        | 0.3246         | 43mm         | 76mm           | 32612    | 46.70      |
| ---      | R                 | 8.61        | 0.3390         | 1-11/16"     | 3"             | 32620    | 46.70      |
| 11/32"   | ---               | 8.73        | 0.3438         | 1-11/16"     | 3"             | 32628    | 48.00      |
| ---      | S                 | 8.84        | 0.3480         | 1-3/4"       | 3-1/16"        | 32636    | 48.30      |
| ---      | ---               | 9.00        | 0.3543         | 44mm         | 78mm           | 32644    | 51.40      |
| ---      | T                 | 9.09        | 0.3580         | 1-3/4"       | 3-1/16"        | 32648    | 51.40      |
| 23/64"   | ---               | 9.13        | 0.3594         | 1-3/4"       | 3-1/16"        | 32656    | 51.10      |
| ---      | U                 | 9.35        | 0.3680         | 1-3/4"       | 3-1/16"        | 32668    | 53.40      |
| ---      | ---               | 9.50        | 0.3740         | 46mm         | 79mm           | 32676    | 57.40      |
| 3/8"     | ---               | 9.53        | 0.3750         | 1-13/16"     | 3-1/8"         | 32680    | 56.00      |
| ---      | V                 | 9.58        | 0.3770         | 1-7/8"       | 3-1/4"         | 32684    | 57.40      |
| ---      | W                 | 9.81        | 0.3860         | 1-7/8"       | 3-1/4"         | 32700    | 58.70      |
| 25/64"   | ---               | 9.92        | 0.3906         | 1-7/8"       | 3-1/4"         | 32708    | 62.40      |
| ---      | ---               | 10.00       | 0.3937         | 48mm         | 83mm           | 32712    | 72.00      |
| ---      | X                 | 10.08       | 0.3970         | 1-15/16"     | 3-5/16"        | 32716    | 69.00      |
| ---      | Y                 | 10.26       | 0.4040         | 1-15/16"     | 3-5/16"        | 32728    | 69.20      |
| 13/32"   | ---               | 10.32       | 0.4062         | 1-15/16"     | 3-5/16"        | 32736    | 69.40      |
| ---      | Z                 | 10.49       | 0.4130         | 2"           | 3-3/8"         | 32744    | 70.00      |
| ---      | ---               | 10.50       | 0.4134         | 51mm         | 86mm           | 32748    | 72.00      |
| 27/64"   | ---               | 10.72       | 0.4219         | 2"           | 3-3/8"         | 32760    | 74.70      |
| ---      | ---               | 11.00       | 0.4331         | 52mm         | 87mm           | 32772    | 74.70      |
| 7/16"    | ---               | 11.11       | 0.4375         | 2-1/16"      | 3-7/16"        | 32776    | 80.00      |
| ---      | ---               | 11.50       | 0.4528         | 54mm         | 90mm           | 32780    | 85.40      |
| 29/64"   | ---               | 11.51       | 0.4531         | 2-1/8"       | 3-9/16"        | 32784    | 86.20      |
| 15/32"   | ---               | 11.91       | 0.4688         | 2-1/8"       | 3-9/16"        | 32788    | 90.40      |
| ---      | ---               | 12.00       | 0.4724         | 54mm         | 92mm           | 32792    | 96.00      |
| 31/64"   | ---               | 12.30       | 0.4844         | 2-3/16"      | 3-11/16"       | 32796    | 104.00     |
| ---      | ---               | 12.50       | 0.4921         | 57mm         | 95mm           | 32800    | 104.00     |
| 1/2"     | ---               | 12.70       | 0.5000         | 2-1/4"       | 3-3/4"         | 32804    | 106.70     |

# Drills

Micro Grain Solid Carbide

## 3 Fluted Drills

### Fraction And Metric

#### Features :

- Ideal drill when precise hole Dimension is required.
- Stubby design allows for use in a wide variety of applications.
- 3 Flute design allows higher MRR. Produces more straight holes.
- 150° Six facet self - Centering Drills
- Manufactured from premium sub micron grain carbide.

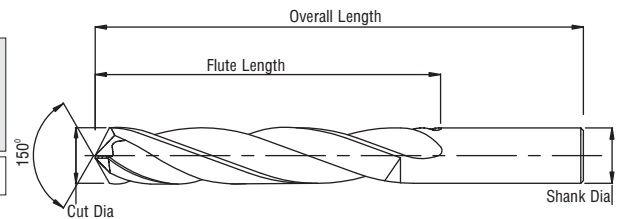
#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           | ◐              |                        | ◐               | ●         |          |

● Excellent ◐ Good



Tolerance - Shank Dia: h6 Drill Dia: h7



### Regular Length

| Fraction Size | Metric | Description    |              |                | Uncoated |            |
|---------------|--------|----------------|--------------|----------------|----------|------------|
|               |        | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---           | 3.000  | 0.1181         | 20mm         | 50mm           | 39560    | \$ 26.00   |
| 1/8"          | 3.175  | 0.1250         | 3/4"         | 1-7/8"         | 39510    | 21.20      |
| ---           | 3.300  | 0.1299         | 20mm         | 50mm           | 39565    | 27.20      |
| ---           | 3.500  | 0.1378         | 20mm         | 50mm           | 39570    | 27.40      |
| 9/64"         | 3.571  | 0.1406         | 13/16"       | 1-15/16"       | 39511    | 24.20      |
| 5/32"         | 3.967  | 0.1562         | 7/8"         | 2-1/16"        | 39512    | 26.40      |
| ---           | 4.000  | 0.1575         | 23mm         | 50mm           | 39575    | 33.40      |
| 11/64"        | 4.366  | 0.1719         | 7/8"         | 2-1/8"         | 39513    | 29.70      |
| ---           | 4.500  | 0.1770         | 24mm         | 55mm           | 39580    | 27.70      |
| 3/16"         | 4.763  | 0.1875         | 15/16"       | 2-3/16"        | 39514    | 28.70      |
| ---           | 4.800  | 0.1890         | 24mm         | 55mm           | 39585    | 36.00      |
| ---           | 5.000  | 0.1968         | 24mm         | 55mm           | 39590    | 39.90      |
| 13/64"        | 5.159  | 0.2031         | 1"           | 2-1/4"         | 39515    | 36.70      |
| ---           | 5.500  | 0.2165         | 29mm         | 63mm           | 39595    | 46.90      |
| 7/32"         | 5.555  | 0.2187         | 1-1/16"      | 2-3/8"         | 39516    | 37.90      |
| 15/64"        | 5.954  | 0.2344         | 1-1/8"       | 2-7/16"        | 39517    | 40.90      |
| ---           | 6.000  | 0.2362         | 29mm         | 63mm           | 39600    | 46.40      |
| 1/4"          | 6.350  | 0.2500         | 1-3/16"      | 2-1/2"         | 39518    | 45.00      |
| ---           | 6.500  | 0.2559         | 29mm         | 63mm           | 39605    | 49.70      |
| 17/64"        | 6.746  | 0.2656         | 1-1/4"       | 2-5/8"         | 39519    | 42.40      |
| ---           | 6.800  | 0.2677         | 34mm         | 69mm           | 39610    | 52.90      |
| ---           | 7.000  | 0.2756         | 34mm         | 69mm           | 39615    | 54.70      |
| 9/32"         | 7.142  | 0.2812         | 1-5/16"      | 2-11/16"       | 39520    | 53.40      |
| ---           | 7.500  | 0.2953         | 34mm         | 69mm           | 39620    | 59.20      |
| 19/64"        | 7.541  | 0.2969         | 1-3/8"       | 2-3/4"         | 39521    | 52.00      |
| 5/16"         | 7.938  | 0.3125         | 1-7/16"      | 2-13/16"       | 39522    | 53.40      |

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# 3 Fluted Drills

# Drills

Micro Grain Solid Carbide

## Fraction And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

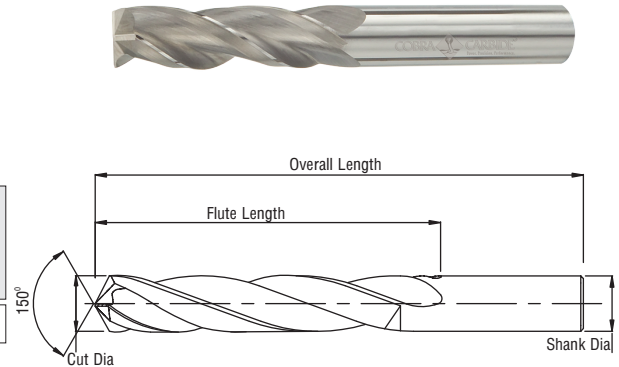
### Features :

- Ideal drill when precise hole Dimension is required.
- Stubby design allows for use in a wide variety of applications.
- 3 Flute design allows higher MRR. Produces more straight holes.
- 150° Six facet self - Centering Drills
- Manufactured from premium sub micron grain carbide.

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           | ◐              |                        | ◐               | ●         |          |

● Excellent ◐ Good



## Regular Length

| Fraction Size | Metric | Description<br>Decimal Equiv. | Flute Length | Overall Length | Uncoated |            |
|---------------|--------|-------------------------------|--------------|----------------|----------|------------|
|               |        |                               |              |                | EDP #    | List Price |
| ---           | 8.000  | 0.3150                        | 38mm         | 75mm           | 39625    | \$ 65.70   |
| 21/64"        | 8.334  | 0.3281                        | 1-1/2"       | 2-15/16"       | 39523    | 59.00      |
| ---           | 8.500  | 0.3346                        | 38mm         | 75mm           | 39630    | 73.00      |
| 11/32"        | 8.733  | 0.3438                        | 1-1/2"       | 3"             | 39524    | 64.50      |
| ---           | 9.000  | 0.3543                        | 41mm         | 80mm           | 39635    | 82.50      |
| 23/64"        | 9.129  | 0.3594                        | 1-9/16"      | 3-1/16"        | 39525    | 70.00      |
| ---           | 9.500  | 0.3740                        | 41mm         | 80mm           | 39640    | 93.40      |
| 3/8"          | 9.525  | 0.3750                        | 1-5/8"       | 3-1/8"         | 39526    | 75.90      |
| 25/64"        | 9.921  | 0.3906                        | 1-5/8"       | 3-1/4"         | 39527    | 85.00      |
| ---           | 10.000 | 0.3937                        | 41mm         | 80mm           | 39645    | 106.70     |
| ---           | 10.200 | 0.4016                        | 41mm         | 80mm           | 39650    | 113.40     |
| 13/32"        | 10.317 | 0.4062                        | 1-5/8"       | 3-5/16"        | 39528    | 95.70      |
| ---           | 10.500 | 0.4134                        | 41mm         | 85mm           | 39655    | 118.40     |
| 27/64"        | 10.716 | 0.4219                        | 1-21/32"     | 3-3/8"         | 39529    | 105.70     |
| ---           | 10.800 | 0.4252                        | 45mm         | 88mm           | 39660    | 125.00     |
| ---           | 11.000 | 0.4331                        | 45mm         | 88mm           | 39665    | 143.40     |
| 7/16"         | 11.113 | 0.4375                        | 1-3/4"       | 3-7/16"        | 39530    | 113.40     |
| ---           | 11.500 | 0.4528                        | 48mm         | 92mm           | 39670    | 148.40     |
| 29/64"        | 11.509 | 0.4531                        | 1-7/8"       | 3-7/16"        | 39531    | 123.40     |
| 15/32"        | 11.908 | 0.4688                        | 1-7/8"       | 3-5/8"         | 39532    | 131.70     |
| ---           | 12.000 | 0.4724                        | 48mm         | 92mm           | 39675    | 163.40     |
| 31/64"        | 12.304 | 0.4844                        | 2"           | 3-11/16"       | 39533    | 135.00     |
| ---           | 12.500 | 0.4920                        | 58mm         | 102mm          | 39680    | 165.00     |
| 1/2"          | 12.700 | 0.5000                        | 2"           | 3-3/4"         | 39534    | 158.40     |
| 33/64"        | 13.096 | 0.5156                        | 2"           | 3-7/8"         | 39535    | 161.70     |
| 17/32"        | 13.495 | 0.5313                        | 2"           | 3-7/8"         | 39536    | 165.00     |

Continued...

# Drills

Micro Grain Solid Carbide

## 3 Fluted Drills

### Fraction And Metric

#### Features :

- Ideal drill when precise hole Dimension is required.
- Stubby design allows for use in a wide variety of applications.
- 3 Flute design allows higher MRR. Produces more straight holes.
- 150° Six facet self - Centering Drills
- Manufactured from premium sub micron grain carbide.

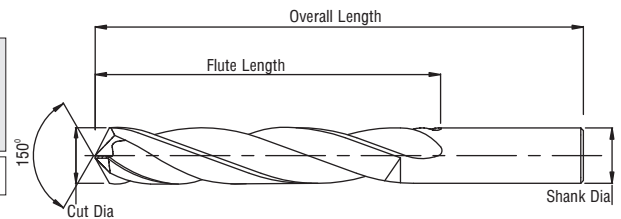
#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           | ◐              |                        | ◐               | ●         |          |

● Excellent ◐ Good



Tolerance - Shank Dia: h6 Drill Dia: h7



### Regular Length

| Fraction Size | Metric | Description<br>Decimal Equiv. | Flute Length | Overall Length | Uncoated |            |
|---------------|--------|-------------------------------|--------------|----------------|----------|------------|
|               |        |                               |              |                | EDP #    | List Price |
| 35/64"        | 13.891 | 0.5469                        | 2-1/8"       | 4"             | 39537    | \$ 166.70  |
| 9/16"         | 14.288 | 0.5625                        | 2-1/8"       | 4"             | 39538    | 168.40     |
| 37/64"        | 14.684 | 0.5781                        | 2-1/8"       | 4"             | 39539    | 196.70     |
| 19/32"        | 15.080 | 0.5937                        | 2-1/8"       | 4"             | 39540    | 198.40     |
| 39/64"        | 15.479 | 0.6094                        | 2-1/8"       | 4"             | 39541    | 201.70     |
| 5/8"          | 15.875 | 0.6250                        | 2-1/4"       | 4-1/4"         | 39542    | 205.00     |
| 41/64"        | 16.271 | 0.6406                        | 2-1/4"       | 4-1/4"         | 39543    | 341.70     |
| 21/32"        | 16.667 | 0.6562                        | 2-1/4"       | 4-1/4"         | 39544    | 341.70     |
| 43/64"        | 17.066 | 0.6719                        | 2-1/4"       | 4-1/4"         | 39545    | 341.70     |
| 11/16"        | 17.463 | 0.6875                        | 2-7/8"       | 4-5/8"         | 39546    | 351.70     |
| 45/64"        | 17.859 | 0.7031                        | 2-7/8"       | 4-5/8"         | 39547    | 351.70     |
| 23/32"        | 18.255 | 0.7187                        | 2-7/8"       | 4-5/8"         | 39548    | 351.70     |
| 47/64"        | 18.654 | 0.7344                        | 2-7/8"       | 4-5/8"         | 39549    | 351.70     |
| 3/4"          | 19.050 | 0.7500                        | 3-1/8"       | 5"             | 39550    | 356.70     |

### Fraction



Tolerance - Shank Dia: h6 Drill Dia: h7

#### Features :

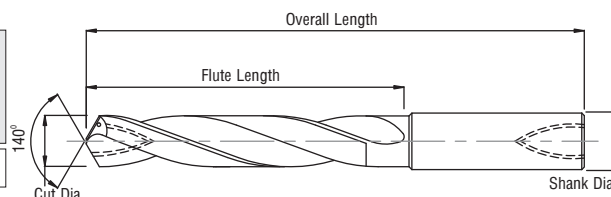
- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN coating.
- Manufactured from premium sub micron grain carbide.



#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



### 5XD 140° Point Angle

| Drill Dia. | Shank Dia. | Description  |                | TiAlN Coated |            |
|------------|------------|--------------|----------------|--------------|------------|
|            |            | Flute Length | Overall Length | EDP #        | List Price |
| 1/4"       | 1/4"       | 2.08         | 3.58           | 55000        | \$ 104.60  |
| 17/64"     | 5/16"      | 2.08         | 3.58           | 55002        | 104.60     |
| 9/32"      | 5/16"      | 2.08         | 3.58           | 55004        | 119.20     |
| 19/64"     | 5/16"      | 2.08         | 3.58           | 55006        | 124.60     |
| 5/16"      | 5/16"      | 2.08         | 3.58           | 55008        | 136.20     |
| 21/64"     | 3/8"       | 2.40         | 4.05           | 55010        | 149.40     |
| 11/32"     | 3/8"       | 2.40         | 4.05           | 55012        | 149.40     |
| 23/64"     | 3/8"       | 2.40         | 4.05           | 55014        | 161.40     |
| 3/8"       | 3/8"       | 2.40         | 4.05           | 55016        | 176.60     |
| 25/64"     | 7/16"      | 2.80         | 4.05           | 55018        | 181.80     |
| 13/32"     | 7/16"      | 2.80         | 4.64           | 55020        | 270.10     |
| 27/64"     | 7/16"      | 2.80         | 4.64           | 55022        | 270.10     |
| 7/16"      | 7/16"      | 2.80         | 4.64           | 55024        | 292.40     |
| 29/64"     | 1/2"       | 3.03         | 4.875          | 55026        | 309.70     |
| 15/32"     | 1/2"       | 3.03         | 4.875          | 55028        | 334.90     |
| 31/64"     | 1/2"       | 3.03         | 4.875          | 55030        | 336.40     |
| 1/2"       | 1/2"       | 3.03         | 4.875          | 55032        | 340.90     |
| 33/64"     | 9/16"      | 3.03         | 4.875          | 55034        | 350.60     |
| 17/32"     | 9/16"      | 3.03         | 4.875          | 55036        | 368.90     |
| 35/64"     | 9/16"      | 3.03         | 4.875          | 55038        | 461.70     |

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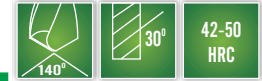
# Drills

Micro Grain Solid Carbide

# BlackMamba

CoolantFed Hi-Performance Drills

## Fraction



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

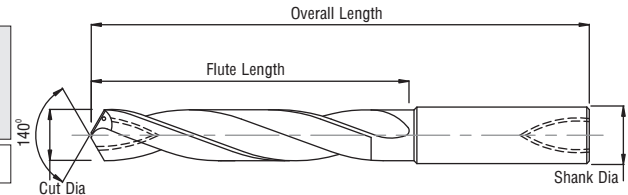
- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



## 5XD 140° Point Angle

| Description |            |              |                | TiAlN Coated |            |
|-------------|------------|--------------|----------------|--------------|------------|
| Drill Dia.  | Shank Dia. | Flute Length | Overall Length | EDP #        | List Price |
| 9/16"       | 9/16"      | 3.03         | 4.875          | 55040        | \$ 483.40  |
| 37/64"      | 5/8"       | 3-17/64"     | 5.23           | 55042        | 483.40     |
| 19/32"      | 5/8"       | 3-17/64"     | 5.23           | 55044        | 505.00     |
| 39/64"      | 5/8"       | 3-17/64"     | 5.23           | 55046        | 552.50     |
| 5/8"        | 5/8"       | 3-17/64"     | 5.23           | 55048        | 556.60     |
| 41/64"      | 11/16"     | 3.66         | 5-5/8"         | 55050        | 583.60     |
| 21/32"      | 11/16"     | 3.66         | 5-5/8"         | 55052        | 583.60     |
| 43/64"      | 11/16"     | 3.66         | 5-5/8"         | 55054        | 607.40     |
| 11/16"      | 11/16"     | 3.66         | 5-5/8"         | 55056        | 659.20     |
| 45/64"      | 3/4"       | 3.97         | 6              | 55058        | 684.60     |
| 23/32"      | 3/4"       | 3.97         | 6              | 55060        | 684.60     |
| 47/64"      | 3/4"       | 3.97         | 6              | 55062        | 684.60     |
| 3/4"        | 3/4"       | 3.97         | 6              | 55064        | 838.60     |

Hi-Performance Drills



## Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.

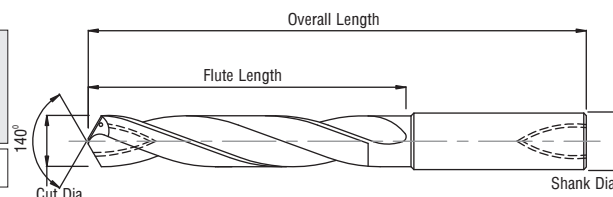


### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
|                |              |             |                |                        |                 |           |          |

Excellent

Good



## 5XD 140° Point Angle

| Drill Dia | Shank Dia | Description  |                | TiAlN Coated |            |
|-----------|-----------|--------------|----------------|--------------|------------|
|           |           | Flute Length | Overall Length | EDP #        | List Price |
| 3.00      | 4         | 28           | 66             | 55101        | \$ 48.40   |
| 3.10      | 4         | 28           | 66             | 55105        | 48.40      |
| 3.30      | 4         | 28           | 66             | 55109        | 48.40      |
| 3.50      | 4         | 28           | 66             | 55113        | 48.90      |
| 3.70      | 4         | 28           | 66             | 55117        | 49.20      |
| 3.80      | 4         | 36           | 74             | 55121        | 50.00      |
| 4.00      | 4         | 36           | 74             | 55125        | 54.90      |
| 4.20      | 6         | 36           | 74             | 55128        | 54.90      |
| 4.50      | 6         | 36           | 74             | 55132        | 70.70      |
| 4.80      | 6         | 44           | 82             | 55136        | 70.70      |
| 5.00      | 6         | 44           | 82             | 55140        | 78.20      |
| 5.10      | 6         | 44           | 82             | 55144        | 78.20      |
| 5.20      | 6         | 44           | 82             | 55148        | 79.50      |
| 5.50      | 6         | 44           | 82             | 55152        | 86.00      |
| 5.80      | 6         | 44           | 82             | 55156        | 86.00      |
| 6.00      | 6         | 44           | 82             | 55160        | 96.70      |
| 6.30      | 8         | 53           | 91             | 55164        | 98.00      |
| 6.50      | 8         | 53           | 91             | 55168        | 113.40     |
| 6.80      | 8         | 53           | 91             | 55172        | 113.40     |
| 7.00      | 8         | 53           | 91             | 55176        | 125.90     |
| 7.50      | 8         | 53           | 91             | 55180        | 128.40     |
| 7.80      | 8         | 53           | 91             | 55184        | 134.20     |
| 8.00      | 8         | 53           | 91             | 55188        | 146.70     |
| 8.50      | 10        | 61           | 103            | 55192        | 161.70     |
| 8.80      | 10        | 61           | 103            | 55196        | 161.70     |
| 9.00      | 10        | 61           | 103            | 55200        | 174.00     |

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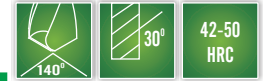
# Drills

Micro Grain Solid Carbide

# BlackMamba

CoolantFed Hi-Performance Drills

## Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

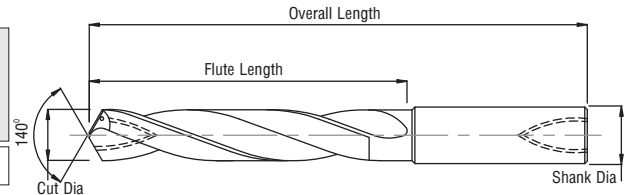
- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



## 5XD 140° Point Angle

| Description |           |              |                | TiAlN Coated |            |
|-------------|-----------|--------------|----------------|--------------|------------|
| Drill Dia   | Shank Dia | Flute Length | Overall Length | EDP #        | List Price |
| 9.20        | 10        | 61           | 103            | 55204        | \$ 174.00  |
| 9.50        | 10        | 61           | 103            | 55208        | 190.70     |
| 9.80        | 10        | 61           | 103            | 55212        | 190.70     |
| 10.00       | 10        | 61           | 103            | 55216        | 208.90     |
| 10.20       | 12        | 71           | 118            | 55220        | 239.40     |
| 10.50       | 12        | 71           | 118            | 55224        | 270.00     |
| 10.80       | 12        | 71           | 118            | 55228        | 270.00     |
| 11.00       | 12        | 71           | 118            | 55232        | 292.50     |
| 11.50       | 12        | 71           | 118            | 55236        | 309.90     |
| 11.80       | 12        | 71           | 118            | 55240        | 309.90     |
| 12.00       | 12        | 71           | 118            | 55244        | 334.90     |
| 12.30       | 14        | 77           | 124            | 55248        | 336.70     |
| 12.50       | 14        | 77           | 124            | 55252        | 340.90     |
| 12.80       | 14        | 77           | 124            | 55256        | 340.90     |
| 13.00       | 14        | 77           | 124            | 55260        | 358.40     |
| 13.50       | 14        | 77           | 124            | 55264        | 369.40     |
| 14.00       | 14        | 77           | 124            | 55268        | 461.70     |
| 14.50       | 16        | 83           | 133            | 55272        | 483.40     |
| 15.00       | 16        | 83           | 133            | 55276        | 471.40     |
| 15.50       | 16        | 83           | 133            | 55280        | 515.70     |
| 16.00       | 16        | 83           | 133            | 55284        | 520.00     |
| 16.50       | 18        | 93           | 143            | 55288        | 544.70     |
| 17.00       | 18        | 93           | 143            | 55292        | 568.40     |
| 17.50       | 18        | 93           | 143            | 55296        | 616.70     |
| 18.00       | 18        | 93           | 143            | 55300        | 640.00     |
| 20.00       | 20        | 101          | 153            | 55304        | 782.70     |

Hi-Performance Drills

### Fraction



Tolerance - Shank Dia: h6 Drill Dia: h7

#### Features :

- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.

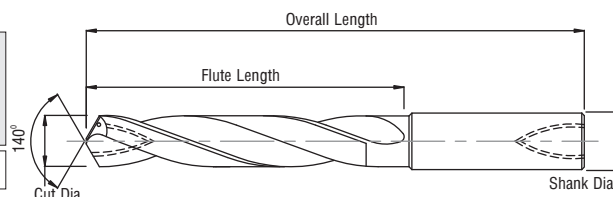


#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent

● Good



### 8XD 140° Point Angle

| Drill Dia | Shank Dia | Description  |                | TiAlN Coated |            |
|-----------|-----------|--------------|----------------|--------------|------------|
|           |           | Flute Length | Overall Length | EDP #        | List Price |
| 1/4"      | 1/4"      | 3"           | 4-1/2"         | 55600        | \$ 138.70  |
| 17/64"    | 5/16"     | 3"           | 4-1/2"         | 55604        | 147.00     |
| 9/32"     | 5/16"     | 3"           | 4-1/2"         | 55608        | 160.90     |
| 19/64"    | 5/16"     | 3"           | 4-1/2"         | 55612        | 171.70     |
| 5/16"     | 5/16"     | 3"           | 4-1/2"         | 55616        | 194.70     |
| 21/64"    | 3/8"      | 3-3/4"       | 5-3/4"         | 55620        | 205.00     |
| 11/32"    | 3/8"      | 3-3/4"       | 5-3/4"         | 55624        | 211.40     |
| 23/64"    | 3/8"      | 3-3/4"       | 5-3/4"         | 55628        | 235.00     |
| 3/8"      | 3/8"      | 3-3/4"       | 5-3/4"         | 55632        | 241.40     |
| 25/64"    | 7/16"     | 4-1/2"       | 6-1/2"         | 55636        | 464.20     |
| 13/32"    | 7/16"     | 4-1/2"       | 6-1/2"         | 55640        | 495.00     |
| 27/64"    | 7/16"     | 4-1/2"       | 6-1/2"         | 55644        | 500.00     |
| 7/16"     | 7/16"     | 4-1/2"       | 6-1/2"         | 55648        | 532.40     |
| 29/64"    | 1/2"      | 5-1/4"       | 7"             | 55652        | 561.70     |
| 15/32"    | 1/2"      | 5-1/4"       | 7"             | 55656        | 625.40     |
| 31/64"    | 1/2"      | 5-1/4"       | 7"             | 55660        | 633.40     |
| 1/2"      | 1/2"      | 5-1/4"       | 7"             | 55664        | 665.00     |
| 33/64"    | 9/16"     | 5-1/4"       | 7"             | 55668        | 791.70     |
| 17/32"    | 9/16"     | 5-1/4"       | 7"             | 55672        | 791.70     |
| 35/64"    | 9/16"     | 5-1/4"       | 7"             | 55676        | 852.70     |
| 9/16"     | 9/16"     | 5-1/4"       | 7"             | 55680        | 885.00     |
| 37/64"    | 5/8"      | 6"           | 8"             | 55684        | 902.70     |
| 19/32"    | 5/8"      | 6"           | 8"             | 55688        | 902.70     |
| 39/64"    | 5/8"      | 6"           | 8"             | 55692        | 933.40     |
| 5/8"      | 5/8"      | 6"           | 8"             | 55696        | 966.70     |

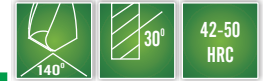
# Drills

Micro Grain Solid Carbide

# BlackMamba

CoolantFed Hi-Performance Drills

## Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

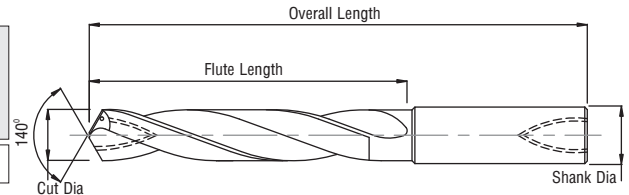
- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



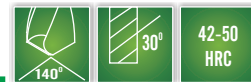
## 8XD 140° Point Angle

| Description |           |              |                | TiAlN Coated |            |
|-------------|-----------|--------------|----------------|--------------|------------|
| Drill Dia   | Shank Dia | Flute Length | Overall Length | EDP #        | List Price |
| 3.50        | 4         | 34           | 72             | 55351        | \$ 54.20   |
| 3.70        | 4         | 34           | 72             | 55355        | 55.90      |
| 3.80        | 4         | 43           | 81             | 55359        | 55.90      |
| 4.00        | 4         | 43           | 81             | 55363        | 60.00      |
| 4.20        | 6         | 43           | 81             | 55366        | 60.00      |
| 4.50        | 6         | 43           | 81             | 55370        | 79.70      |
| 4.80        | 6         | 57           | 95             | 55374        | 82.70      |
| 5.00        | 6         | 57           | 95             | 55378        | 85.00      |
| 5.10        | 6         | 57           | 95             | 55382        | 85.00      |
| 5.20        | 6         | 57           | 95             | 55386        | 87.00      |
| 5.50        | 6         | 57           | 95             | 55390        | 95.00      |
| 5.80        | 6         | 57           | 95             | 55394        | 108.40     |
| 6.00        | 6         | 57           | 95             | 55398        | 128.40     |
| 6.30        | 8         | 76           | 114            | 55402        | 138.70     |
| 6.50        | 8         | 76           | 114            | 55406        | 140.00     |
| 6.80        | 8         | 76           | 114            | 55410        | 147.00     |
| 7.00        | 8         | 76           | 114            | 55414        | 160.90     |
| 7.50        | 8         | 76           | 114            | 55418        | 171.70     |
| 7.80        | 8         | 76           | 114            | 55422        | 181.70     |
| 8.00        | 8         | 76           | 114            | 55426        | 194.70     |
| 8.50        | 10        | 95           | 142            | 55430        | 205.00     |
| 8.80        | 10        | 95           | 142            | 55434        | 211.40     |
| 9.00        | 10        | 95           | 142            | 55438        | 229.70     |
| 9.20        | 10        | 95           | 142            | 55442        | 235.00     |
| 9.50        | 10        | 95           | 142            | 55446        | 241.40     |
| 9.80        | 10        | 95           | 142            | 55450        | 250.90     |

Continued...

Hi-Performance Drills

### Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

#### Features :

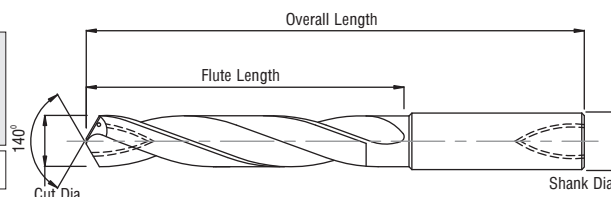
- 140° point angle and high performance geometry allows for high penetration rates.
- Cobra High performance high penetration drills provide accurate hole sizing as well as near burnished holes
- The Cobra drill comes standard with TiAlN Coating.
- Manufactured from premium sub micron grain carbide.



#### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



### 8XD 140° Point Angle

| Drill Dia | Shank Dia | Description  |                | TiAlN Coated |            |
|-----------|-----------|--------------|----------------|--------------|------------|
|           |           | Flute Length | Overall Length | EDP #        | List Price |
| 10.00     | 10        | 95           | 142            | 55454        | \$ 464.20  |
| 10.20     | 12        | 114          | 162            | 55458        | 484.20     |
| 10.50     | 12        | 114          | 162            | 55462        | 495.00     |
| 10.80     | 12        | 114          | 162            | 55466        | 500.00     |
| 11.00     | 12        | 114          | 162            | 55470        | 532.40     |
| 11.50     | 12        | 114          | 162            | 55474        | 561.70     |
| 11.80     | 12        | 114          | 162            | 55478        | 588.70     |
| 12.00     | 12        | 114          | 162            | 55482        | 625.40     |
| 12.30     | 14        | 133          | 178            | 55486        | 633.40     |
| 12.50     | 14        | 133          | 178            | 55490        | 638.00     |
| 12.80     | 14        | 133          | 178            | 55494        | 665.00     |
| 13.00     | 14        | 133          | 178            | 55498        | 738.00     |
| 13.50     | 14        | 133          | 178            | 55502        | 791.70     |
| 14.00     | 14        | 133          | 178            | 55506        | 852.70     |
| 14.50     | 16        | 152          | 203            | 55510        | 885.00     |
| 15.00     | 16        | 152          | 203            | 55514        | 902.70     |
| 15.50     | 16        | 152          | 203            | 55518        | 933.40     |
| 16.00     | 16        | 152          | 203            | 55522        | 966.70     |

# Drills

Micro Grain Solid Carbide

# Spade Drills

## Fraction And Metric



Tolerance - Shank Dia: h6 Drill Dia: h7

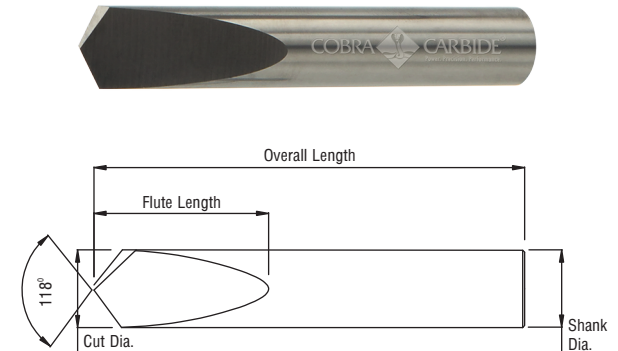
### Features :

- 118° Point angle - Ideal for drilling thin sheet materials.
- Designed for shallow hole drilling, do not exceed two diameter deep.
- Heavy duty web reduces breakage.
- Can also be used for spot drilling.
- Manufactured from premium sub micron grain carbide.

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ◐              | ◐                      | ◐               | ●         |          |

● Excellent ◐ Good



## Spade Drills

| Fraction Size | Metric | Description    |              |                | Uncoated |            |
|---------------|--------|----------------|--------------|----------------|----------|------------|
|               |        | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| 1/32"         | 0.79   | 0.0312         | 3/16"        | 1-1/4"         | 32920    | \$ 9.70    |
| 3/64"         | ---    | 0.0469         | 7/32"        | 1-1/2"         | 32926    | 8.80       |
| 1/16"         | 1.59   | 0.0625         | 5/16"        | 1-1/2"         | 32932    | 11.50      |
| 5/64"         | ---    | 0.0781         | 7/16"        | 1-1/2"         | 32938    | 8.80       |
| 3/32"         | 2.38   | 0.0938         | 3/8"         | 1-1/2"         | 32944    | 13.60      |
| 7/64"         | ---    | 0.1094         | 7/16"        | 1-1/2"         | 32950    | 9.20       |
| ---           | 3.00   | 0.1181         | 10mm         | 38mm           | 32956    | 11.20      |
| 1/8"          | 3.18   | 0.1250         | 7/16"        | 1-1/2"         | 32962    | 15.70      |
| 9/64"         | ---    | 0.1406         | 1/2"         | 2"             | 32968    | 14.00      |
| 5/32"         | 3.97   | 0.1562         | 15/32"       | 2"             | 32974    | 19.30      |
| ---           | 4.00   | 0.1575         | 12mm         | 50mm           | 32980    | 17.20      |
| 11/64"        | ---    | 0.1719         | 9/16"        | 2"             | 32986    | 17.20      |
| 3/16"         | 4.76   | 0.1875         | 9/16"        | 2"             | 32992    | 22.90      |
| 7/32"         | 5.56   | 0.2188         | 19/32"       | 2"             | 32998    | 28.40      |
| ---           | 6.00   | 0.2362         | 16mm         | 50mm           | 33004    | 24.20      |
| 1/4"          | 6.35   | 0.2500         | 11/16"       | 2"             | 33010    | 33.70      |
| 9/32"         | 7.14   | 0.2812         | 3/4"         | 2-1/2"         | 33016    | 47.00      |
| 5/16"         | 7.94   | 0.3125         | 7/8"         | 2-1/2"         | 33022    | 55.10      |
| ---           | 8.00   | 0.3150         | 22mm         | 63mm           | 33028    | 34.20      |
| 11/32"        | 8.73   | 0.3438         | 15/16"       | 2-1/2"         | 33034    | 66.50      |
| 3/8"          | 9.53   | 0.3750         | 1"           | 2-1/2"         | 33040    | 42.20      |
| ---           | 10.00  | 0.3937         | 25mm         | 63mm           | 33046    | 42.20      |
| 13/32"        | 10.32  | 0.4062         | 1"           | 2-1/2"         | 33052    | 98.80      |
| 7/16"         | 11.11  | 0.4375         | 1-1/16"      | 2-1/2"         | 33058    | 51.60      |
| 15/32"        | 11.91  | 0.4688         | 1-3/32"      | 2-1/2"         | 33064    | 136.50     |
| ---           | 12.00  | 0.4724         | 28mm         | 63mm           | 33070    | 70.00      |
| 1/2"          | 12.70  | 0.5000         | 1-1/8"       | 2-1/2"         | 33076    | 70.00      |



## 2 Flute N/C Spotting Drills



Tolerance - Shank Dia: h6 Drill Dia: h7

### Features :

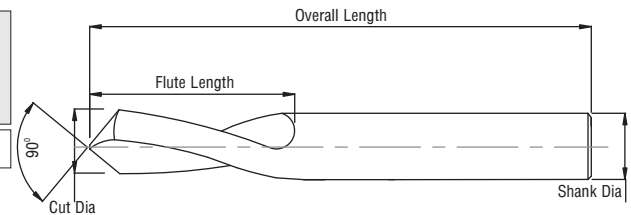
- Ideal for chamfering or spot drilling
- For centering and countersinking on NC and CNC Machines.
- Manufactured from premium submicron level carbide grain.



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           |                |                        | ◐               | ●         |          |

● Excellent ◐ Good



## 90° N/C Spotting Drills

| Fraction | Description    |              |                | Uncoated 90° |            |
|----------|----------------|--------------|----------------|--------------|------------|
|          | Decimal Equiv. | Flute Length | Overall Length | EDP #        | List Price |
| 1/8"     | 0.1250         | 9/16"        | 1-1/2"         | 31900        | \$ 10.00   |
| 3/16"    | 0.1875         | 3/4"         | 2"             | 31904        | 14.00      |
| 1/4"     | 0.2500         | 1"           | 2-1/2"         | 31908        | 19.70      |
| 5/16"    | 0.3125         | 1"           | 2-1/2"         | 31912        | 26.50      |
| 3/8"     | 0.3750         | 1"           | 2-1/2"         | 31916        | 36.00      |
| 1/2"     | 0.5000         | 1-1/4"       | 3"             | 31920        | 57.50      |

## 120° N/C Spotting Drills

| Fraction | Description    |              |                | Uncoated 120° |            |
|----------|----------------|--------------|----------------|---------------|------------|
|          | Decimal Equiv. | Flute Length | Overall Length | EDP #         | List Price |
| 1/8"     | 0.1250         | 9/16"        | 1-1/2"         | 31902         | \$ 10.00   |
| 3/16"    | 0.1875         | 3/4"         | 2"             | 31906         | 14.00      |
| 1/4"     | 0.2500         | 1"           | 2-1/2"         | 31910         | 19.70      |
| 5/16"    | 0.3125         | 1"           | 2-1/2"         | 31914         | 26.50      |
| 3/8"     | 0.3750         | 1"           | 2-1/2"         | 31918         | 36.00      |
| 1/2"     | 0.5000         | 1-1/4"       | 3"             | 31922         | 57.50      |

## Combined Drills & Countersinks



Tolerance - Shank Dia: h6 Drill Dia: h7

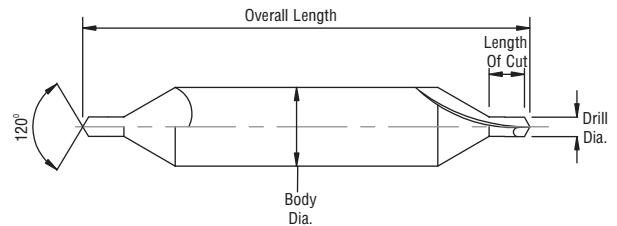
### Features :

- Ideal for chamfering.
- For centering and countersinking on NC and CNC Machines.
- Manufactured from premium submicron level carbide grain.

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           |                | ◐                      | ◐               | ●         |          |

● Excellent ◐ Good



## 60° Plain Type Combined Drills And Countersink

| Size | Description |          |                | Uncoated |            | Coated    |            |             |            |
|------|-------------|----------|----------------|----------|------------|-----------|------------|-------------|------------|
|      | Drill Dia   | Body Dia | Overall Length | EDP #    | List Price | TiN EDP # | List Price | TiAlN EDP # | List Price |
| 00   | .025        | 1/8"     | 1-1/4"         | 31504    | \$ 19.00   | 31544     | \$ 21.50   | 31546       | \$ 22.58   |
| 0    | 1/32"       | 1/8"     | 1-1/4"         | 31508    | 19.00      | 31548     | 21.50      | 31550       | 22.58      |
| 1    | 3/64"       | 1/8"     | 1-1/4"         | 31512    | 19.00      | 31552     | 21.50      | 31554       | 22.58      |
| 2    | 5/64"       | 3/16"    | 1-7/8"         | 31516    | 27.50      | 31556     | 30.70      | 31558       | 32.24      |
| 3    | 7/64"       | 1/4"     | 2"             | 31520    | 32.00      | 31560     | 36.60      | 31562       | 38.43      |
| 4    | 1/8"        | 5/16"    | 2-1/8"         | 31524    | 44.20      | 31564     | 53.40      | 31566       | 56.07      |
| 5    | 3/16"       | 7/16"    | 2-3/4"         | 31528    | 63.30      | 31568     | 74.70      | 31570       | 78.44      |
| 6    | 7/32"       | 1/2"     | 3"             | 31532    | 89.30      | 31572     | 100.70     | 31574       | 105.74     |
| 7    | 1/4"        | 5/8"     | 3-1/4"         | 31536    | 113.30     | 31576     | 129.30     | 31578       | 135.77     |
| 8    | 5/16"       | 3/4"     | 3-1/4"         | 31540    | 143.30     | 31580     | 161.80     | 31582       | 169.89     |

## 60° Plain Type Long Series

| Size | Description |          |                | Uncoated |            |
|------|-------------|----------|----------------|----------|------------|
|      | Drill Dia   | Body Dia | Overall Length | EDP #    | List Price |
| 1    | 3/64"       | 1/8"     | 4"             | 31664    | \$ 31.70   |
| 2    | 5/64"       | 3/16"    | 4"             | 31668    | 53.30      |
| 3    | 7/64"       | 1/4"     | 4"             | 31672    | 56.70      |
| 4    | 1/8"        | 5/16"    | 4"             | 31676    | 76.70      |
| 4    | 1/8"        | 5/16"    | 6"             | 31678    | 90.00      |
| 5    | 3/16"       | 7/16"    | 5"             | 31679    | 93.30      |
| 5    | 3/16"       | 7/16"    | 6"             | 31680    | 100.00     |
| 6    | 7/32"       | 1/2"     | 6"             | 31684    | 183.40     |
| 7    | 1/4"        | 5/8"     | 6"             | 31688    | 316.70     |
| 8    | 5/16"       | 3/4"     | 6"             | 31692    | 366.70     |

## Combined Drills & Countersinks

### Features :

- Ideal for chamfering.
- For centering and countersinking on NC and CNC Machines.
- Manufactured from premium submicron level carbide grain.

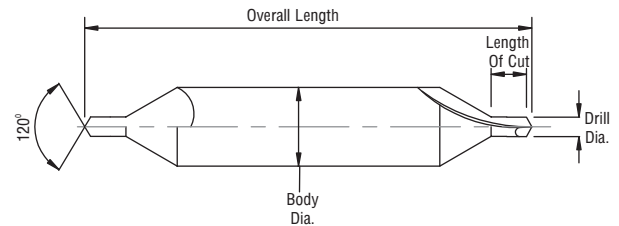


Tolerance - Shank Dia: h6 Drill Dia: h7

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           |                | ◐                      | ◐               | ●         |          |

● Excellent ◐ Good



## 80° Plain Type Combined Drills And Countersink

| Description |           |          |                | Uncoated |            |
|-------------|-----------|----------|----------------|----------|------------|
| Size        | Drill Dia | Body Dia | Overall Length | EDP #    | List Price |
| 00          | .025      | 1/8"     | 1-1/4"         | 31584    | \$ 17.50   |
| 0           | 1/32"     | 1/8"     | 1-1/4"         | 31588    | 19.20      |
| 1           | 3/64"     | 1/8"     | 1-1/4"         | 31592    | 19.70      |
| 2           | 5/64"     | 3/16"    | 1-7/8"         | 31596    | 28.20      |
| 3           | 7/64"     | 1/4"     | 2"             | 31600    | 32.00      |
| 4           | 1/8"      | 5/16"    | 2-1/8"         | 31604    | 60.30      |
| 5           | 3/16"     | 7/16"    | 2-3/4"         | 31608    | 65.20      |
| 6           | 7/32"     | 1/2"     | 3"             | 31612    | 89.30      |

## 90° Plain Type Combined Drills And Countersink

| Description |           |          |                | Uncoated |            |
|-------------|-----------|----------|----------------|----------|------------|
| Size        | Drill Dia | Body Dia | Overall Length | EDP #    | List Price |
| 00          | .025      | 1/8"     | 1-1/4"         | 31624    | \$ 17.50   |
| 0           | 1/32"     | 1/8"     | 1-1/4"         | 31628    | 19.70      |
| 1           | 3/64"     | 1/8"     | 1-1/4"         | 31632    | 19.70      |
| 2           | 5/64"     | 3/16"    | 1-7/8"         | 31636    | 28.20      |
| 3           | 7/64"     | 1/4"     | 2"             | 31640    | 32.00      |
| 4           | 1/8"      | 5/16"    | 2-1/8"         | 31644    | 60.30      |
| 5           | 3/16"     | 7/16"    | 2-3/4"         | 31648    | 65.20      |
| 6           | 7/32"     | 1/2"     | 3"             | 31652    | 89.30      |

## Countersinks

### Features :

- Eliminates chattering or tearing
- Use in mild steel; not suitable for hardened steel
- Chatterless countersinks have flutes designed for fast shearing cuts ideal for hardened steel and other tough alloys
- For chamfering, countersinking, and deburring holes

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           |                | ◐                      | ◐               | ●         |          |

● Excellent

◐ Good



## Single Flute Countersink

| Description |           |                | Uncoated  |           |           | List Price |
|-------------|-----------|----------------|-----------|-----------|-----------|------------|
| Drill Dia   | Shank Dia | Overall Length | 60° EDP # | 82° EDP # | 90° EDP # |            |
| 1/8"        | 1/8"      | 1-1/2"         | 38000     | 38004     | 38008     | \$ 19.30   |
| 3/16"       | 3/16"     | 2"             | 38020     | 38024     | 38028     | 28.80      |
| 1/4"        | 1/4"      | 2"             | 38040     | 38044     | 38048     | 31.90      |
| 3/8"        | 1/4"      | 2"             | 38060     | 38064     | 38068     | 62.90      |
| 1/2"        | 1/4"      | 2"             | 38080     | 38084     | 38088     | 87.20      |
| 5/8"        | 1/2"      | 2-3/4"         | 38100     | 38104     | 38108     | 114.80     |
| 3/4"        | 1/2"      | 2-3/4"         | 38120     | 38124     | 38128     | 162.90     |
| 1"          | 1/2"      | 3"             | 38140     | 38144     | 38148     | 266.50     |
| 1-1/4"      | 3/4"      | 3-1/4"         | 38160     | 38164     | 38168     | 295.00     |

## Six Flute Countersink

| Description |           |                | Uncoated  |           |           | List Price |
|-------------|-----------|----------------|-----------|-----------|-----------|------------|
| Drill Dia   | Shank Dia | Overall Length | 60° EDP # | 82° EDP # | 90° EDP # |            |
| 1/8"        | 1/8"      | 1-1/2"         | 38600     | 38604     | 38608     | \$ 26.20   |
| 3/16"       | 3/16"     | 2"             | 38620     | 38624     | 38628     | 31.40      |
| 1/4"        | 1/4"      | 2"             | 38640     | 38644     | 38648     | 36.40      |
| 5/16"       | 1/4"      | 2-1/2"         | 38660     | 38664     | 38668     | 48.00      |
| 3/8"        | 1/4"      | 2-1/2"         | 38680     | 38684     | 38688     | 59.10      |
| 1/2"        | 1/4"      | 2-1/2"         | 38700     | 38704     | 38708     | 81.50      |
| 5/8"        | 1/2"      | 2-5/8"         | 38720     | 38724     | 38728     | 110.30     |
| 3/4"        | 1/2"      | 2-3/4"         | 38740     | 38744     | 38748     | 169.80     |
| 7/8"        | 1/2"      | 3"             | 38760     | 38764     | 38768     | 219.70     |
| 1"          | 1/2"      | 3"             | 38780     | 38784     | 38788     | 229.80     |
| 1-1/4"      | 3/4"      | 3-1/4"         | 38800     | 38804     | 38808     | 295.00     |
| 1-1/2"      | 3/4"      | 3-1/2"         | 38820     | 38824     | 38828     | 398.00     |

## Countersinks

### Features :

- Eliminates chattering or tearing
- Use in mild steel; not suitable for hardened steel
- Chatterless countersinks have flutes designed for fast shearing cuts ideal for hardened steel and other tough alloys
- For chamfering, countersinking, and deburring holes

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ◐            | ◐           |                | ◐                      | ◐               | ●         |          |

● Excellent

◐ Good



## Single Flute Countersink

| Drill Dia | Description<br>Shank Dia | Overall Length | Uncoated                  |            |
|-----------|--------------------------|----------------|---------------------------|------------|
|           |                          |                | 100 <sup>0</sup><br>EDP # | List Price |
| 1/8"      | 1/8"                     | 1-1/2"         | 38012                     | \$ 28.30   |
| 3/16"     | 3/16"                    | 2"             | 38032                     | 31.40      |
| 1/4"      | 1/4"                     | 2"             | 38052                     | 38.30      |
| 3/8"      | 1/4"                     | 2"             | 38072                     | 51.70      |
| 1/2"      | 1/4"                     | 2"             | 38092                     | 81.70      |
| 5/8"      | 1/2"                     | 2-3/4"         | 38112                     | 111.70     |
| 3/4"      | 1/2"                     | 2-3/4"         | 38132                     | 168.30     |
| 1"        | 1/2"                     | 3"             | 38152                     | 235.00     |
| 1-1/4"    | 3/4"                     | 3-1/4"         | 38172                     | 325.00     |

## Six Flute Countersink

| Drill Dia | Description<br>Shank Dia | Overall Length | Uncoated                  |            |
|-----------|--------------------------|----------------|---------------------------|------------|
|           |                          |                | 100 <sup>0</sup><br>EDP # | List Price |
| 1/8"      | 1/8"                     | 1-1/2"         | 38612                     | \$ 28.30   |
| 3/16"     | 3/16"                    | 2"             | 38632                     | 37.30      |
| 1/4"      | 1/4"                     | 2"             | 38652                     | 42.30      |
| 5/16"     | 1/4"                     | 2-1/2"         | 38672                     | 50.00      |
| 3/8"      | 1/4"                     | 2-1/2"         | 38692                     | 54.70      |
| 1/2"      | 1/4"                     | 2-1/2"         | 38712                     | 83.30      |
| 5/8"      | 1/2"                     | 2-5/8"         | 38732                     | 136.70     |
| 3/4"      | 1/2"                     | 2-3/4"         | 38752                     | 160.00     |
| 7/8"      | 1/2"                     | 3"             | 38772                     | 231.70     |
| 1"        | 1/2"                     | 3"             | 38792                     | 241.70     |
| 1-1/4"    | 3/4"                     | 3-1/4"         | 38812                     | 408.30     |
| 1-1/2"    | 3/4"                     | 3-1/2"         | 38832                     | 585.00     |

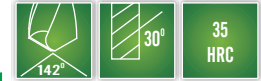
# Drills

Micro Grain Solid Carbide

# Drill Set

**New**

## 2 Flute 30° Helix 142° Point Angle



Tolerance - Shank Dia: h6 Drill Dia: h7

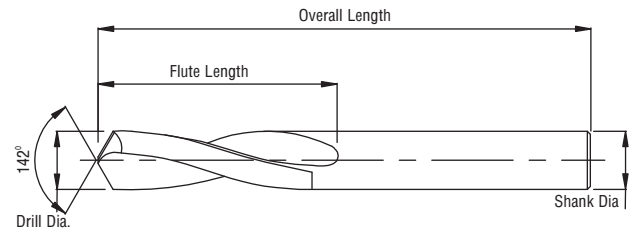
### Features :

- Designed for broad range of materials - High-Efficiency flute profile
- Stable Low-Thrust point form
- Maximum metal removal rates (MRR)
- Lower cost per hole
- CH Coating provides unparalleled success in difficult to machine applications.

### 5XD - CH Coated

List Price  
**\$359<sup>60</sup>**

| Description |           |              |                |
|-------------|-----------|--------------|----------------|
| Drill Dia   | Shank Dia | Flute Length | Overall Length |
| 1/8"        | 1/8"      | 1"           | 2-1/2"         |
| 3/16"       | 3/16"     | 1-1/2"       | 3"             |
| 1/4"        | 1/4"      | 2"           | 3-3/4"         |
| 5/16"       | 5/16"     | 2"           | 3-3/4"         |
| 3/8"        | 3/8"      | 2"           | 4"             |



### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
|                | ●            | ●           |                |                        | ●               | ●         |          |

● Excellent

◐ Good

Drill Set

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

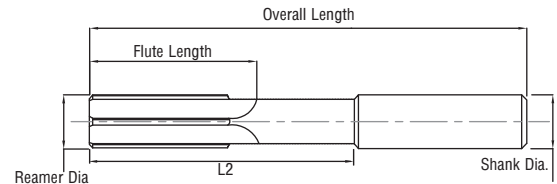
### Features :

- 4 Flutes in sizes up to .2540"; 6 flutes in sizes .2570" and up
- For use in general purpose reaming applications
- Spiral fluted reamers provide improved chip evacuation and freer cutting action for enhanced productivity and better workpiece finishes
- General purpose reaming in all materials including steel and alloys up to RC40, stainless, aluminum, brass, bronze and plastics

### Work Material

| Aluminum Alloy | Carbon Steel | Alloy Steel | Hardened Steel | Nickel / Inconel Alloy | Stainless Steel | Cast Iron | Titanium |
|----------------|--------------|-------------|----------------|------------------------|-----------------|-----------|----------|
| ●              | ●            | ●           | ●              | ●                      | ●               | ●         | ●        |

● Excellent ● Good



## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | 65                    | 0.889       | 0.0350         | 1/4"         | 1-1/2"         | 36022    | \$ 18.70   |
| ---        | 64                    | 0.914       | 0.0360         | 1/4"         | 1-1/2"         | 36026    | 18.70      |
| ---        | 63                    | 0.940       | 0.0370         | 1/4"         | 1-1/2"         | 36030    | 18.70      |
| ---        | 62                    | 0.965       | 0.0380         | 1/4"         | 1-1/2"         | 36034    | 18.70      |
| ---        | 61                    | 0.991       | 0.0390         | 1/4"         | 1-1/2"         | 36038    | 18.70      |
| ---        | ---                   | 0.998       | 0.0393         | 1/4"         | 1-1/2"         | 36042    | 18.70      |
| ---        | 60                    | 1.016       | 0.0400         | 1/4"         | 1-1/2"         | 36046    | 18.70      |
| ---        | 59                    | 1.041       | 0.0410         | 1/4"         | 1-1/2"         | 36050    | 18.70      |
| ---        | 58                    | 1.067       | 0.0420         | 3/8"         | 1-1/2"         | 36054    | 18.70      |
| ---        | 57                    | 1.092       | 0.0430         | 3/8"         | 1-1/2"         | 36058    | 18.70      |
| ---        | 56                    | 1.181       | 0.0465         | 3/8"         | 1-1/2"         | 36062    | 18.70      |
| 3/64"      | ---                   | 1.191       | 0.0469         | 3/8"         | 1-1/2"         | 36066    | 18.00      |
| ---        | ---                   | 1.199       | 0.0472         | 8mm          | 35mm           | 36070    | 18.00      |
| ---        | ---                   | 1.250       | 0.0492         | 10mm         | 38mm           | 36074    | 18.00      |
| ---        | ---                   | 1.300       | 0.0512         | 10mm         | 38mm           | 36078    | 18.00      |
| ---        | 55                    | 1.321       | 0.0520         | 3/8"         | 1-1/2"         | 36082    | 19.80      |
| ---        | ---                   | 1.349       | 0.0531         | 10mm         | 38mm           | 36086    | 18.00      |
| ---        | 54                    | 1.397       | 0.0550         | 3/8"         | 1-1/2"         | 36090    | 19.40      |
| ---        | ---                   | 1.400       | 0.0551         | 10mm         | 38mm           | 36094    | 18.00      |
| ---        | ---                   | 1.450       | 0.0571         | 10mm         | 38mm           | 36098    | 18.00      |
| ---        | ---                   | 1.501       | 0.0591         | 10mm         | 38mm           | 36102    | 19.60      |
| ---        | 53                    | 1.511       | 0.0595         | 3/8"         | 1-1/2"         | 36106    | 18.00      |
| ---        | ---                   | 1.549       | 0.0610         | 10mm         | 38mm           | 36110    | 18.00      |
| ---        | ---                   | 1.575       | 0.0620         | 3/8"         | 1-1/2"         | 36112    | 18.00      |
| 1/16"      | ---                   | 1.588       | 0.0625         | 3/8"         | 1-1/2"         | 36114    | 18.00      |
| ---        | ---                   | 1.600       | 0.0630         | 10mm         | 38mm           | 36118    | 16.80      |
| ---        | 52                    | 1.613       | 0.0635         | 3/8"         | 1-1/2"         | 36122    | 18.00      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...



## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | ---                   | 1.626       | 0.0640         | 3/8"         | 1-1/2"         | 36124    | \$ 21.40   |
| ---        | ---                   | 1.651       | 0.0650         | 10mm         | 38mm           | 36126    | 21.40      |
| ---        | ---                   | 1.699       | 0.0669         | 11mm         | 44mm           | 36130    | 21.40      |
| ---        | 51                    | 1.702       | 0.0670         | 1/2"         | 1-3/4"         | 36134    | 21.40      |
| ---        | ---                   | 1.750       | 0.0689         | 11mm         | 44mm           | 36138    | 21.40      |
| ---        | 50                    | 1.778       | 0.0700         | 1/2"         | 1-3/4"         | 36142    | 21.40      |
| ---        | ---                   | 1.801       | 0.0709         | 11mm         | 44mm           | 36146    | 21.40      |
| ---        | ---                   | 1.849       | 0.0728         | 11mm         | 44mm           | 36150    | 21.40      |
| ---        | 49                    | 1.854       | 0.0730         | 1/2"         | 1-3/4"         | 36154    | 21.40      |
| ---        | ---                   | 1.900       | 0.0748         | 11mm         | 44mm           | 36158    | 21.40      |
| ---        | 48                    | 1.930       | 0.0760         | 1/2"         | 1-3/4"         | 36162    | 21.40      |
| ---        | ---                   | 1.951       | 0.0768         | 11mm         | 44mm           | 36166    | 21.40      |
| 5/64"      | ---                   | 1.984       | 0.0781         | 1/2"         | 1-3/4"         | 36170    | 21.40      |
| ---        | 47                    | 1.994       | 0.0785         | 1/2"         | 1-3/4"         | 36174    | 20.40      |
| ---        | ---                   | 1.999       | 0.0787         | 11mm         | 44mm           | 36178    | 21.40      |
| ---        | ---                   | 2.032       | 0.0800         | 1/2"         | 1-3/4"         | 36180    | 21.40      |
| ---        | ---                   | 2.050       | 0.0807         | 13mm         | 51mm           | 36182    | 21.40      |
| ---        | 46                    | 2.057       | 0.0810         | 1/2"         | 2"             | 36186    | 22.70      |
| ---        | 45                    | 2.083       | 0.0820         | 1/2"         | 2"             | 36190    | 22.70      |
| ---        | ---                   | 2.101       | 0.0827         | 13mm         | 51mm           | 36194    | 22.70      |
| ---        | ---                   | 2.149       | 0.0846         | 13mm         | 51mm           | 36198    | 22.70      |
| ---        | 44                    | 2.184       | 0.0860         | 1/2"         | 2"             | 36202    | 22.70      |
| ---        | ---                   | 2.200       | 0.0866         | 13mm         | 51mm           | 36206    | 22.70      |
| ---        | ---                   | 2.250       | 0.0886         | 13mm         | 51mm           | 36210    | 22.70      |
| ---        | 43                    | 2.261       | 0.0890         | 1/2"         | 2"             | 36214    | 22.70      |
| ---        | ---                   | 2.301       | 0.0906         | 13mm         | 51mm           | 36218    | 22.70      |
| ---        | ---                   | 2.324       | 0.0915         | 1/2"         | 2"             | 36220    | 22.70      |
| ---        | ---                   | 2.350       | 0.0925         | 13mm         | 51mm           | 36222    | 22.70      |
| ---        | ---                   | 2.362       | 0.0930         | 1/2"         | 2"             | 36224    | 22.70      |
| ---        | 42                    | 2.375       | 0.0935         | 1/2"         | 2"             | 36226    | 22.70      |
| 3/32"      | ---                   | 2.383       | 0.0938         | 1/2"         | 2"             | 36230    | 21.50      |
| ---        | ---                   | 2.388       | 0.0940         | 1/2"         | 2"             | 36232    | 22.70      |
| ---        | ---                   | 2.400       | 0.0945         | 13mm         | 51mm           | 36234    | 22.70      |
| ---        | ---                   | 2.413       | 0.0950         | 1/2"         | 2"             | 36236    | 22.70      |
| ---        | 41                    | 2.438       | 0.0960         | 5/8"         | 2-1/4"         | 36238    | 22.70      |
| ---        | ---                   | 2.451       | 0.0965         | 16mm         | 57mm           | 36242    | 22.70      |
| ---        | 40                    | 2.489       | 0.0980         | 5/8"         | 2-1/4"         | 36246    | 21.40      |
| ---        | ---                   | 2.499       | 0.0984         | 5/8"         | 2-1/4"         | 36250    | 24.40      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | 39                    | 2.527       | 0.0995         | 5/8"         | 2-1/4"         | 36254    | \$ 24.40   |
| ---        | 38                    | 2.578       | 0.1015         | 5/8"         | 2-1/4"         | 36258    | 24.40      |
| ---        | ---                   | 2.601       | 0.1024         | 16mm         | 57mm           | 36262    | 24.40      |
| ---        | 37                    | 2.642       | 0.1040         | 5/8"         | 2-1/4"         | 36266    | 24.40      |
| ---        | ---                   | 2.700       | 0.1063         | 16mm         | 57mm           | 36270    | 24.40      |
| ---        | 36                    | 2.705       | 0.1065         | 5/8"         | 2-1/4"         | 36274    | 24.40      |
| ---        | ---                   | 2.751       | 0.1083         | 16mm         | 57mm           | 36278    | 23.10      |
| 7/64"      | ---                   | 2.779       | 0.1094         | 5/8"         | 2-1/4"         | 36282    | 24.40      |
| ---        | 35                    | 2.794       | 0.1100         | 5/8"         | 2-1/4"         | 36286    | 24.40      |
| ---        | ---                   | 2.799       | 0.1102         | 16mm         | 57mm           | 36290    | 24.40      |
| ---        | 34                    | 2.819       | 0.1110         | 5/8"         | 2-1/4"         | 36294    | 24.40      |
| ---        | 33                    | 2.870       | 0.1130         | 5/8"         | 2-1/4"         | 36298    | 24.40      |
| ---        | ---                   | 2.901       | 0.1142         | 16mm         | 57mm           | 36302    | 26.20      |
| ---        | 32                    | 2.946       | 0.1160         | 5/8"         | 2-1/4"         | 36306    | 26.20      |
| ---        | ---                   | 3.000       | 0.1181         | 16mm         | 57mm           | 36310    | 26.20      |
| ---        | 31                    | 3.048       | 0.1200         | 5/8"         | 2-1/4"         | 36314    | 26.20      |
| ---        | ---                   | 3.099       | 0.1220         | 16mm         | 57mm           | 36318    | 27.40      |
| ---        | ---                   | 3.124       | 0.1230         | 5/8"         | 2-1/4"         | 36320    | 27.40      |
| ---        | ---                   | 3.150       | 0.1240         | 5/8"         | 2-1/4"         | 36322    | 27.40      |
| ---        | ---                   | 3.162       | 0.1245         | 5/8"         | 2-1/4"         | 36326    | 27.40      |
| ---        | ---                   | 3.167       | 0.1247         | 5/8"         | 2-1/4"         | 36328    | 27.40      |
| 1/8"       | ---                   | 3.175       | 0.1250         | 5/8"         | 2-1/4"         | 36330    | 24.00      |
| ---        | ---                   | 3.188       | 0.1255         | 5/8"         | 2-1/4"         | 36331    | 27.40      |
| ---        | ---                   | 3.200       | 0.1260         | 5/8"         | 2-1/4"         | 36332    | 27.40      |
| ---        | ---                   | 3.200       | 0.1260         | 16mm         | 57mm           | 36334    | 27.40      |
| ---        | ---                   | 3.213       | 0.1265         | 5/8"         | 2-1/4"         | 36335    | 27.40      |
| ---        | ---                   | 3.226       | 0.1270         | 5/8"         | 2-1/4"         | 36336    | 27.40      |
| ---        | 30                    | 3.264       | 0.1285         | 5/8"         | 2-1/4"         | 36338    | 27.40      |
| ---        | ---                   | 3.299       | 0.1299         | 19mm         | 57mm           | 36342    | 27.40      |
| ---        | ---                   | 3.327       | 0.1310         | 3/4"         | 2-1/2"         | 36344    | 27.40      |
| ---        | ---                   | 3.350       | 0.1319         | 19mm         | 57mm           | 36346    | 28.80      |
| ---        | ---                   | 3.401       | 0.1339         | 19mm         | 57mm           | 36350    | 28.80      |
| ---        | ---                   | 3.429       | 0.1350         | 3/4"         | 2-1/2"         | 36352    | 28.80      |
| ---        | ---                   | 3.449       | 0.1358         | 19mm         | 57mm           | 36354    | 27.10      |
| ---        | 29                    | 3.454       | 0.1360         | 3/4"         | 2-1/2"         | 36358    | 28.80      |
| ---        | ---                   | 3.500       | 0.1378         | 3/4"         | 2-1/2"         | 36362    | 28.80      |
| ---        | ---                   | 3.551       | 0.1398         | 19mm         | 57mm           | 36366    | 28.80      |
| ---        | 28                    | 3.569       | 0.1405         | 3/4"         | 2-1/2"         | 36370    | 28.80      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| 9/64"      | ---                   | 3.571       | 0.1406         | 3/4"         | 2-1/2"         | 36374    | \$ 29.10   |
| ---        | ---                   | 3.599       | 0.1417         | 19mm         | 57mm           | 36378    | 29.10      |
| ---        | ---                   | 3.650       | 0.1437         | 19mm         | 57mm           | 36382    | 29.10      |
| ---        | 27                    | 3.658       | 0.1440         | 3/4"         | 2-1/2"         | 36386    | 29.10      |
| ---        | ---                   | 3.701       | 0.1457         | 19mm         | 64mm           | 36390    | 29.10      |
| ---        | 26                    | 3.734       | 0.1470         | 3/4"         | 2-1/2"         | 36394    | 29.10      |
| ---        | ---                   | 3.749       | 0.1476         | 19mm         | 64mm           | 36398    | 29.10      |
| ---        | 25                    | 3.797       | 0.1495         | 3/4"         | 2-1/2"         | 36402    | 29.10      |
| ---        | ---                   | 3.800       | 0.1496         | 19mm         | 64mm           | 36406    | 29.10      |
| ---        | 24                    | 3.861       | 0.1520         | 3/4"         | 2-1/2"         | 36410    | 29.10      |
| ---        | ---                   | 3.899       | 0.1535         | 19mm         | 64mm           | 36414    | 29.10      |
| ---        | 23                    | 3.912       | 0.1540         | 3/4"         | 2-1/2"         | 36418    | 29.10      |
| ---        | ---                   | 3.950       | 0.1555         | 19mm         | 64mm           | 36422    | 29.10      |
| 5/32"      | ---                   | 3.967       | 0.1562         | 3/4"         | 2-1/2"         | 36426    | 29.10      |
| ---        | 22                    | 3.988       | 0.1570         | 3/4"         | 2-1/2"         | 36430    | 29.10      |
| ---        | ---                   | 4.001       | 0.1575         | 19mm         | 64mm           | 36434    | 29.10      |
| ---        | 21                    | 4.039       | 0.1590         | 3/4"         | 2-1/2"         | 36438    | 29.10      |
| ---        | ---                   | 4.049       | 0.1594         | 19mm         | 64mm           | 36442    | 33.10      |
| ---        | 20                    | 4.089       | 0.1610         | 7/8"         | 2-3/4"         | 36446    | 33.10      |
| ---        | ---                   | 4.100       | 0.1614         | 22mm         | 70mm           | 36450    | 33.10      |
| ---        | ---                   | 4.150       | 0.1634         | 22mm         | 70mm           | 36454    | 33.10      |
| ---        | ---                   | 4.166       | 0.1640         | 7/8"         | 2-3/4"         | 36456    | 33.10      |
| ---        | ---                   | 4.201       | 0.1654         | 22mm         | 70mm           | 36458    | 33.10      |
| ---        | 19                    | 4.216       | 0.1660         | 7/8"         | 2-3/4"         | 36462    | 33.10      |
| ---        | ---                   | 4.249       | 0.1673         | 22mm         | 70mm           | 36466    | 33.10      |
| ---        | ---                   | 4.300       | 0.1693         | 22mm         | 70mm           | 36470    | 33.10      |
| ---        | 18                    | 4.305       | 0.1695         | 7/8"         | 2-3/4"         | 36474    | 33.10      |
| ---        | ---                   | 4.351       | 0.1713         | 22mm         | 70mm           | 36478    | 33.10      |
| 11/64"     | ---                   | 4.366       | 0.1719         | 7/8"         | 2-3/4"         | 36482    | 33.10      |
| ---        | 17                    | 4.394       | 0.1730         | 7/8"         | 2-3/4"         | 36486    | 33.10      |
| ---        | ---                   | 4.399       | 0.1732         | 22mm         | 70mm           | 36490    | 33.10      |
| ---        | ---                   | 4.450       | 0.1752         | 22mm         | 70mm           | 36494    | 34.70      |
| ---        | ---                   | 4.470       | 0.1760         | 7/8"         | 2-3/4"         | 36492    | 34.70      |
| ---        | 16                    | 4.496       | 0.1770         | 7/8"         | 2-3/4"         | 36498    | 34.70      |
| ---        | ---                   | 4.501       | 0.1772         | 22mm         | 70mm           | 36502    | 34.70      |
| ---        | ---                   | 4.549       | 0.1791         | 22mm         | 70mm           | 36506    | 34.70      |
| ---        | 15                    | 4.572       | 0.1800         | 7/8"         | 2-3/4"         | 36510    | 34.70      |
| ---        | ---                   | 4.600       | 0.1811         | 22mm         | 70mm           | 36514    | 34.70      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | 14                    | 4.623       | 0.1820         | 7/8"         | 2-3/4"         | 36518    | \$ 34.70   |
| ---        | ---                   | 4.651       | 0.1831         | 22mm         | 70mm           | 36522    | 34.70      |
| ---        | ---                   | 4.699       | 0.1850         | 22mm         | 70mm           | 36526    | 36.70      |
| ---        | 13                    | 4.699       | 0.1850         | 7/8"         | 2-3/4"         | 36530    | 36.70      |
| ---        | ---                   | 4.712       | 0.1855         | 7/8"         | 2-3/4"         | 36532    | 36.70      |
| ---        | ---                   | 4.737       | 0.1865         | 7/8"         | 2-3/4"         | 36533    | 36.70      |
| ---        | ---                   | 4.750       | 0.1870         | 22mm         | 70mm           | 36534    | 36.70      |
| 3/16"      | ---                   | 4.763       | 0.1875         | 7/8"         | 2-3/4"         | 36538    | 34.70      |
| ---        | ---                   | 4.775       | 0.1880         | 7/8"         | 2-3/4"         | 36540    | 36.70      |
| ---        | ---                   | 4.788       | 0.1885         | 7/8"         | 2-3/4"         | 36542    | 36.70      |
| ---        | ---                   | 4.798       | 0.1889         | 22mm         | 70mm           | 36546    | 36.70      |
| ---        | 12                    | 4.801       | 0.1890         | 7/8"         | 2-3/4"         | 36550    | 38.70      |
| ---        | ---                   | 4.813       | 0.1895         | 7/8"         | 2-3/4"         | 36551    | 38.70      |
| ---        | ---                   | 4.826       | 0.1900         | 7/8"         | 2-3/4"         | 36552    | 38.70      |
| ---        | ---                   | 4.849       | 0.1909         | 22mm         | 70mm           | 36554    | 38.70      |
| ---        | 11                    | 4.851       | 0.1910         | 1"           | 3"             | 36558    | 38.70      |
| ---        | ---                   | 4.900       | 0.1929         | 25mm         | 76mm           | 36562    | 38.70      |
| ---        | 10                    | 4.915       | 0.1935         | 1"           | 3"             | 36566    | 38.70      |
| ---        | ---                   | 4.950       | 0.1949         | 25mm         | 76mm           | 36570    | 38.70      |
| ---        | 9                     | 4.978       | 0.1960         | 1"           | 3"             | 36574    | 38.70      |
| ---        | ---                   | 4.999       | 0.1968         | 25mm         | 76mm           | 36578    | 38.70      |
| ---        | ---                   | 5.050       | 0.1988         | 25mm         | 76mm           | 36582    | 38.70      |
| ---        | 8                     | 5.055       | 0.1990         | 1"           | 3"             | 36586    | 36.50      |
| ---        | ---                   | 5.100       | 0.2008         | 25mm         | 76mm           | 36590    | 38.70      |
| ---        | 7                     | 5.105       | 0.2010         | 1"           | 3"             | 36594    | 38.70      |
| ---        | ---                   | 5.151       | 0.2028         | 25mm         | 76mm           | 36598    | 38.70      |
| 13/64"     | ---                   | 5.159       | 0.2031         | 1"           | 3"             | 36602    | 37.40      |
| ---        | 6                     | 5.182       | 0.2040         | 1"           | 3"             | 36606    | 38.70      |
| ---        | ---                   | 5.199       | 0.2047         | 25mm         | 76mm           | 36610    | 38.70      |
| ---        | 5                     | 5.220       | 0.2055         | 1"           | 3"             | 36614    | 38.70      |
| ---        | ---                   | 5.250       | 0.2067         | 25mm         | 76mm           | 36618    | 38.70      |
| ---        | ---                   | 5.301       | 0.2087         | 25mm         | 76mm           | 36622    | 38.70      |
| ---        | 4                     | 5.309       | 0.2090         | 1"           | 3"             | 36626    | 38.70      |
| ---        | ---                   | 5.349       | 0.2106         | 25mm         | 76mm           | 36630    | 38.70      |
| ---        | ---                   | 5.400       | 0.2126         | 25mm         | 76mm           | 36634    | 38.70      |
| ---        | 3                     | 5.410       | 0.2130         | 1"           | 3"             | 36638    | 35.60      |
| ---        | ---                   | 5.451       | 0.2146         | 25mm         | 76mm           | 36642    | 38.70      |
| ---        | ---                   | 5.499       | 0.2165         | 25mm         | 76mm           | 36646    | 38.70      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | ---                   | 5.550       | 0.2185         | 25mm         | 76mm           | 36650    | \$ 38.70   |
| 7/32"      | ---                   | 5.555       | 0.2187         | 1"           | 3"             | 36654    | 36.00      |
| ---        | ---                   | 5.601       | 0.2205         | 25mm         | 76mm           | 36658    | 38.70      |
| ---        | 2                     | 5.613       | 0.2210         | 1"           | 3"             | 36662    | 39.90      |
| ---        | ---                   | 5.649       | 0.2224         | 25mm         | 76mm           | 36666    | 39.90      |
| ---        | ---                   | 5.700       | 0.2244         | 25mm         | 76mm           | 36670    | 39.90      |
| ---        | ---                   | 5.751       | 0.2264         | 25mm         | 76mm           | 36674    | 39.90      |
| ---        | 1                     | 5.791       | 0.2280         | 1"           | 3"             | 36678    | 39.90      |
| ---        | ---                   | 5.799       | 0.2283         | 25mm         | 76mm           | 36682    | 39.90      |
| ---        | ---                   | 5.850       | 0.2303         | 25mm         | 76mm           | 36686    | 39.90      |
| ---        | ---                   | 5.900       | 0.2323         | 25mm         | 76mm           | 36690    | 39.90      |
| ---        | A                     | 5.944       | 0.2340         | 1"           | 3"             | 36694    | 39.90      |
| ---        | ---                   | 5.951       | 0.2343         | 25mm         | 76mm           | 36698    | 39.90      |
| 15/64"     | ---                   | 5.954       | 0.2344         | 1"           | 3"             | 36702    | 37.60      |
| ---        | ---                   | 5.999       | 0.2362         | 25mm         | 76mm           | 36706    | 37.60      |
| ---        | B                     | 6.045       | 0.2380         | 1"           | 3"             | 36710    | 39.90      |
| ---        | ---                   | 6.101       | 0.2402         | 25mm         | 76mm           | 36714    | 39.90      |
| ---        | C                     | 6.147       | 0.2420         | 1"           | 3"             | 36718    | 39.90      |
| ---        | ---                   | 6.200       | 0.2441         | 25mm         | 76mm           | 36722    | 39.90      |
| ---        | D                     | 6.248       | 0.2460         | 1"           | 3"             | 36726    | 39.90      |
| ---        | ---                   | 6.251       | 0.2461         | 25mm         | 76mm           | 36730    | 39.90      |
| ---        | ---                   | 6.299       | 0.2480         | 25mm         | 76mm           | 36734    | 42.20      |
| ---        | ---                   | 6.312       | 0.2485         | 1"           | 3"             | 36735    | 42.20      |
| ---        | ---                   | 6.325       | 0.2490         | 1"           | 3"             | 36736    | 42.20      |
| ---        | ---                   | 6.337       | 0.2495         | 1"           | 3"             | 36738    | 42.20      |
| 1/4"       | E                     | 6.350       | 0.2500         | 1"           | 3"             | 36742    | 37.00      |
| ---        | ---                   | 6.363       | 0.2505         | 1"           | 3"             | 36743    | 43.10      |
| ---        | ---                   | 6.375       | 0.2510         | 1"           | 3"             | 36746    | 43.10      |
| ---        | ---                   | 6.388       | 0.2515         | 1"           | 3"             | 36748    | 43.10      |
| ---        | ---                   | 6.401       | 0.2520         | 25mm         | 76mm           | 36750    | 49.80      |
| ---        | ---                   | 6.426       | 0.2530         | 1"           | 3"             | 36752    | 49.80      |
| ---        | ---                   | 6.500       | 0.2559         | 29mm         | 83mm           | 36754    | 49.80      |
| ---        | F                     | 6.528       | 0.2570         | 1-1/8"       | 3-1/4"         | 36758    | 49.80      |
| ---        | G                     | 6.629       | 0.2610         | 1-1/8"       | 3-1/4"         | 36762    | 49.80      |
| 17/64"     | ---                   | 6.746       | 0.2656         | 1-1/8"       | 3-1/4"         | 36766    | 49.80      |
| ---        | H                     | 6.756       | 0.2660         | 1-1/8"       | 3-1/4"         | 36770    | 49.80      |
| ---        | I                     | 6.909       | 0.2720         | 1-1/8"       | 3-1/4"         | 36774    | 46.70      |
| ---        | ---                   | 7.000       | 0.2756         | 29mm         | 83mm           | 36778    | 54.80      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | J                     | 7.036       | 0.2770         | 1-1/8"       | 3-1/4"         | 36782    | \$ 54.80   |
| ---        | K                     | 7.137       | 0.2810         | 1-1/8"       | 3-1/4"         | 36786    | 54.80      |
| 9/32"      | ---                   | 7.142       | 0.2812         | 1-1/18"      | 3-1/4"         | 36790    | 54.80      |
| ---        | L                     | 7.366       | 0.2900         | 1-1/8"       | 3-1/4"         | 36794    | 54.80      |
| ---        | M                     | 7.493       | 0.2950         | 1-1/8"       | 3-1/4"         | 36798    | 54.80      |
| ---        | ---                   | 7.501       | 0.2953         | 29mm         | 83mm           | 36802    | 54.80      |
| 19/64"     | ---                   | 7.541       | 0.2969         | 1-1/8"       | 3-1/4"         | 36806    | 51.60      |
| ---        | N                     | 7.671       | 0.3020         | 1-1/8"       | 3-1/4"         | 36810    | 58.20      |
| ---        | ---                   | 7.887       | 0.3105         | 1-1/8"       | 3-1/4"         | 36811    | 54.80      |
| ---        | ---                   | 7.912       | 0.3115         | 1-1/8"       | 3-1/4"         | 36812    | 58.20      |
| ---        | ---                   | 7.925       | 0.3120         | 1-1/8"       | 3-1/4"         | 36813    | 58.20      |
| 5/16"      | ---                   | 7.938       | 0.3125         | 1-1/8"       | 3-1/4"         | 36814    | 51.60      |
| ---        | ---                   | 7.950       | 0.3130         | 1-1/8"       | 3-1/4"         | 36816    | 58.20      |
| ---        | ---                   | 7.963       | 0.3135         | 1-1/8"       | 3-1/4"         | 36818    | 58.20      |
| ---        | ---                   | 7.976       | 0.3140         | 1-1/8"       | 3-1/4"         | 36820    | 58.20      |
| ---        | ---                   | 8.001       | 0.3150         | 29mm         | 83mm           | 36822    | 54.90      |
| ---        | O                     | 8.026       | 0.3160         | 1-1/4"       | 3-1/2"         | 36826    | 63.60      |
| ---        | P                     | 8.204       | 0.3230         | 1-1/4"       | 3-1/2"         | 36830    | 63.60      |
| 21/64"     | ---                   | 8.334       | 0.3281         | 1-1/4"       | 3-1/2"         | 36834    | 54.70      |
| ---        | Q                     | 8.433       | 0.3320         | 1-1/4"       | 3-1/2"         | 36838    | 63.60      |
| ---        | ---                   | 8.499       | 0.3346         | 32mm         | 89mm           | 36842    | 63.60      |
| ---        | R                     | 8.611       | 0.3390         | 1-1/4"       | 3-1/2"         | 36846    | 63.60      |
| 11/32"     | ---                   | 8.733       | 0.3438         | 1-1/4"       | 3-1/2"         | 36850    | 60.30      |
| ---        | S                     | 8.839       | 0.3480         | 1-1/4"       | 3-1/2"         | 36854    | 70.30      |
| ---        | ---                   | 8.999       | 0.3543         | 32mm         | 89mm           | 36858    | 70.70      |
| ---        | T                     | 9.093       | 0.3580         | 1-1/4"       | 3-1/2"         | 36862    | 70.70      |
| 23/64"     | ---                   | 9.129       | 0.3594         | 1-1/4"       | 3-1/2"         | 36866    | 70.70      |
| ---        | U                     | 9.347       | 0.3680         | 1-1/4"       | 3-1/2"         | 36870    | 70.70      |
| ---        | ---                   | 9.474       | 0.3730         | 1-1/4"       | 3-1/2"         | 36872    | 74.90      |
| ---        | ---                   | 9.500       | 0.3740         | 32mm         | 89mm           | 36874    | 70.70      |
| ---        | ---                   | 9.512       | 0.3745         | 1-1/4"       | 3-1/2"         | 36876    | 74.90      |
| 3/8"       | ---                   | 9.525       | 0.3750         | 1-1/4"       | 3-1/2"         | 36878    | 66.60      |
| ---        | ---                   | 9.538       | 0.3755         | 1-1/4"       | 3-1/2"         | 36880    | 81.40      |
| ---        | ---                   | 9.550       | 0.3760         | 1-1/4"       | 3-1/2"         | 36882    | 81.40      |
| ---        | V                     | 9.576       | 0.3770         | 1-1/4"       | 3-1/2"         | 36886    | 81.40      |
| ---        | W                     | 9.804       | 0.3860         | 1-1/4"       | 3-1/2"         | 36890    | 78.80      |
| 25/64"     | ---                   | 9.921       | 0.3906         | 1-1/4"       | 3-1/2"         | 36894    | 76.70      |
| ---        | ---                   | 10.000      | 0.3937         | 38mm         | 102mm          | 36898    | 81.40      |

Note: "L2" as per Cobra Carbide Standard Design

Continued...

## Chucking Reamers



Tolerance - Shank Dia: h6 Reamer Dia: H7

## Chucking Reamers

| Reamer Dia | Numbers / Letter Size | Description |                |              |                | Uncoated |            |
|------------|-----------------------|-------------|----------------|--------------|----------------|----------|------------|
|            |                       | Metric      | Decimal Equiv. | Flute Length | Overall Length | EDP #    | List Price |
| ---        | X                     | 10.084      | 0.3970         | 1-1/4"       | 3-1/2"         | 36902    | \$ 81.40   |
| ---        | Y                     | 10.262      | 0.4040         | 1-1/4"       | 3-1/2"         | 36906    | 78.80      |
| 13/32"     | ---                   | 10.317      | 0.4062         | 1-1/4"       | 3-1/2"         | 36910    | 82.80      |
| ---        | Z                     | 10.490      | 0.4130         | 1-1/4"       | 3-1/2"         | 36914    | 88.70      |
| ---        | ---                   | 10.500      | 0.4134         | 38mm         | 102mm          | 36918    | 82.70      |
| 27/64"     | ---                   | 10.716      | 0.4219         | 1-3/8        | 4"             | 36922    | 92.20      |
| ---        | ---                   | 11.001      | 0.4331         | 38mm         | 102mm          | 36926    | 104.40     |
| ---        | ---                   | 11.062      | 0.4355         | 1-3/8        | 4"             | 36927    | 104.40     |
| ---        | ---                   | 11.087      | 0.4365         | 1-3/8        | 4"             | 36928    | 104.40     |
| ---        | ---                   | 11.100      | 0.4370         | 1-3/8        | 4"             | 36929    | 88.70      |
| 7/16"      | ---                   | 11.113      | 0.4375         | 1-3/8        | 4"             | 36930    | 104.40     |
| ---        | ---                   | 11.138      | 0.4385         | 1-3/8        | 4"             | 36932    | 107.70     |
| ---        | ---                   | 11.501      | 0.4528         | 38mm         | 102mm          | 36934    | 101.40     |
| 29/64"     | ---                   | 11.509      | 0.4531         | 1-3/8        | 4"             | 36938    | 101.40     |
| 15/32"     | ---                   | 11.908      | 0.4688         | 1-3/8        | 4"             | 36942    | 118.90     |
| ---        | ---                   | 11.999      | 0.4724         | 38mm         | 102mm          | 36946    | 118.90     |
| 31/64"     | ---                   | 12.304      | 0.4844         | 1-1/2"       | 4"             | 36950    | 126.30     |
| ---        | ---                   | 12.649      | 0.4980         | 1-1/2"       | 4"             | 36951    | 126.30     |
| ---        | ---                   | 12.675      | 0.4990         | 1-1/2"       | 4"             | 36952    | 126.30     |
| ---        | ---                   | 12.687      | 0.4995         | 1-1/2"       | 4"             | 36953    | 126.30     |
| 1/2"       | ---                   | 12.700      | 0.5000         | 1-1/2"       | 4"             | 36954    | 118.70     |
| ---        | ---                   | 12.713      | 0.5005         | 1-1/2"       | 4"             | 36956    | 126.30     |
| ---        | ---                   | 12.725      | 0.5010         | 1-1/2"       | 4"             | 36958    | 126.30     |
| ---        | ---                   | 12.751      | 0.5020         | 1-1/2"       | 4"             | 36959    | 126.30     |
| ---        | ---                   | 12.776      | 0.5030         | 1-1/2"       | 4"             | 36960    | 126.30     |
| ---        | ---                   | 12.802      | 0.5040         | 1-1/2"       | 4"             | 36961    | 126.30     |
| ---        | ---                   | 12.827      | 0.5050         | 1-1/2"       | 4"             | 36962    | 126.30     |

Note: "L2" as per Cobra Carbide Standard Design



## Speeds & Feeds - Drills

### 3XD, 5XD & CoolantFed Drills

| Material Group                   | Material Type                           | Cutting Speed SFM |            |                |
|----------------------------------|-----------------------------------------|-------------------|------------|----------------|
|                                  |                                         | 3XD Drills        | 5XD Drills | Coolant Drills |
| Steel                            | Structural Steel                        | 197- 262          | 164 - 230  | 263 - 328      |
|                                  | Free Cutting Steel                      | 197- 295          | 164 - 230  | 328 - 393      |
|                                  | Unalloyed Heat Treatable Steel          | 197 - 246         | 164 - 197  | 263 - 295      |
|                                  | Unalloyed Case Hard Steel               | 197 - 230         | 164 - 197  | 295 - 328      |
|                                  | Alloyed Case Hardened Steel             | 164 - 246         | 131 - 230  | 164 - 246      |
|                                  | Nitriding Steel                         | 164 - 197         | 131 - 164  | 230 - 262      |
|                                  | Stainless Steel,                        | 82 - 115          | 66 - 98    | 98 - 131       |
| Acid Resistant / stainless Steel | Sulphured Austenitic Steel, Martensitic |                   |            |                |
| High Tensile Steel               | Alloyed Heat Treatable Steel            | 164 - 197         | 131 - 164  | 197 - 262      |
|                                  | Tool Steel                              | 98 - 131          | 66 - 98    | 131 - 164      |
|                                  | High Speed Steel                        | 82- 115           |            | 98 - 131       |
|                                  | Spring Steel                            | 98- 114           | 66- 98     | 98 - 131       |
| Cast Materials                   | Cast Iron                               | 328 - 393         | 262 - 328  | 328 - 426      |
|                                  | Spheroidal Graphite & Malleable Ci      | 246 - 328         | 197 - 263  | 263 - 238      |
|                                  | Chilled Ci                              | 66 - 98           | 49 - 65    | 66 - 98        |
| Aluminum & Aluminum Alloys       | Aluminum Alloys                         | 492 - 591         | 393 - 492  | 574 - 656      |
|                                  | Al Wrought Alloys                       | 492 - 591         | 393 - 492  | 574 - 656      |
|                                  | Al Cast Alloys < 10%si                  | 328 - 426         | 262 - 328  | 525 - 590      |
|                                  | Al Cast Alloys > 10%si                  | 328 -426          | 262 - 361  | 525- 590       |
| Special Alloys                   | Special Alloys                          | 49 - 66           | 49- 66     | 66 - 82        |
|                                  | Ti & Ti Alloys                          | 66 - 82           | 66 - 82    | 66 - 98        |
| Non Ferrous Metals               | Copper Low Alloyed                      | 196 - 230         | 164 - 197  | 246 - 295      |
|                                  | Brass                                   | 393 - 492         | 393 - 492  | 524 - 590      |
|                                  | Bronze                                  | 154 - 246         | 131 - 197  | 246 - 295      |
| Magnesium Alloys                 | Mg Alloys                               | 492 - 590         | 492 - 590  | 574 - 656      |

### Feed Rate - IPR

| Material                             | Feed (IPR)<br>Diameter |       |       |        |       |        |        |       |       |       |
|--------------------------------------|------------------------|-------|-------|--------|-------|--------|--------|-------|-------|-------|
|                                      | 5/64"                  | 7/64" | 3/16" | 15/64" | 8/16" | 25/64" | 15/32" | 5/8"  | 3/4"  | 1"    |
| Steel                                | 0.002                  | 0.004 | 0.005 | 0.006  | 0.007 | 0.009  | 0.009  | 0.011 | 0.012 | 0.014 |
| High Tensile Steels / acid Resistant | 0.002                  | 0.002 | 0.003 | 0.004  | 0.005 | 0.006  | 0.006  | 0.008 | 0.01  | 0.012 |
| Cast Material                        | 0.003                  | 0.004 | 0.006 | 0.007  | 0.008 | 0.009  | 0.009  | 0.011 | 0.012 | 0.014 |
| Aluminum Alloys                      | 0.004                  | 0.005 | 0.007 | 0.009  | 0.01  | 0.012  | 0.012  | 0.014 | 0.016 | 0.017 |
| Titanium Alloys                      | 0.001                  | 0.002 | 0.002 | 0.003  | 0.004 | 0.004  | 0.004  | 0.006 | 0.007 | 0.008 |
| Non Ferrous                          | 0.002                  | 0.003 | 0.004 | 0.005  | 0.007 | 0.008  | 0.008  | 0.01  | 0.012 | 0.014 |
| Mg Alloys                            | 0.003                  | 0.004 | 0.005 | 0.007  | 0.008 | 0.01   | 0.01   | 0.011 | 0.012 | 0.014 |

## Speeds & Feeds - Drills

### Jobber, Spotting Drills and Countersink

| Material Group                   | Material Type                           | Cutting Speed SFM |                       |
|----------------------------------|-----------------------------------------|-------------------|-----------------------|
|                                  |                                         | Jobber Drills     | Spotting/ Countersink |
| Steel                            | Structural Steel                        | 197 - 230         | 164 - 263             |
|                                  | Free Cutting Steel                      | 197 - 230         | 263 - 295             |
|                                  | Unalloyed Heat Treatable Steel          | 197 - 230         | 164 - 230             |
|                                  | Unalloyed Case Hard Steel               | 197 - 230         | 98 - 131              |
|                                  | Alloyed Case Hardened Steel             | 164 - 197         | 131 - 164             |
|                                  | Nitriding Steel                         | 131 - 164         | 98 - 131              |
|                                  | Stainless Steel,                        | 66 - 82           | 115 - 164             |
| Acid Resistant / stainless Steel | Sulphured Austenitic Steel, Martensitic |                   |                       |
| High Tensile Steel               | Alloyed Heat Treatable Steel            | 131 - 164         | 131 - 197             |
|                                  | Tool Steel                              | 131 - 164         | 98 - 164              |
|                                  | High Speed Steel                        |                   | 98 - 131              |
|                                  | Spring Steel                            | 66 - 82           |                       |
| Cast Materials                   | Cast Iron                               | 230 - 263         | 164 - 263             |
|                                  | Spheroidal Graphite & Malleable Ci      | 197 - 230         | 164 - 263             |
|                                  | Chilled Ci                              | 32 - 49           | 164 - 263             |
| Aluminum & Aluminum Alloys       | Aluminum Alloys                         | 492 - 590         | 328 - 492             |
|                                  | Al Wrought Alloys                       | 492 - 590         | 328 - 492             |
|                                  | Al Cast Alloys < 10%si                  | 328 - 427         | 246 - 328             |
|                                  | Al Cast Alloys > 10%si                  | 328 - 427         | 164 - 230             |
| Special Alloys                   | Special Alloys                          | 15                | 98 - 131              |
|                                  | Ti & Ti Alloys                          | 15-20             | 66- 98                |
| Non Ferrous Metals               | Copper Low Alloyed                      | 60-70             | 393 - 492             |
|                                  | Brass                                   | 130-150           | 393 - 492             |
|                                  | Bronze                                  | 100-110           | 131 - 197             |
| Magnesium Alloys                 | Mg Alloys                               | 120-150           | 328 - 393             |

### Feed Rate - IPR

| Material                             | Feed (IPR)<br>Diameter |       |       |        |       |        |        |       |       |       |
|--------------------------------------|------------------------|-------|-------|--------|-------|--------|--------|-------|-------|-------|
|                                      | 5/64"                  | 7/64" | 3/16" | 15/64" | 8/16" | 25/64" | 15/32" | 5/8"  | 3/4"  | 1"    |
| Steel                                | 0.002                  | 0.004 | 0.005 | 0.006  | 0.007 | 0.009  | 0.009  | 0.011 | 0.012 | 0.014 |
| High Tensile Steels / acid Resistant | 0.002                  | 0.002 | 0.003 | 0.004  | 0.005 | 0.006  | 0.006  | 0.008 | 0.01  | 0.012 |
| Cast Material                        | 0.003                  | 0.004 | 0.006 | 0.007  | 0.008 | 0.009  | 0.009  | 0.011 | 0.012 | 0.014 |
| Aluminum Alloys                      | 0.004                  | 0.005 | 0.007 | 0.009  | 0.01  | 0.012  | 0.012  | 0.014 | 0.016 | 0.017 |
| Titanium Alloys                      | 0.001                  | 0.002 | 0.002 | 0.003  | 0.004 | 0.004  | 0.004  | 0.006 | 0.007 | 0.008 |
| Non Ferrous                          | 0.002                  | 0.003 | 0.004 | 0.005  | 0.007 | 0.008  | 0.008  | 0.01  | 0.012 | 0.014 |
| Mg Alloys                            | 0.003                  | 0.004 | 0.005 | 0.007  | 0.008 | 0.01   | 0.01   | 0.011 | 0.012 | 0.014 |

## Coating

| Coating Type             | TiAlN Futura Nano (TiAlN) | TiAlN X Tream (TiAlN) | TiN Titanium Nitride (TiN) | CG Alcrona (AlCrN)        |
|--------------------------|---------------------------|-----------------------|----------------------------|---------------------------|
| Micro Hardness(HV0.05)   | 3300                      | 3500                  | 2300                       | 3200                      |
| Co Efficient Of Friction | 0.302-0.035               | 0.4                   | 0.4                        | 0.35                      |
| Against Steel            |                           |                       |                            |                           |
| Maximum Service          | 900                       | 800                   | 600                        | 1100                      |
| Temperature °c           |                           |                       |                            |                           |
| Coating Colour           | Violet Grey               | Violet Grey           | Gold Yellow                | Blue Grey                 |
| Features                 | Increased Cutting         |                       | Protection                 | High Oxidation Resistance |
|                          | Stability                 |                       | Against                    | Hot Hardness              |
|                          | Protection                |                       | Abrasive &                 | High Wear Resistance      |
|                          | Against Abrasive          |                       | Adhesive Wear              |                           |
|                          | Wear & Erosion            |                       |                            |                           |

| Coating Type             | CH Helica (AlCr)     | Aldura (AlCrN)               |
|--------------------------|----------------------|------------------------------|
| Micro Hardness(HV0.05)   | 3000                 | 3300                         |
| Co Efficient Of Friction | 0.25                 | 0.35-0.4                     |
| Against Steel            |                      |                              |
| Maximum Service          | 1100                 | >1100                        |
| Temperature °c           |                      |                              |
| Coating Colour           | Copper               | Blue Grey                    |
| Features                 | Abrasions Resistance | Improved Tool Edge Stability |
|                          | Maximum Toughness    | Oxidation Resistance         |
|                          | Extra Shear Strength | High Thermal Resistance      |
|                          |                      |                              |
|                          |                      |                              |