



超硬ドリル ドリーマーシリーズ CDR φ3.0シャンク(ノンコート)



商品コード : CDR○.○○-10D
Product Code

〔 D'reamer Shank Dia φ3.0 Non-Coated type 〕

■ 特長 〔 Features of D'reamer Shank Dia φ 3.0 Non-Coated type 〕

リーマ製造技術を活かした刃径公差 0 / -0.003 を採用。高精度微細穴加工が可能。
Blade diameter tolerance of 0/-0.003 is adopted by taking advantage of reamer manufacturing technology and it is possible for high-precision microhole drilling.

シャンク径φ 3.0 に対し、h4 公差(0 / -0.003) を採用する事で、振れ精度と穴位置精度を更に追及。
The h4 tolerance (0/-0.003) is adopted for a shank diameter of φ3 to further pursue runout accuracy and hole position accuracy.

丹念に研究を重ねた工具形状を採用。切り屑排出性能が大幅に向上し、耐久性に優れる。
The tool geometry has been painstakingly researched, and chip evacuation performance has been greatly improved.

有効加工長を 10D に設定。刃径の 10 倍まで加工可能。
Set the effective machining length to 10D. Up to 10 times the blade diameter can be machined.

■ 参考切削条件 〔 Recommended Cutting Conditions 〕

| 被削材 Workpiece | 軟鋼 SS400 | | | 炭素鋼 S45C | | | 工具鋼 SK/SKH | | | 合金鋼 SCM440 | | | 調質鋼 ~40HRC | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.05 | 22300 | 0.001 | | 22300 | 0.001 | | 22300 | 0.001 | | 22300 | 0.001 | | 19100 | 0.001 | |
| 0.06 | 21200 | 0.001 | | 21200 | 0.001 | | 21200 | 0.001 | | 21200 | 0.001 | | 18600 | 0.001 | |
| 0.07 | 20500 | 0.001 | | 20500 | 0.001 | | 20500 | 0.001 | | 20500 | 0.001 | | 18200 | 0.001 | |
| 0.08 | 19900 | 0.001 | | 19900 | 0.001 | | 19900 | 0.001 | | 19900 | 0.001 | | 17900 | 0.001 | |
| 0.09 | 19500 | 0.001 | | 19500 | 0.001 | | 19500 | 0.001 | | 19500 | 0.001 | | 17700 | 0.001 | |
| 0.1 | 19100 | 0.002 | 0.1~ 0.2D | 19100 | 0.002 | 0.1~ 0.2D | 19100 | 0.002 | 0.1~ 0.2D | 19100 | 0.001 | 0.1~ 0.2D | 17500 | 0.001 | 0.1~ 0.2D |
| 0.2 | 17500 | 0.005 | | 17500 | 0.005 | | 17500 | 0.005 | | 17500 | 0.004 | | 15900 | 0.002 | |
| 0.3 | 15900 | 0.010 | | 15900 | 0.010 | | 15900 | 0.010 | | 15900 | 0.006 | | 13800 | 0.003 | |
| 0.4 | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.008 | | 12700 | 0.004 | |
| 0.5 | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.010 | | 11500 | 0.005 | |
| 0.6 | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.012 | | 10600 | 0.006 | |
| 0.7 | 12300 | 0.030 | | 12300 | 0.030 | | 12300 | 0.030 | 0.2~ 0.3D | 12300 | 0.014 | 0.2~ 0.3D | 10000 | 0.007 | 0.2~ 0.3D |
| 0.8 | 11500 | 0.035 | 0.3D | 11500 | 0.035 | 0.3D | 11500 | 0.035 | | 11500 | 0.016 | | 9600 | 0.008 | |
| 0.9 | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.018 | | 9200 | 0.009 | |
| 1.0 | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.020 | | 8900 | 0.010 | |

| 被削材 Workpiece | 鋳鉄 FC/FCD | | | ステンレス鋼 SUS | | | アルミニウム合金 Al | | | 銅合金 C | | | 樹脂 Resin | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.05 | 22300 | 0.001 | | 15900 | 0.001 | | 25500 | 0.002 | | 19100 | 0.001 | | 25500 | 0.001 | |
| 0.06 | 21200 | 0.001 | | 15900 | 0.001 | | 23900 | 0.002 | | 18600 | 0.001 | | 23900 | 0.001 | |
| 0.07 | 20500 | 0.001 | | 15900 | 0.001 | | 22700 | 0.002 | | 18200 | 0.001 | | 22700 | 0.002 | |
| 0.08 | 19900 | 0.001 | | 15900 | 0.001 | | 21900 | 0.003 | | 17900 | 0.002 | | 21900 | 0.003 | |
| 0.09 | 19500 | 0.001 | | 15900 | 0.001 | | 21200 | 0.004 | | 17700 | 0.003 | | 21200 | 0.004 | |
| 0.1 | 19100 | 0.001 | 0.1~ 0.2D | 15900 | 0.001 | 0.1~ 0.2D | 20700 | 0.005 | 0.1~ 0.2D | 17500 | 0.004 | 0.1~ 0.2D | 20700 | 0.005 | 0.1~ 0.2D |
| 0.2 | 17500 | 0.004 | | 12700 | 0.002 | | 19100 | 0.010 | | 15900 | 0.005 | | 19100 | 0.010 | |
| 0.3 | 15900 | 0.006 | | 10600 | 0.003 | | 17000 | 0.020 | | 14900 | 0.010 | | 17000 | 0.015 | |
| 0.4 | 15100 | 0.008 | | 9600 | 0.004 | | 15900 | 0.030 | | 14300 | 0.015 | | 15900 | 0.020 | |
| 0.5 | 14600 | 0.010 | | 8300 | 0.005 | | 15300 | 0.035 | | 13400 | 0.020 | | 15300 | 0.025 | |
| 0.6 | 13300 | 0.012 | | 6900 | 0.006 | | 14900 | 0.040 | | 12200 | 0.025 | | 14900 | 0.030 | |
| 0.7 | 12300 | 0.014 | | 6400 | 0.007 | | 14600 | 0.045 | 0.2~ 0.3D | 11400 | 0.030 | 0.2~ 0.3D | 14600 | 0.035 | 0.2~ 0.3D |
| 0.8 | 11500 | 0.016 | 0.3D | 5600 | 0.008 | 0.3D | 14300 | 0.050 | | 10700 | 0.035 | | 14300 | 0.040 | |
| 0.9 | 11000 | 0.018 | | 5300 | 0.009 | | 13400 | 0.055 | | 10300 | 0.040 | | 13400 | 0.045 | |
| 1.0 | 10500 | 0.020 | | 4800 | 0.010 | | 12700 | 0.060 | | 9900 | 0.045 | | 12700 | 0.050 | |

※上記の切削条件は目安となる数値です。機械や加工形状、ワーククランプなどの加工環境により調整してください。

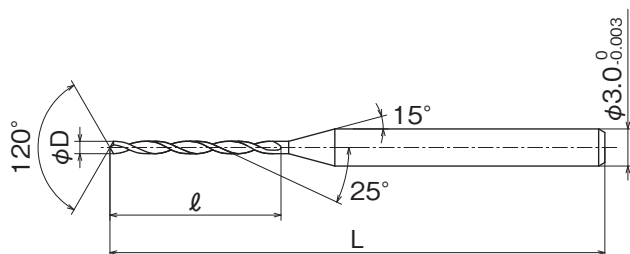
The above cutting conditions are guideline values. Please adjust them according to the machining environment such as machine, machining geometry, workpiece clamp, etc.

超硬ドリル ドリーマーシリーズ CDR ノンコートタイプ

[D'reamer Shank Dia ϕ 3.0 Non-Coated type]



■ 寸法表 [D'reamer Shank Dia ϕ 3.0 Non-Coated type Specification Table]



刃径公差 (0 / -0.003)
(Tolerance)

0.01 mm とび
Increment
単価: 円 unit price: in JPY

| 刃径 ϕ D Diameter | 有効加工長 Usable Length | 溝長 ℓ Flute Length | 全長 L Overall Length | シャンク径 ϕ d Shank Diameter | 標準定価 Retail Price | 刃径 ϕ D Diameter | 有効加工長 Usable Length | 溝長 ℓ Flute Length | 全長 L Overall Length | シャンク径 ϕ d Shank Diameter | 標準定価 Retail Price |
|-------------------------|---------------------------|------------------------------|---------------------------|-------------------------------------|-------------------------|-------------------------|---------------------------|------------------------------|---------------------------|-------------------------------------|-------------------------|
| 0.05 | 0.5 | 0.6 | | | 10,440 | 0.53 | 5.3 | 6.36 | | | 3,070 |
| 0.06 | 0.6 | 0.72 | | | 9,570 | 0.54 | 5.4 | 6.48 | | | 3,070 |
| 0.07 | 0.7 | 0.84 | | | 8,650 | 0.55 | 5.5 | 6.6 | | | 3,070 |
| 0.08 | 0.8 | 0.96 | | | 7,350 | 0.56 | 5.6 | 6.72 | | | 3,070 |
| 0.09 | 0.9 | 1.08 | | | 6,480 | 0.57 | 5.7 | 6.84 | | | 3,070 |
| 0.10 | 1 | 1.2 | | | 4,970 | 0.58 | 5.8 | 6.96 | | | 3,070 |
| 0.11 | 1.1 | 1.32 | | | 4,970 | 0.59 | 5.9 | 7.08 | | | 3,070 |
| 0.12 | 1.2 | 1.44 | | | 4,970 | 0.60 | 6 | 7.2 | | | 3,070 |
| 0.13 | 1.3 | 1.56 | | | 4,970 | 0.61 | 6.1 | 7.32 | | | 3,070 |
| 0.14 | 1.4 | 1.68 | | | 4,970 | 0.62 | 6.2 | 7.44 | | | 3,070 |
| 0.15 | 1.5 | 1.8 | | | 4,970 | 0.63 | 6.3 | 7.56 | | | 3,070 |
| 0.16 | 1.6 | 1.92 | | | 4,970 | 0.64 | 6.4 | 7.68 | | | 3,070 |
| 0.17 | 1.7 | 2.04 | 40 | | 4,970 | 0.65 | 6.5 | 7.8 | | | 3,070 |
| 0.18 | 1.8 | 2.16 | | | 4,510 | 0.66 | 6.6 | 7.92 | | | 3,070 |
| 0.19 | 1.9 | 2.28 | | | 4,510 | 0.67 | 6.7 | 8.04 | | | 3,070 |
| 0.20 | 2 | 2.4 | | | 4,510 | 0.68 | 6.8 | 8.16 | | | 3,070 |
| 0.21 | 2.1 | 2.52 | | | 4,080 | 0.69 | 6.9 | 8.28 | | | 3,070 |
| 0.22 | 2.2 | 2.64 | | | 4,080 | 0.70 | 7 | 8.4 | | | 3,070 |
| 0.23 | 2.3 | 2.76 | | | 4,080 | 0.71 | 7.1 | 8.52 | | | 3,070 |
| 0.24 | 2.4 | 2.88 | | | 4,080 | 0.72 | 7.2 | 8.64 | | | 3,070 |
| 0.25 | 2.5 | 3 | | | 4,080 | 0.73 | 7.3 | 8.76 | | | 3,070 |
| 0.26 | 2.6 | 3.12 | | | 4,080 | 0.74 | 7.4 | 8.88 | | | 3,070 |
| 0.27 | 2.7 | 3.24 | | | 4,080 | 0.75 | 7.5 | 9 | | | 3,070 |
| 0.28 | 2.8 | 3.36 | | 3.0 | 4,080 | 0.76 | 7.6 | 9.12 | 45 | 3.0 | 3,070 |
| 0.29 | 2.9 | 3.48 | | | 4,080 | 0.77 | 7.7 | 9.24 | | | 3,070 |
| 0.30 | 3 | 3.6 | | | 4,080 | 0.78 | 7.8 | 9.36 | | | 3,070 |
| 0.31 | 3.1 | 3.72 | | | 3,070 | 0.79 | 7.9 | 9.48 | | | 3,070 |
| 0.32 | 3.2 | 3.84 | | | 3,070 | 0.80 | 8 | 9.6 | | | 3,070 |
| 0.33 | 3.3 | 3.96 | | | 3,070 | 0.81 | 8.1 | 9.72 | | | 3,070 |
| 0.34 | 3.4 | 4.08 | | | 3,070 | 0.82 | 8.2 | 9.84 | | | 3,070 |
| 0.35 | 3.5 | 4.2 | | | 3,070 | 0.83 | 8.3 | 9.96 | | | 3,070 |
| 0.36 | 3.6 | 4.32 | | | 3,070 | 0.84 | 8.4 | 10.08 | | | 3,070 |
| 0.37 | 3.7 | 4.44 | | | 3,070 | 0.85 | 8.5 | 10.2 | | | 3,070 |
| 0.38 | 3.8 | 4.56 | | | 3,070 | 0.86 | 8.6 | 10.32 | | | 3,070 |
| 0.39 | 3.9 | 4.68 | | | 3,070 | 0.87 | 8.7 | 10.44 | | | 3,070 |
| 0.40 | 4 | 4.8 | | 45 | 3,070 | 0.88 | 8.8 | 10.56 | | | 3,070 |
| 0.41 | 4.1 | 4.92 | | | 3,070 | 0.89 | 8.9 | 10.68 | | | 3,070 |
| 0.42 | 4.2 | 5.04 | | | 3,070 | 0.90 | 9 | 10.8 | | | 3,070 |
| 0.43 | 4.3 | 5.16 | | | 3,070 | 0.91 | 9.1 | 10.92 | | | 3,070 |
| 0.44 | 4.4 | 5.28 | | | 3,070 | 0.92 | 9.2 | 11.04 | | | 3,070 |
| 0.45 | 4.5 | 5.4 | | | 3,070 | 0.93 | 9.3 | 11.16 | | | 3,070 |
| 0.46 | 4.6 | 5.52 | | | 3,070 | 0.94 | 9.4 | 11.28 | | | 3,070 |
| 0.47 | 4.7 | 5.64 | | | 3,070 | 0.95 | 9.5 | 11.4 | | | 3,070 |
| 0.48 | 4.8 | 5.76 | | | 3,070 | 0.96 | 9.6 | 11.52 | | | 3,070 |
| 0.49 | 4.9 | 5.88 | | | 3,070 | 0.97 | 9.7 | 11.64 | | | 3,070 |
| 0.50 | 5 | 6 | | | 3,070 | 0.98 | 9.8 | 11.76 | | | 3,070 |
| 0.51 | 5.1 | 6.12 | | | 3,070 | 0.99 | 9.9 | 11.88 | | | 3,070 |
| 0.52 | 5.2 | 6.24 | | | 3,070 | 1.00 | 10 | 12 | | | 3,070 |

Carbide Drill

Carbide Reamers

Cermet Reamer

High Speed Steel Reamers

Made-to-order Items



超硬ドリル ドリーマーシリーズ

CDRP φ3.0シャンク (コーティング)

〔 D'reamer Shank Dia φ3.0 Coating type 〕



商品コード : CDRP○.○○-10D
Product Code

■ 特 長 〔 Features of D'reamer Shank Dia φ 3.0 Coating type 〕

超薄膜 Purple Coating を施すことで、SUS 加工に抜群の効果を発揮。
ノンコート比 2 倍以上の高寿命!

Ultra-thin purple coating is applied for outstanding SUS processing. Compared to non-coating, the service life is more than doubled!

コーティングタイプでも刃径公差 0/-0.003 を維持。

Blade diameter tolerance of 0/-0.003 is maintained even for coated type.

シャンク径φ 3.0 に対し、h4 公差(0/-0.003)を採用する事で、振れ精度と穴位置精度を更に追及。

The h4 tolerance (0/-0.003) is adopted for a shank diameter of φ3 to further pursue runout accuracy and hole position accuracy.

丹念に研究を重ねた工具形状を採用。切り屑排出性能が大幅に向上し、耐久性に優れる。

The tool geometry has been painstakingly researched, and chip evacuation performance has been greatly improved.

有効加工長を 10D に設定。刃径の 10 倍まで加工可能。

Set the effective machining length to 10D. Up to 10 times the blade diameter can be machined.

■ 参考切削条件 〔 Recommended Cutting Conditions 〕

| 被削材 Workpiece | 軟鋼 SS400 | | | 炭素鋼 S45C | | | 工具鋼 SK/SKH | | | 合金鋼 SCM440 | | | 調質鋼 ~40HRC | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | CDRP | ○ | | ○ | | ○ | | ◎ | | ◎ | | ◎ | | | |
| 刃径 D | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.1 | 19100 | 0.002 | | 19100 | 0.002 | | 19100 | 0.002 | | 19100 | 0.001 | | 17500 | 0.001 | |
| 0.2 | 17500 | 0.005 | 0.1~ | 17500 | 0.005 | 0.1~ | 17500 | 0.005 | 0.1~ | 17500 | 0.004 | 0.1~ | 15900 | 0.002 | 0.1~ |
| 0.3 | 15900 | 0.010 | 0.2D | 15900 | 0.010 | 0.2D | 15900 | 0.010 | 0.2D | 15900 | 0.006 | 0.2D | 13800 | 0.003 | 0.2D |
| 0.4 | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.008 | | 12700 | 0.004 | |
| 0.5 | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.010 | | 11500 | 0.005 | |
| 0.6 | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.012 | | 10600 | 0.006 | |
| 0.7 | 12300 | 0.030 | 0.2~ | 12300 | 0.030 | 0.2~ | 12300 | 0.030 | 0.2~ | 12300 | 0.014 | 0.2~ | 10000 | 0.007 | 0.2~ |
| 0.8 | 11500 | 0.035 | 0.3D | 11500 | 0.035 | 0.3D | 11500 | 0.035 | 0.3D | 11500 | 0.016 | 0.3D | 9600 | 0.008 | 0.3D |
| 0.9 | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.018 | | 9200 | 0.009 | |
| 1.0 | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.020 | | 8900 | 0.010 | |

| 被削材 Workpiece | 鋳鉄 FC/FCD | | | ステンレス鋼 SUS | | | アルミニウム合金 Al | | | 銅合金 C | | | 樹脂 Resin | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | CDRP | ○ | | ◎ | | ○ | | ○ | | ○ | | ○ | | | |
| 刃径 D | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.1 | 19100 | 0.001 | | 15900 | 0.001 | | 20700 | 0.005 | | 17500 | 0.004 | | 20700 | 0.005 | |
| 0.2 | 17500 | 0.004 | 0.1~ | 12700 | 0.002 | 0.1~ | 19100 | 0.010 | 0.1~ | 15900 | 0.005 | 0.1~ | 19100 | 0.010 | 0.1~ |
| 0.3 | 15900 | 0.006 | 0.2D | 10600 | 0.003 | 0.2D | 17000 | 0.020 | 0.2D | 14900 | 0.010 | 0.2D | 17000 | 0.015 | 0.2D |
| 0.4 | 15100 | 0.008 | | 9600 | 0.004 | | 15900 | 0.030 | | 14300 | 0.015 | | 15900 | 0.020 | |
| 0.5 | 14600 | 0.010 | | 8300 | 0.005 | | 15300 | 0.035 | | 13400 | 0.020 | | 15300 | 0.025 | |
| 0.6 | 13300 | 0.012 | | 6900 | 0.006 | | 14900 | 0.040 | | 12200 | 0.025 | | 14900 | 0.030 | |
| 0.7 | 12300 | 0.014 | 0.2~ | 6400 | 0.007 | 0.2~ | 14600 | 0.045 | 0.2~ | 11400 | 0.030 | 0.2~ | 14600 | 0.035 | 0.2~ |
| 0.8 | 11500 | 0.016 | 0.3D | 5600 | 0.008 | 0.3D | 14300 | 0.050 | 0.3D | 10700 | 0.035 | 0.3D | 14300 | 0.040 | 0.3D |
| 0.9 | 11000 | 0.018 | | 5300 | 0.009 | | 13400 | 0.055 | | 10300 | 0.040 | | 13400 | 0.045 | |
| 1.0 | 10500 | 0.020 | | 4800 | 0.010 | | 12700 | 0.060 | | 9900 | 0.045 | | 12700 | 0.050 | |

※上記の切削条件は目安となる数値です。機械や加工形状、ワーククランプなどの加工環境により調整してください。

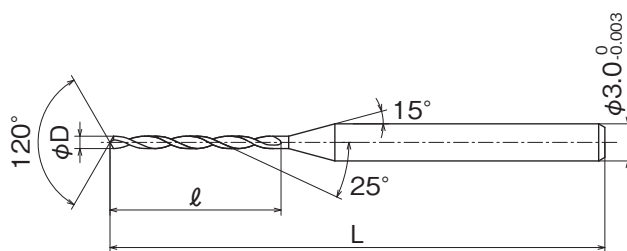
The above cutting conditions are guideline values. Please adjust them according to the machining environment such as machine, machining geometry, workpiece clamp, etc.

超硬ドリル ドリーマーシリーズ CDRP コーティングタイプ

[D'reamer Shank Dia ϕ 3.0 Coating type]



■ 寸法表 [D'reamer Shank Dia ϕ 3.0 Coating type Specification Table]



刃径公差 (0
(Tolerance) (-0.003)

0.01 mm とび

Increment

単価:円 unit price: in JPY

| 刃径 ϕ D Diameter | 有効加工長 Usable Length | 溝長 ϕ Flute Length | 全長 L Overall Length | シャンク径 ϕ d Shank Diameter | 標準定価 Retail Price | 刃径 ϕ D Diameter | 有効加工長 Usable Length | 溝長 ϕ Flute Length | 全長 L Overall Length | シャンク径 ϕ d Shank Diameter | 標準定価 Retail Price |
|-------------------------|---------------------------|------------------------------|---------------------------|-------------------------------------|-------------------------|-------------------------|---------------------------|------------------------------|---------------------------|-------------------------------------|-------------------------|
| 0.10 | 1 | 1.2 | | | 5,830 | 0.56 | 5.6 | 6.72 | | | 3,990 |
| 0.11 | 1.1 | 1.32 | | | 5,830 | 0.57 | 5.7 | 6.84 | | | 3,990 |
| 0.12 | 1.2 | 1.44 | | | 5,830 | 0.58 | 5.8 | 6.96 | | | 3,990 |
| 0.13 | 1.3 | 1.56 | | | 5,830 | 0.59 | 5.9 | 7.08 | | | 3,990 |
| 0.14 | 1.4 | 1.68 | | | 5,830 | 0.60 | 6 | 7.2 | | | 3,910 |
| 0.15 | 1.5 | 1.8 | | | 5,830 | 0.61 | 6.1 | 7.32 | | | 3,990 |
| 0.16 | 1.6 | 1.92 | | | 5,830 | 0.62 | 6.2 | 7.44 | | | 3,990 |
| 0.17 | 1.7 | 2.04 | | | 5,830 | 0.63 | 6.3 | 7.56 | | | 3,990 |
| 0.18 | 1.8 | 2.16 | | | 5,370 | 0.64 | 6.4 | 7.68 | | | 3,990 |
| 0.19 | 1.9 | 2.28 | | | 5,370 | 0.65 | 6.5 | 7.8 | | | 3,990 |
| 0.20 | 2 | 2.4 | 40 | | 5,370 | 0.66 | 6.6 | 7.92 | | | 3,990 |
| 0.21 | 2.1 | 2.52 | | | 4,940 | 0.67 | 6.7 | 8.04 | | | 3,990 |
| 0.22 | 2.2 | 2.64 | | | 4,940 | 0.68 | 6.8 | 8.16 | | | 3,990 |
| 0.23 | 2.3 | 2.76 | | | 4,940 | 0.69 | 6.9 | 8.28 | | | 3,990 |
| 0.24 | 2.4 | 2.88 | | | 4,940 | 0.70 | 7 | 8.4 | | | 3,910 |
| 0.25 | 2.5 | 3 | | | 4,940 | 0.71 | 7.1 | 8.52 | | | 3,990 |
| 0.26 | 2.6 | 3.12 | | | 4,940 | 0.72 | 7.2 | 8.64 | | | 3,990 |
| 0.27 | 2.7 | 3.24 | | | 4,940 | 0.73 | 7.3 | 8.76 | | | 3,990 |
| 0.28 | 2.8 | 3.36 | | | 4,940 | 0.74 | 7.4 | 8.88 | | | 3,990 |
| 0.29 | 2.9 | 3.48 | | | 4,940 | 0.75 | 7.5 | 9 | | | 3,990 |
| 0.30 | 3 | 3.6 | | | 4,940 | 0.76 | 7.6 | 9.12 | | | 3,990 |
| 0.31 | 3.1 | 3.72 | | | 3,990 | 0.77 | 7.7 | 9.24 | | | 3,990 |
| 0.32 | 3.2 | 3.84 | | 3.0 | 3,990 | 0.78 | 7.8 | 9.36 | 45 | 3.0 | 3,990 |
| 0.33 | 3.3 | 3.96 | | | 3,990 | 0.79 | 7.9 | 9.48 | | | 3,990 |
| 0.34 | 3.4 | 4.08 | | | 3,990 | 0.80 | 8 | 9.6 | | | 3,910 |
| 0.35 | 3.5 | 4.2 | | | 3,990 | 0.81 | 8.1 | 9.72 | | | 3,990 |
| 0.36 | 3.6 | 4.32 | | | 3,990 | 0.82 | 8.2 | 9.84 | | | 3,990 |
| 0.37 | 3.7 | 4.44 | | | 3,990 | 0.83 | 8.3 | 9.96 | | | 3,990 |
| 0.38 | 3.8 | 4.56 | | | 3,990 | 0.84 | 8.4 | 10.08 | | | 3,990 |
| 0.39 | 3.9 | 4.68 | | | 3,990 | 0.85 | 8.5 | 10.2 | | | 3,990 |
| 0.40 | 4 | 4.8 | | | 3,910 | 0.86 | 8.6 | 10.32 | | | 3,990 |
| 0.41 | 4.1 | 4.92 | | | 3,990 | 0.87 | 8.7 | 10.44 | | | 3,990 |
| 0.42 | 4.2 | 5.04 | 45 | | 3,990 | 0.88 | 8.8 | 10.56 | | | 3,990 |
| 0.43 | 4.3 | 5.16 | | | 3,990 | 0.89 | 8.9 | 10.68 | | | 3,990 |
| 0.44 | 4.4 | 5.28 | | | 3,990 | 0.90 | 9 | 10.8 | | | 3,910 |
| 0.45 | 4.5 | 5.4 | | | 3,990 | 0.91 | 9.1 | 10.92 | | | 3,990 |
| 0.46 | 4.6 | 5.52 | | | 3,990 | 0.92 | 9.2 | 11.04 | | | 3,990 |
| 0.47 | 4.7 | 5.64 | | | 3,990 | 0.93 | 9.3 | 11.16 | | | 3,990 |
| 0.48 | 4.8 | 5.76 | | | 3,990 | 0.94 | 9.4 | 11.28 | | | 3,990 |
| 0.49 | 4.9 | 5.88 | | | 3,990 | 0.95 | 9.5 | 11.4 | | | 3,990 |
| 0.50 | 5 | 6 | | | 3,910 | 0.96 | 9.6 | 11.52 | | | 3,990 |
| 0.51 | 5.1 | 6.12 | | | 3,990 | 0.97 | 9.7 | 11.64 | | | 3,990 |
| 0.52 | 5.2 | 6.24 | | | 3,990 | 0.98 | 9.8 | 11.76 | | | 3,990 |
| 0.53 | 5.3 | 6.36 | | | 3,990 | 0.99 | 9.9 | 11.88 | | | 3,990 |
| 0.54 | 5.4 | 6.48 | | | 3,990 | 1.00 | 10 | 12 | | | 3,910 |
| 0.55 | 5.5 | 6.6 | | | 3,990 | | | | | | |

Carbide Drill

Carbide Reamers

Cermat Reamer

High Speed Steel Reamers

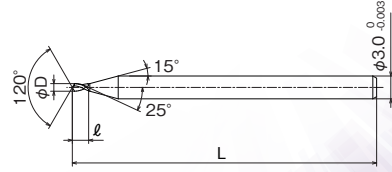
Made-to-order Items



超硬ドリル ドリーマーシリーズ CDC センタリングドリル 〔 D'reamer Centering drill 〕



商品コード : CDC〇.〇〇
Product Code



Carbide Drill

Carbide Reamers

Cermat Reamer

High Speed Steel Reamers

Made-to-order Items

■ 寸法表 [D'reamer Centering drill Specification Table]

刃径公差 (Tolerance) **(-0.005 / -0.010)** **0.01mmとび** Increment
単価:円 unit price: in JPY

| 刃径 φD Diameter | 溝長 ℓ Flute Length | 全長 L Overall Length | シャンク径 φd Shank Diameter | 標準定価 Retail Price |
|-------------------|----------------------|------------------------|----------------------------|----------------------|
| 0.05~1.00 | 2D | 40 | 3.0 | 6,900 |

■ 特長 [Features of D'reamer Centering drill]

超薄膜 Purple Coatingを施したドリーマーシリーズ専用の位置決め加工用ドリル。Ultra-thin purple coating is applied to this drill for positioning process exclusively for the D'reamer series.

シャンク径φ3.0に対し、h4公差(0/-0.003)を採用する事で、振れ精度と穴位置精度を更に追及。The h4 tolerance (0/-0.003) is adopted for a shank diameter of φ3 to further pursue runout accuracy and hole position accuracy.

■ 参考切削条件 [Recommended Cutting Conditions]

| 被削材 Workpiece | 軟鋼 S5400 | | | 炭素鋼 S45C | | | 工具鋼 SK/SKH | | | 合金鋼 SCM440 | | | 調質鋼 ~40HRC | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.05 | 22300 | 0.001 | | 22300 | 0.001 | | 22300 | 0.001 | | 22300 | 0.001 | | 19100 | 0.001 | |
| 0.06 | 21200 | 0.001 | | 21200 | 0.001 | | 21200 | 0.001 | | 21200 | 0.001 | | 18600 | 0.001 | |
| 0.07 | 20500 | 0.001 | | 20500 | 0.001 | | 20500 | 0.001 | | 20500 | 0.001 | | 18200 | 0.001 | |
| 0.08 | 19900 | 0.001 | | 19900 | 0.001 | | 19900 | 0.001 | | 19900 | 0.001 | | 17900 | 0.001 | |
| 0.09 | 19500 | 0.001 | 0.1~ | 19500 | 0.001 | 0.1~ | 19500 | 0.001 | 0.1~ | 19500 | 0.001 | 0.1~ | 17700 | 0.001 | 0.1~ |
| 0.1 | 19100 | 0.002 | 0.2D | 19100 | 0.002 | 0.2D | 19100 | 0.002 | 0.2D | 19100 | 0.001 | 0.2D | 17500 | 0.001 | 0.2D |
| 0.2 | 17500 | 0.005 | | 17500 | 0.005 | | 17500 | 0.005 | | 17500 | 0.004 | | 15900 | 0.002 | |
| 0.3 | 15900 | 0.010 | | 15900 | 0.010 | | 15900 | 0.010 | | 15900 | 0.006 | | 13800 | 0.003 | |
| 0.4 | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.015 | | 15100 | 0.008 | | 12700 | 0.004 | |
| 0.5 | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.020 | | 14600 | 0.010 | | 11500 | 0.005 | |
| 0.6 | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.025 | | 13300 | 0.012 | | 10600 | 0.006 | |
| 0.7 | 12300 | 0.030 | 0.2~ | 12300 | 0.030 | 0.2~ | 12300 | 0.030 | 0.2~ | 12300 | 0.014 | 0.2~ | 10000 | 0.007 | 0.2~ |
| 0.8 | 11500 | 0.035 | 0.3D | 11500 | 0.035 | 0.3D | 11500 | 0.035 | 0.3D | 11500 | 0.016 | 0.3D | 9600 | 0.008 | 0.3D |
| 0.9 | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.040 | | 11000 | 0.018 | | 9200 | 0.009 | |
| 1.0 | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.045 | | 10500 | 0.020 | | 8900 | 0.010 | |

| 被削材 Workpiece | 铸铁 FC/FCD | | | ステンレス鋼 SUS | | | アルミニウム合金 Al | | | 銅合金 C | | | 樹脂 Resin | | |
|------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|-----------------------------|-----------------|----------------------|
| | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount | 回転数 (min ⁻¹) | 送り量 (mm/rev) | ステップ量 Step amount |
| 0.05 | 22300 | 0.001 | | 15900 | 0.001 | | 25500 | 0.002 | | 19100 | 0.001 | | 25500 | 0.001 | |
| 0.06 | 21200 | 0.001 | | 15900 | 0.001 | | 23900 | 0.002 | | 18600 | 0.001 | | 23900 | 0.001 | |
| 0.07 | 20500 | 0.001 | | 15900 | 0.001 | | 22700 | 0.002 | | 18200 | 0.001 | | 22700 | 0.002 | |
| 0.08 | 19900 | 0.001 | | 15900 | 0.001 | | 21900 | 0.003 | | 17900 | 0.002 | | 21900 | 0.003 | |
| 0.09 | 19500 | 0.001 | 0.1~ | 15900 | 0.001 | 0.1~ | 21200 | 0.004 | 0.1~ | 17700 | 0.003 | 0.1~ | 21200 | 0.004 | 0.1~ |
| 0.1 | 19100 | 0.001 | 0.2D | 15900 | 0.001 | 0.2D | 20700 | 0.005 | 0.2D | 17500 | 0.004 | 0.2D | 20700 | 0.005 | 0.2D |
| 0.2 | 17500 | 0.004 | | 12700 | 0.002 | | 19100 | 0.010 | | 15900 | 0.005 | | 19100 | 0.010 | |
| 0.3 | 15900 | 0.006 | | 10600 | 0.003 | | 17000 | 0.020 | | 14900 | 0.010 | | 17000 | 0.015 | |
| 0.4 | 15100 | 0.008 | | 9600 | 0.004 | | 15900 | 0.030 | | 14300 | 0.015 | | 15900 | 0.020 | |
| 0.5 | 14600 | 0.010 | | 8300 | 0.005 | | 15300 | 0.035 | | 13400 | 0.020 | | 15300 | 0.025 | |
| 0.6 | 13300 | 0.012 | | 6900 | 0.006 | | 14900 | 0.040 | | 12200 | 0.025 | | 14900 | 0.030 | |
| 0.7 | 12300 | 0.014 | 0.2~ | 6400 | 0.007 | 0.2~ | 14600 | 0.045 | 0.2~ | 11400 | 0.030 | 0.2~ | 14600 | 0.035 | 0.2~ |
| 0.8 | 11500 | 0.016 | 0.3D | 5600 | 0.008 | 0.3D | 14300 | 0.050 | 0.3D | 10700 | 0.035 | 0.3D | 14300 | 0.040 | 0.3D |
| 0.9 | 11000 | 0.018 | | 5300 | 0.009 | | 13400 | 0.055 | | 10300 | 0.040 | | 13400 | 0.045 | |
| 1.0 | 10500 | 0.020 | | 4800 | 0.010 | | 12700 | 0.060 | | 9900 | 0.045 | | 12700 | 0.050 | |

※上記の切削条件は目安となる数値です。機械や加工形状、ワーククランプなどの加工環境により調整してください。

The above cutting conditions are guideline values. Please adjust them according to the machining environment such as machine, machining geometry, workpiece clamp, etc.

CDCは位置決め加工用の為、条件表記載の被削材すべてに対応しています。刃径と被削材を参照し、切削条件を設定してください。

CDC is for positioning machining and can be used for all work materials listed in the condition table. Please set the cutting conditions by referring to the blade diameter and work material.