

# マルチドリル MDA型

MULTIDRILL MDA Series 第2版

## アルミニウム合金加工の 新領域へ!



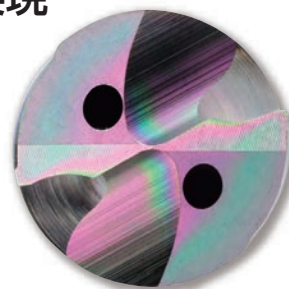
高精度加工～高能率加工の幅広い使用領域を実現

新DLCコーティング **オーロラコートX** *New*

内部給油式  $\phi 1.0 \sim \phi 12.0 \text{mm}$

$\phi 1.0 \sim \phi 3.0 \text{mm}$  3D 5D 10D 15D 20D

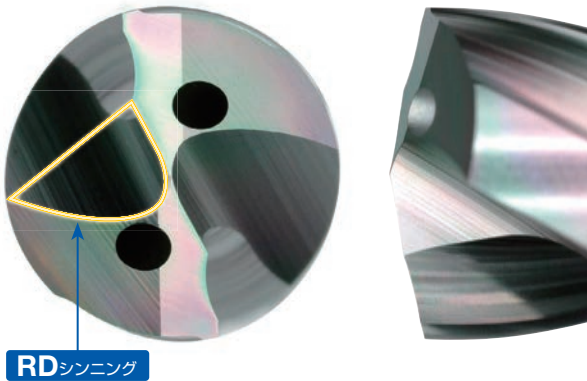
$\phi 3.1 \sim \phi 12.0 \text{mm}$  3D 5D 10D



# 高精度・高能率穴あけを実現!

## RDシンニング

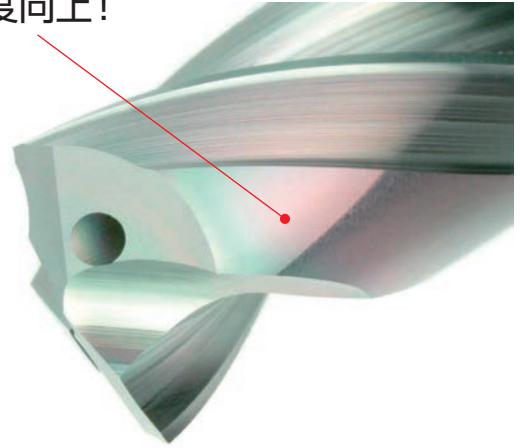
特殊シンニング効果で  
抜群の求心性!



RDシンニング

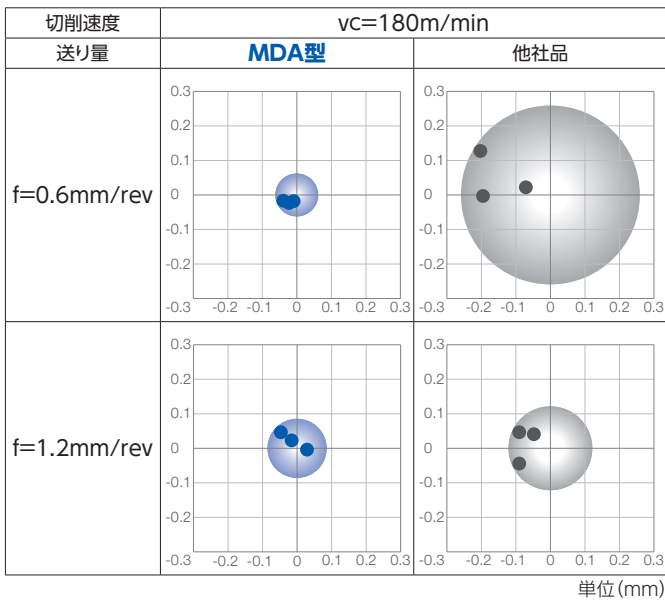
## 幅広ダブルマージン \*刃径:3.1mm~

ガイド性の高い幅広ダブルマージンで  
穴精度向上!



### ■ 穴位置精度

無垢穴加工

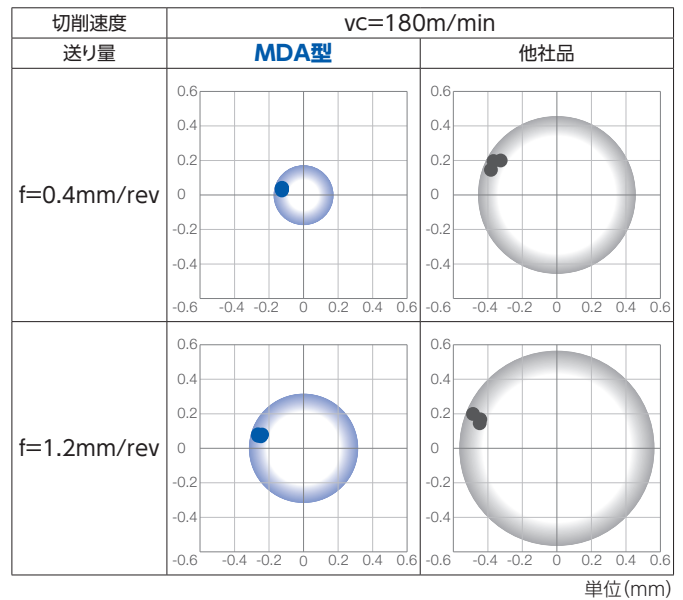
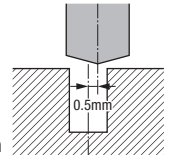


被削材: ADC12 使用工具: MDA0600S06H05 (φ6mm×5D) Wet

高能率条件でも穴位置安定

鑄抜き穴加工

鑄抜き穴ずれ: 0.5mm



被削材: ADC12 使用工具: MDA0600S06H05 (φ6mm×5D) Wet

鑄抜き穴位置ずれの影響を大幅に低減

# オーロラコート<sup>エクス</sup> DLCコート

## ● コーティング表面性状 (SEM像)



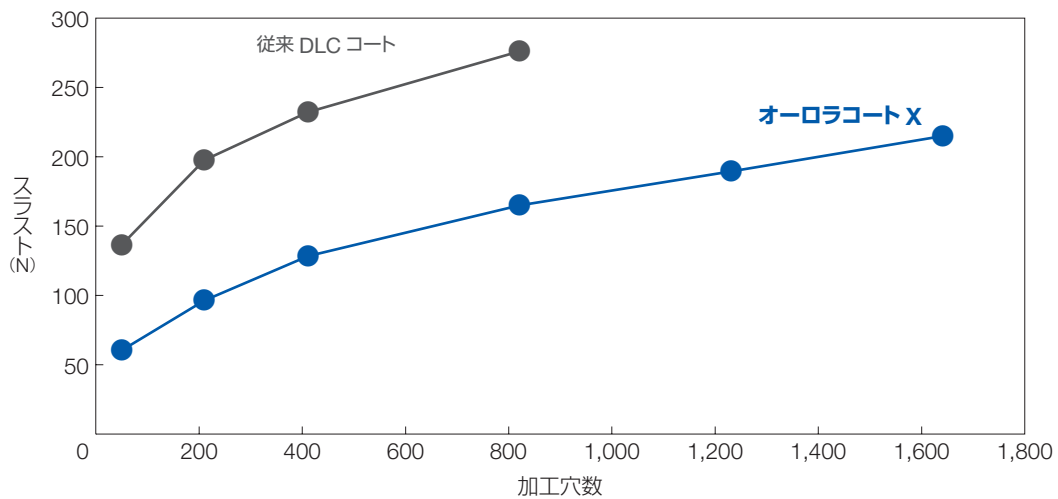
オーロラコートX



従来DLCコート

新技術により平滑性を大幅に向上

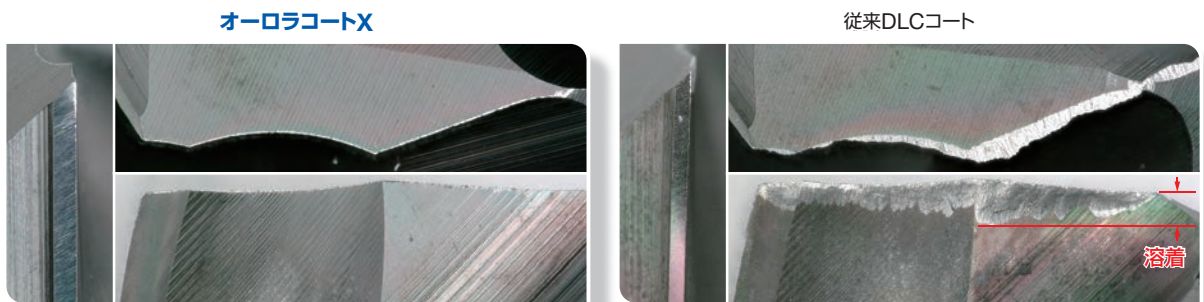
## ● 切削抵抗



被削材: ADC12 設備: 立形M/C BT30  
 使用工具: MDA0600S06H05 (φ6mm×5D)  
 切削条件: vc=180m/min f=0.2mm/rev 内部給油 (水溶性)

コーティング表面の平滑性向上により初期から低抵抗、かつ抵抗推移も緩やかな上昇となり長寿命

## ● 耐溶着性



被削材: ADC12 設備: 立形M/C BT30  
 使用工具: MDA0600S06H05 (φ6mm×5D)  
 切削条件: vc=180m/min f=0.2mm/rev 内部給油 (水溶性)

優れた平滑性で溶着が大幅に減少

はめあい寸法公差は総合カタログ [N章 一般資料編] をご参照ください。

Fig 1 L/D=3・5D シングルマージン

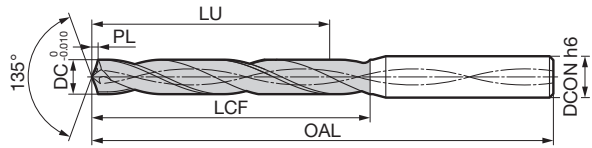
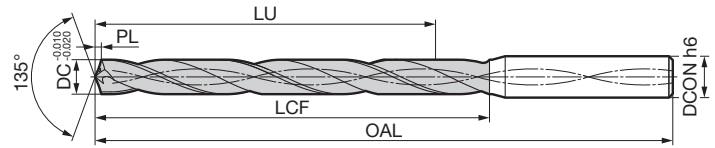


Fig 2 L/D=10・15・20D シングルマージン



■本体 刃径  $\phi$ 1.0~2.0mm

寸法(mm)

刃径 DC (mm)	穴深さ (D)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
1.0	3	●	MDA0100S03H03	4.5	6.0	45.0	0.2	3.0	1
	5	●	MDA0100S03H05	8.5	10.0	50.0	0.2	3.0	1
	10	●	MDA0100S03H10	12.5	14.0	55.0	0.2	3.0	2
	15	●	MDA0100S03H15	17.5	19.0	60.0	0.2	3.0	2
1.1	3	●	MDA0110S03H03	6.4	8.0	45.0	0.2	3.0	1
	5	●	MDA0110S03H05	10.4	12.0	50.0	0.2	3.0	1
	10	●	MDA0110S03H10	16.4	18.0	55.0	0.2	3.0	2
	15	●	MDA0110S03H15	19.4	21.0	65.0	0.2	3.0	2
1.2	3	●	MDA0120S03H03	6.2	8.0	48.0	0.2	3.0	1
	5	●	MDA0120S03H05	10.2	12.0	55.0	0.2	3.0	1
	10	●	MDA0120S03H10	16.2	18.0	60.0	0.2	3.0	2
	15	●	MDA0120S03H15	21.2	23.0	65.0	0.2	3.0	2
1.3	3	●	MDA0130S03H03	6.1	8.0	48.0	0.3	3.0	1
	5	●	MDA0130S03H05	12.1	14.0	55.0	0.3	3.0	1
	10	●	MDA0130S03H10	18.1	20.0	60.0	0.3	3.0	2
	15	●	MDA0130S03H15	23.1	25.0	65.0	0.3	3.0	2
1.4	3	●	MDA0140S03H03	5.9	8.0	48.0	0.3	3.0	1
	5	●	MDA0140S03H05	11.9	14.0	55.0	0.3	3.0	1
	10	●	MDA0140S03H10	17.9	20.0	60.0	0.3	3.0	2
	15	●	MDA0140S03H15	25.9	28.0	70.0	0.3	3.0	2
1.5	3	●	MDA0150S03H03	5.8	8.0	48.0	0.3	3.0	1
	5	●	MDA0150S03H05	13.8	16.0	55.0	0.3	3.0	1
	10	●	MDA0150S03H10	20.8	23.0	65.0	0.3	3.0	2
	15	●	MDA0150S03H15	25.8	28.0	70.0	0.3	3.0	2
1.6	3	●	MDA0160S03H03	7.6	10.0	50.0	0.3	3.0	1
	5	●	MDA0160S03H05	13.6	16.0	55.0	0.3	3.0	1
	10	●	MDA0160S03H10	22.6	25.0	65.0	0.3	3.0	2
	15	●	MDA0160S03H15	29.6	32.0	75.0	0.3	3.0	2
1.7	3	●	MDA0170S03H03	7.5	10.0	50.0	0.4	3.0	1
	5	●	MDA0170S03H05	15.5	18.0	60.0	0.4	3.0	1
	10	●	MDA0170S03H10	22.5	25.0	65.0	0.4	3.0	2
	15	●	MDA0170S03H15	29.5	32.0	75.0	0.4	3.0	2
1.8	3	●	MDA0180S03H03	7.3	10.0	50.0	0.4	3.0	1
	5	●	MDA0180S03H05	15.3	18.0	60.0	0.4	3.0	1
	10	●	MDA0180S03H10	25.3	28.0	70.0	0.4	3.0	2
	15	●	MDA0180S03H15	32.3	35.0	75.0	0.4	3.0	2
1.9	3	●	MDA0190S03H03	7.2	10.0	50.0	0.4	3.0	1
	5	●	MDA0190S03H05	17.2	20.0	60.0	0.4	3.0	1
	10	●	MDA0190S03H10	25.2	28.0	70.0	0.4	3.0	2
	15	●	MDA0190S03H15	32.2	35.0	75.0	0.4	3.0	2
2.0	3	●	MDA0200S03H03	7.0	10.0	50.0	0.4	3.0	1
	5	●	MDA0200S03H05	17.0	20.0	60.0	0.4	3.0	1
	10	●	MDA0200S03H10	27.0	30.0	70.0	0.4	3.0	2
	15	●	MDA0200S03H15	37.0	40.0	80.0	0.4	3.0	2

材種 DLX1700

■本体 刃径  $\phi$ 2.1~3.0mm

寸法(mm)

刃径 DC (mm)	穴深さ (D)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
2.1	3	●	MDA0210S03H03	9.9	13.0	55.0	0.4	3.0	1
	5	●	MDA0210S03H05	18.9	22.0	65.0	0.4	3.0	1
	10	●	MDA0210S03H10	26.9	30.0	70.0	0.4	3.0	2
	15	●	MDA0210S03H15	36.9	40.0	80.0	0.4	3.0	2
2.2	3	●	MDA0220S03H03	9.7	13.0	55.0	0.5	3.0	1
	5	●	MDA0220S03H05	18.7	22.0	65.0	0.5	3.0	1
	10	●	MDA0220S03H10	28.7	32.0	75.0	0.5	3.0	2
	15	●	MDA0220S03H15	38.7	42.0	85.0	0.5	3.0	2
2.3	3	●	MDA0230S03H03	9.6	13.0	55.0	0.5	3.0	1
	5	●	MDA0230S03H05	20.6	24.0	65.0	0.5	3.0	1
	10	●	MDA0230S03H10	28.6	32.0	75.0	0.5	3.0	2
	15	●	MDA0230S03H15	41.6	45.0	85.0	0.5	3.0	2
2.4	3	●	MDA0240S03H03	9.4	13.0	55.0	0.5	3.0	1
	5	●	MDA0240S03H05	20.4	24.0	65.0	0.5	3.0	1
	10	●	MDA0240S03H10	31.4	35.0	75.0	0.5	3.0	2
	15	●	MDA0240S03H15	41.4	45.0	85.0	0.5	3.0	2
2.5	3	●	MDA0250S03H03	9.3	13.0	55.0	0.5	3.0	1
	5	●	MDA0250S03H05	22.3	26.0	65.0	0.5	3.0	1
	10	●	MDA0250S03H10	31.3	35.0	75.0	0.5	3.0	2
	15	●	MDA0250S03H15	41.3	45.0	85.0	0.5	3.0	2
2.6	3	●	MDA0260S03H03	11.1	15.0	60.0	0.5	3.0	1
	5	●	MDA0260S03H05	22.1	26.0	70.0	0.5	3.0	1
	10	●	MDA0260S03H10	34.1	38.0	80.0	0.5	3.0	2
	15	●	MDA0260S03H15	46.1	50.0	90.0	0.5	3.0	2
2.7	3	●	MDA0270S03H03	11.0	15.0	60.0	0.6	3.0	1
	5	●	MDA0270S03H05	24.0	28.0	70.0	0.6	3.0	1
	10	●	MDA0270S03H10	34.0	38.0	80.0	0.6	3.0	2
	15	●	MDA0270S03H15	46.0	50.0	90.0	0.6	3.0	2
2.8	3	●	MDA0280S03H03	10.8	15.0	60.0	0.6	3.0	1
	5	●	MDA0280S03H05	23.8	28.0	70.0	0.6	3.0	1
	10	●	MDA0280S03H10	35.8	40.0	80.0	0.6	3.0	2
	15	●	MDA0280S03H15	50.8	55.0	95.0	0.6	3.0	2
2.9	3	●	MDA0290S03H03	10.7	15.0	60.0	0.6	3.0	1
	5	●	MDA0290S03H05	25.7	30.0	70.0	0.6	3.0	1
	10	●	MDA0290S03H10	35.7	40.0	80.0	0.6	3.0	2
	15	●	MDA0290S03H15	50.7	55.0	95.0	0.6	3.0	2
3.0	3	●	MDA0300S03H03	10.5	15.0	60.0	0.6	3.0	1
	5	●	MDA0300S03H05	25.5	30.0	70.0	0.6	3.0	1
	10	●	MDA0300S03H10	37.5	42.0	82.0	0.6	3.0	2
	15	●	MDA0300S03H15	53.5	58.0	98.0	0.6	3.0	2

材種 DLX1700

●印:標準在庫品

はめあい寸法公差は総合カタログ [N章 一般資料編] をご照参ください。

Fig 1 L/D=3・5D ダブルマージン

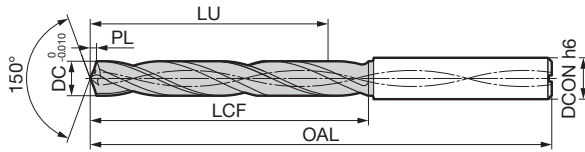
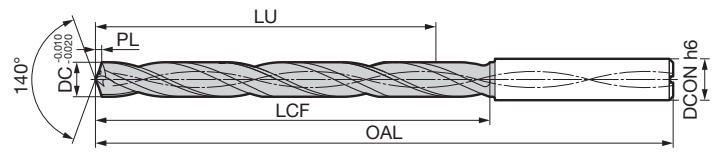


Fig 2 L/D=10D ダブルマージン



■本体 刃径 φ3.1~4.5mm

寸法(mm)

刃径 DC (mm)	穴深さ (mm)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
3.1	3	●	MDA0310S04H03	15.8	20.4	72.4	0.4	4.0	1
	5	●	MDA0310S04H05	27.8	32.4	86.4	0.4	4.0	1
	10	●	MDA0310S04H10	44.9	49.6	106.6	0.6	4.0	2
3.2	3	●	MDA0320S04H03	15.6	20.4	72.4	0.4	4.0	1
	5	●	MDA0320S04H05	27.6	32.4	86.4	0.4	4.0	1
	10	●	MDA0320S04H10	44.8	49.6	106.6	0.6	4.0	2
3.3	3	●	MDA0330S04H03	15.5	20.4	72.4	0.4	4.0	1
	5	●	MDA0330S04H05	27.5	32.4	86.4	0.4	4.0	1
	10	●	MDA0330S04H10	44.7	49.6	106.6	0.6	4.0	2
3.4	3	●	MDA0340S04H03	15.4	20.5	72.5	0.5	4.0	1
	5	●	MDA0340S04H05	27.4	32.5	86.5	0.5	4.0	1
	10	●	MDA0340S04H10	44.5	49.6	106.6	0.6	4.0	2
3.5	3	●	MDA0350S04H03	15.2	20.5	72.5	0.5	4.0	1
	5	●	MDA0350S04H05	27.2	32.5	86.5	0.5	4.0	1
	10	●	MDA0350S04H10	44.4	49.6	106.6	0.6	4.0	2
3.6	3	●	MDA0360S04H03	17.6	23.0	72.5	0.5	4.0	1
	5	●	MDA0360S04H05	31.1	36.5	86.5	0.5	4.0	1
	10	●	MDA0360S04H10	51.3	56.7	106.7	0.7	4.0	2
3.65	3	●	MDA0365S04H03	17.4	23.0	72.5	0.5	4.0	1
	5	●	MDA0365S04H05	30.9	36.5	86.5	0.5	4.0	1
3.66	5	●	MDA0366S04H05	30.9	36.5	86.5	0.5	4.0	1
3.7	3	●	MDA0370S04H03	17.4	23.0	72.5	0.5	4.0	1
	5	●	MDA0370S04H05	30.9	36.5	86.5	0.5	4.0	1
	10	●	MDA0370S04H10	51.1	56.7	106.7	0.7	4.0	2
3.8	3	●	MDA0380S04H03	17.3	23.0	72.5	0.5	4.0	1
	5	●	MDA0380S04H05	30.8	36.5	86.5	0.5	4.0	1
	10	●	MDA0380S04H10	51.0	56.7	106.7	0.7	4.0	2
3.9	3	●	MDA0390S04H03	17.2	23.0	72.5	0.5	4.0	1
	5	●	MDA0390S04H05	30.7	36.5	86.5	0.5	4.0	1
	10	●	MDA0390S04H10	50.9	56.7	106.7	0.7	4.0	2
4.0	3	●	MDA0400S04H03	17.0	23.0	72.5	0.5	4.0	1
	5	●	MDA0400S04H05	30.5	36.5	86.5	0.5	4.0	1
	10	●	MDA0400S04H10	50.7	56.7	106.7	0.7	4.0	2
4.1	3	●	MDA0410S06H03	19.4	25.5	80.5	0.5	6.0	1
	5	●	MDA0410S06H05	34.4	40.5	98.5	0.5	6.0	1
	10	●	MDA0410S06H10	57.6	63.7	121.7	0.7	6.0	2
4.2	3	●	MDA0420S06H03	19.3	25.6	80.6	0.6	6.0	1
	5	●	MDA0420S06H05	34.3	40.6	98.6	0.6	6.0	1
	10	●	MDA0420S06H10	57.5	63.8	121.8	0.8	6.0	2
4.3	3	●	MDA0430S06H03	19.1	25.6	80.6	0.6	6.0	1
	5	●	MDA0430S06H05	34.1	40.6	98.6	0.6	6.0	1
	10	●	MDA0430S06H10	57.3	63.8	121.8	0.8	6.0	2
4.4	3	●	MDA0440S06H03	19.0	25.6	80.6	0.6	6.0	1
	5	●	MDA0440S06H05	34.0	40.6	98.6	0.6	6.0	1
	10	●	MDA0440S06H10	57.2	63.8	121.8	0.8	6.0	2
4.5	3	●	MDA0450S06H03	18.9	25.6	80.6	0.6	6.0	1
	5	●	MDA0450S06H05	33.9	40.6	98.6	0.6	6.0	1
	10	●	MDA0450S06H10	57.1	63.8	121.8	0.8	6.0	2

材種 DLX1700

■本体 刃径 φ4.6~6.0mm

寸法(mm)

刃径 DC (mm)	穴深さ (mm)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
4.6	3	●	MDA0460S06H03	20.7	27.6	80.6	0.6	6.0	1
	5	●	MDA0460S06H05	37.7	44.6	98.6	0.6	6.0	1
	10	●	MDA0460S06H10	61.9	68.8	121.8	0.8	6.0	2
4.7	3	●	MDA0470S06H03	20.6	27.6	80.6	0.6	6.0	1
	5	●	MDA0470S06H05	37.6	44.6	98.6	0.6	6.0	1
	10	●	MDA0470S06H10	61.8	68.9	121.9	0.9	6.0	2
4.8	3	●	MDA0480S06H03	20.4	27.6	80.6	0.6	6.0	1
	5	●	MDA0480S06H05	37.4	44.6	98.6	0.6	6.0	1
	10	●	MDA0480S06H10	61.7	68.9	121.9	0.9	6.0	2
4.9	3	●	MDA0490S06H03	20.5	27.7	80.7	0.7	6.0	1
	5	●	MDA0490S06H05	37.5	44.7	98.7	0.7	6.0	1
	10	●	MDA0490S06H10	61.7	68.9	121.9	0.9	6.0	2
5.0	3	●	MDA0500S06H03	20.2	27.7	80.7	0.7	6.0	1
	5	●	MDA0500S06H05	37.2	44.7	98.7	0.7	6.0	1
	10	●	MDA0500S06H10	61.4	68.9	121.9	0.9	6.0	2
5.1	3	●	MDA0510S06H03	20.5	28.2	82.7	0.7	6.0	1
	5	●	MDA0510S06H05	37.0	44.7	100.7	0.7	6.0	1
	10	●	MDA0510S06H10	70.3	77.9	136.9	0.9	6.0	2
5.2	3	●	MDA0520S06H03	20.4	28.2	82.7	0.7	6.0	1
	5	●	MDA0520S06H05	36.9	44.7	100.7	0.7	6.0	1
	10	●	MDA0520S06H10	70.1	77.9	136.9	0.9	6.0	2
5.3	3	●	MDA0530S06H03	20.3	28.2	82.7	0.7	6.0	1
	5	●	MDA0530S06H05	36.8	44.7	100.7	0.7	6.0	1
	10	●	MDA0530S06H10	70.0	78.0	137.0	1.0	6.0	2
5.4	3	●	MDA0540S06H03	20.1	28.2	82.7	0.7	6.0	1
	5	●	MDA0540S06H05	36.6	44.7	100.7	0.7	6.0	1
	10	●	MDA0540S06H10	69.9	78.0	137.0	1.0	6.0	2
5.5	3	●	MDA0550S06H03	20.0	28.2	82.7	0.7	6.0	1
	5	●	MDA0550S06H05	36.5	44.7	100.7	0.7	6.0	1
	10	●	MDA0550S06H10	69.8	78.0	137.0	1.0	6.0	2
5.6	3	●	MDA0560S06H03	22.3	30.7	82.7	0.8	6.0	1
	5	●	MDA0560S06H05	40.3	48.7	100.7	0.8	6.0	1
	10	●	MDA0560S06H10	76.6	85.0	137.0	1.0	6.0	2
5.7	3	●	MDA0570S06H03	22.2	30.8	82.8	0.8	6.0	1
	5	●	MDA0570S06H05	40.2	48.8	100.8	0.8	6.0	1
	10	●	MDA0570S06H10	76.5	85.0	137.0	1.0	6.0	2
5.8	3	●	MDA0580S06H03	22.1	30.8	82.8	0.8	6.0	1
	5	●	MDA0580S06H05	40.1	48.8	100.8	0.8	6.0	1
	10	●	MDA0580S06H10	76.4	85.1	137.1	1.1	6.0	2
5.9	3	●	MDA0590S06H03	21.9	30.8	82.8	0.8	6.0	1
	5	●	MDA0590S06H05	39.9	48.8	100.8	0.8	6.0	1
	10	●	MDA0590S06H10	76.2	85.1	137.1	1.1	6.0	2
6.0	3	●	MDA0600S06H03	21.8	30.8	82.8	0.8	6.0	1
	5	●	MDA0600S06H05	39.8	48.8	100.8	0.8	6.0	1
	10	●	MDA0600S06H10	76.1	85.1	137.1	1.1	6.0	2

材種 DLX1700

はめあい寸法公差は総合カタログ [N章 一般資料編] をご参照ください。

Fig 1 L/D=3・5D ダブルマージン

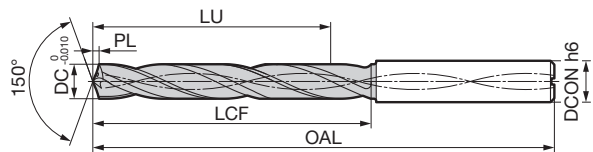
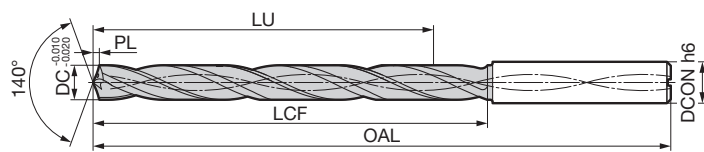


Fig 2 L/D=10D ダブルマージン



■本体 刃径 ø6.1~7.5mm

寸法(mm)

刃径 DC (mm)	穴深さ (D)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
6.1	3		MDA0610S08H03	24.2	33.3	88.8	0.8	8.0	1
	5	●	MDA0610S08H05	43.7	52.8	109.8	0.8	8.0	1
	10	●	MDA0610S08H10	83.0	92.1	152.1	1.1	8.0	2
6.2	3		MDA0620S08H03	24.0	33.3	88.8	0.8	8.0	1
	5	●	MDA0620S08H05	43.5	52.8	109.8	0.8	8.0	1
	10		MDA0620S08H10	82.8	92.1	152.1	1.1	8.0	2
6.3	3		MDA0630S08H03	23.9	33.3	88.8	0.8	8.0	1
	5	●	MDA0630S08H05	43.4	52.8	109.8	0.8	8.0	1
	10		MDA0630S08H10	82.7	92.1	152.1	1.1	8.0	2
6.4	3		MDA0640S08H03	23.8	33.4	88.9	0.9	8.0	1
	5	●	MDA0640S08H05	43.3	52.9	109.9	0.9	8.0	1
	10		MDA0640S08H10	82.6	92.2	152.2	1.2	8.0	2
6.5	3	●	MDA0650S08H03	23.6	33.4	88.9	0.9	8.0	1
	5	●	MDA0650S08H05	43.1	52.9	109.9	0.9	8.0	1
	10	●	MDA0650S08H10	82.4	92.2	152.2	1.2	8.0	2
6.6	3		MDA0660S08H03	24.0	33.9	88.9	0.9	8.0	1
	5	●	MDA0660S08H05	45.0	54.9	109.9	0.9	8.0	1
	10		MDA0660S08H10	87.3	97.2	152.2	1.2	8.0	2
6.7	3	●	MDA0670S08H03	24.0	33.9	88.9	0.9	8.0	1
	5	●	MDA0670S08H05	45.0	54.9	109.9	0.9	8.0	1
	10		MDA0670S08H10	87.3	97.2	152.2	1.2	8.0	2
6.8	3	●	MDA0680S08H03	23.7	33.9	88.9	0.9	8.0	1
	5	●	MDA0680S08H05	44.7	54.9	109.9	0.9	8.0	1
	10	●	MDA0680S08H10	87.0	97.2	152.2	1.2	8.0	2
6.9	3		MDA0690S08H03	23.6	33.9	88.9	0.9	8.0	1
	5		MDA0690S08H05	44.6	54.9	109.9	0.9	8.0	1
	10		MDA0690S08H10	86.9	97.3	152.3	1.3	8.0	2
7.0	3	●	MDA0700S08H03	23.4	33.9	88.9	0.9	8.0	1
	5	●	MDA0700S08H05	44.4	54.9	109.9	0.9	8.0	1
	10	●	MDA0700S08H10	86.8	97.3	152.3	1.3	8.0	2
7.1	3		MDA0710S08H03	27.8	38.4	94.9	1.0	8.0	1
	5	●	MDA0710S08H05	50.3	60.9	118.9	1.0	8.0	1
	10		MDA0710S08H10	95.6	106.3	167.3	1.3	8.0	2
7.2	3		MDA0720S08H03	27.7	38.5	95.0	1.0	8.0	1
	5	●	MDA0720S08H05	50.2	61.0	119.0	1.0	8.0	1
	10		MDA0720S08H10	95.5	106.3	167.3	1.3	8.0	2
7.3	3		MDA0730S08H03	27.5	38.5	95.0	1.0	8.0	1
	5	●	MDA0730S08H05	50.0	61.0	119.0	1.0	8.0	1
	10		MDA0730S08H10	95.4	106.3	167.3	1.3	8.0	2
7.35	3	●	MDA0735S08H03	27.4	38.5	95.0	1.0	8.0	1
	5	●	MDA0735S08H05	49.9	61.0	119.0	1.0	8.0	1
7.4	3		MDA0740S08H03	27.4	38.5	95.0	1.0	8.0	1
	5	●	MDA0740S08H05	49.9	61.0	119.0	1.0	8.0	1
	10		MDA0740S08H10	95.2	106.3	167.3	1.3	8.0	2
7.5	3	●	MDA0750S08H03	27.3	38.5	95.0	1.0	8.0	1
	5	●	MDA0750S08H05	49.8	61.0	119.0	1.0	8.0	1
	10	●	MDA0750S08H10	95.1	106.4	167.4	1.4	8.0	2

材種 DLX1700

■本体 刃径 ø7.6~9.0mm

寸法(mm)

刃径 DC (mm)	穴深さ (D)	在庫	型番	有効長 LU	フルート長 LCF	全長 OAL	先端 PL	シャンク径 DCON	Fig
7.6	3		MDA0760S08H03	29.6	41.0	95.0	1.0	8.0	1
	5	●	MDA0760S08H05	53.6	65.0	119.0	1.0	8.0	1
	10		MDA0760S08H10	102.0	113.4	167.4	1.4	8.0	2
7.7	3		MDA0770S08H03	29.5	41.0	95.0	1.0	8.0	1
	5	●	MDA0770S08H05	53.5	65.0	119.0	1.0	8.0	1
	10		MDA0770S08H10	101.9	113.4	167.4	1.4	8.0	2
7.8	3	●	MDA0780S08H03	29.3	41.0	95.0	1.0	8.0	1
	5	●	MDA0780S08H05	53.3	65.0	119.0	1.0	8.0	1
	10	●	MDA0780S08H10	101.7	113.4	167.4	1.4	8.0	2
7.9	3		MDA0790S08H03	29.2	41.1	95.1	1.1	8.0	1
	5	●	MDA0790S08H05	53.2	65.1	119.1	1.1	8.0	1
	10		MDA0790S08H10	101.6	113.4	167.4	1.4	8.0	2
8.0	3	●	MDA0800S08H03	29.1	41.1	95.1	1.1	8.0	1
	5	●	MDA0800S08H05	53.1	65.1	119.1	1.1	8.0	1
	10	●	MDA0800S08H10	101.5	113.5	167.5	1.5	8.0	2
8.1	3		MDA0810S10H03	31.4	43.6	101.1	1.1	10.0	1
	5	●	MDA0810S10H05	56.9	69.1	128.1	1.1	10.0	1
	10	●	MDA0810S10H10	108.3	120.5	182.5	1.5	10.0	2
8.2	3		MDA0820S10H03	31.3	43.6	101.1	1.1	10.0	1
	5	●	MDA0820S10H05	56.8	69.1	128.1	1.1	10.0	1
	10	●	MDA0820S10H10	108.2	120.5	182.5	1.5	10.0	2
8.3	3		MDA0830S10H03	31.2	43.6	101.1	1.1	10.0	1
	5	●	MDA0830S10H05	56.7	69.1	128.1	1.1	10.0	1
	10		MDA0830S10H10	108.1	120.5	182.5	1.5	10.0	2
8.4	3		MDA0840S10H03	31.0	43.6	101.1	1.1	10.0	1
	5	●	MDA0840S10H05	56.5	69.1	128.1	1.1	10.0	1
	10		MDA0840S10H10	107.9	120.5	182.5	1.5	10.0	2
8.5	3	●	MDA0850S10H03	31.0	43.6	101.1	1.1	10.0	1
	5	●	MDA0850S10H05	56.5	69.1	128.1	1.1	10.0	1
	10	●	MDA0850S10H10	107.9	120.5	182.5	1.5	10.0	2
8.6	3	●	MDA0860S10H03	31.2	44.1	101.1	1.2	10.0	1
	5	●	MDA0860S10H05	58.2	71.1	128.1	1.2	10.0	1
	10		MDA0860S10H10	112.7	125.6	182.6	1.6	10.0	2
8.7	3		MDA0870S10H03	31.1	44.2	101.2	1.2	10.0	1
	5	●	MDA0870S10H05	58.1	71.2	128.2	1.2	10.0	1
	10		MDA0870S10H10	112.5	125.6	182.6	1.6	10.0	2
8.8	3	●	MDA0880S10H03	31.0	44.2	101.2	1.2	10.0	1
	5	●	MDA0880S10H05	58.0	71.2	128.2	1.2	10.0	1
	10		MDA0880S10H10	112.4	125.6	182.6	1.6	10.0	2
8.9	3		MDA0890S10H03	30.8	44.2	101.2	1.2	10.0	1
	5	●	MDA0890S10H05	57.8	71.2	128.2	1.2	10.0	1
	10		MDA0890S10H10	112.3	125.6	182.6	1.6	10.0	2
9.0	3	●	MDA0900S10H03	30.7	44.2	101.2	1.2	10.0	1
	5	●	MDA0900S10H05	57.7	71.2	128.2	1.2	10.0	1
	10	●	MDA0900S10H10	112.1	125.6	182.6	1.6	10.0	2

材種 DLX1700

はめあい寸法公差は総合カタログ [N章 一般資料編] をご参照ください。

Fig 1 L/D=3・5D ダブルマージン

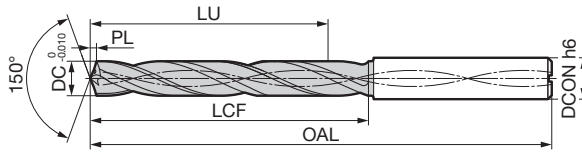
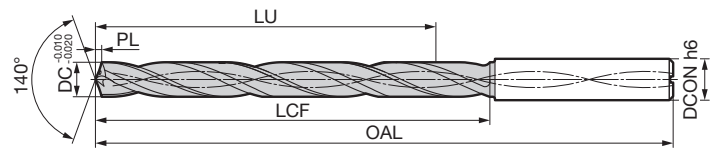


Fig 2 L/D=10D ダブルマージン



■本体 刃径 φ9.1~10.5mm

寸法(mm)

刃径 DC (mm)	穴深さ (mm)	在庫	型番	有効長	フルート長	全長	先端	シャンク径	Fig
				LU	LCF	OAL	PL	DCON	
9.1	3	●	MDA0910S10H03	35.1	48.7	107.2	1.2	10.0	1
	5	●	MDA0910S10H05	63.6	77.2	137.2	1.2	10.0	1
	10	●	MDA0910S10H10	121.0	134.7	197.7	1.7	10.0	2
9.2	3	●	MDA0920S10H03	34.9	48.7	107.2	1.2	10.0	1
	5	●	MDA0920S10H05	63.4	77.2	137.2	1.2	10.0	1
	10	●	MDA0920S10H10	120.9	134.7	197.7	1.7	10.0	2
9.21	5	●	MDA0921S10H05	63.3	77.2	137.2	1.2	10.0	1
	3	●	MDA0930S10H03	34.8	48.7	107.2	1.2	10.0	1
	5	●	MDA0930S10H05	63.3	77.2	137.2	1.2	10.0	1
9.3	10	●	MDA0930S10H10	120.7	134.7	197.7	1.7	10.0	2
	3	●	MDA0940S10H03	34.7	48.8	107.3	1.3	10.0	1
	5	●	MDA0940S10H05	63.2	77.3	137.3	1.3	10.0	1
9.4	10	●	MDA0940S10H10	120.6	134.7	197.7	1.7	10.0	2
	3	●	MDA0950S10H03	34.5	48.8	107.3	1.3	10.0	1
	5	●	MDA0950S10H05	63.0	77.3	137.3	1.3	10.0	1
9.5	10	●	MDA0950S10H10	120.5	134.7	197.7	1.7	10.0	2
	3	●	MDA0960S10H03	36.9	51.3	107.3	1.3	10.0	1
	5	●	MDA0960S10H05	66.9	81.3	137.3	1.3	10.0	1
9.6	10	●	MDA0960S10H10	127.3	141.7	197.7	1.7	10.0	2
	3	●	MDA0970S10H03	36.7	51.3	107.3	1.3	10.0	1
	5	●	MDA0970S10H05	66.7	81.3	137.3	1.3	10.0	1
9.7	10	●	MDA0970S10H10	127.2	141.8	197.8	1.8	10.0	2
	3	●	MDA0980S10H03	36.6	51.3	107.3	1.3	10.0	1
	5	●	MDA0980S10H05	66.6	81.3	137.3	1.3	10.0	1
9.8	10	●	MDA0980S10H10	127.1	141.8	197.8	1.8	10.0	2
	3	●	MDA0990S10H03	36.5	51.3	107.3	1.3	10.0	1
	5	●	MDA0990S10H05	66.5	81.3	137.3	1.3	10.0	1
9.9	10	●	MDA0990S10H10	127.0	141.8	197.8	1.8	10.0	2
	3	●	MDA1000S10H03	36.3	51.3	107.3	1.3	10.0	1
	5	●	MDA1000S10H05	66.3	81.3	137.3	1.3	10.0	1
10.0	10	●	MDA1000S10H10	126.8	141.8	197.8	1.8	10.0	2
	3	●	MDA1010S12H03	38.7	53.8	117.3	1.4	12.0	1
	5	●	MDA1010S12H05	70.2	85.3	150.3	1.4	12.0	1
10.1	10	●	MDA1010S12H10	133.7	148.8	216.8	1.8	12.0	2
	3	●	MDA1020S12H03	38.6	53.9	117.4	1.4	12.0	1
	5	●	MDA1020S12H05	70.1	85.4	150.4	1.4	12.0	1
10.2	10	●	MDA1020S12H10	133.6	148.9	216.9	1.9	12.0	2
	3	●	MDA1030S12H03	38.6	53.9	117.4	1.4	12.0	1
	5	●	MDA1030S12H05	70.1	85.4	150.4	1.4	12.0	1
10.3	10	●	MDA1030S12H10	133.6	148.9	216.9	1.9	12.0	2
	3	●	MDA1040S12H03	38.3	53.9	117.4	1.4	12.0	1
	5	●	MDA1040S12H05	69.8	85.4	150.4	1.4	12.0	1
10.4	10	●	MDA1040S12H10	133.3	148.9	216.9	1.9	12.0	2
	3	●	MDA1050S12H03	38.2	53.9	117.4	1.4	12.0	1
	5	●	MDA1050S12H05	69.7	85.4	150.4	1.4	12.0	1
10.5	10	●	MDA1050S12H10	133.2	148.9	216.9	1.9	12.0	2

材種 DLX1700

■本体 刃径 φ10.6~12.0mm

寸法(mm)

刃径 DC (mm)	穴深さ (mm)	在庫	型番	有効長	フルート長	全長	先端	シャンク径	Fig
				LU	LCF	OAL	PL	DCON	
10.6	3	●	MDA1060S12H03	38.5	54.4	117.4	1.4	12.0	1
	5	●	MDA1060S12H05	71.5	87.4	150.4	1.4	12.0	1
	10	●	MDA1060S12H10	138.0	153.9	216.9	1.9	12.0	2
10.7	3	●	MDA1070S12H03	38.4	54.4	117.4	1.4	12.0	1
	5	●	MDA1070S12H05	71.4	87.4	150.4	1.4	12.0	1
	10	●	MDA1070S12H10	137.9	153.9	216.9	1.9	12.0	2
10.8	3	●	MDA1080S12H03	38.2	54.4	117.4	1.4	12.0	1
	5	●	MDA1080S12H05	71.2	87.4	150.4	1.4	12.0	1
	10	●	MDA1080S12H10	137.8	154.0	217.0	2.0	12.0	2
10.9	3	●	MDA1090S12H03	38.1	54.5	117.5	1.5	12.0	1
	5	●	MDA1090S12H05	71.1	87.5	150.5	1.5	12.0	1
	10	●	MDA1090S12H10	137.6	154.0	217.0	2.0	12.0	2
11.0	3	●	MDA1100S12H03	38.0	54.5	117.5	1.5	12.0	1
	5	●	MDA1100S12H05	71.0	87.5	150.5	1.5	12.0	1
	10	●	MDA1100S12H10	137.5	154.0	217.0	2.0	12.0	2
11.1	3	●	MDA1110S12H03	42.3	59.0	123.5	1.5	12.0	1
	5	●	MDA1110S12H05	76.8	93.5	159.5	1.5	12.0	1
	10	●	MDA1110S12H10	146.4	163.0	232.0	2.0	12.0	2
11.2	3	●	MDA1120S12H03	42.2	59.0	123.5	1.5	12.0	1
	5	●	MDA1120S12H05	76.7	93.5	159.5	1.5	12.0	1
	10	●	MDA1120S12H10	146.2	163.0	232.0	2.0	12.0	2
11.3	3	●	MDA1130S12H03	42.1	59.0	123.5	1.5	12.0	1
	5	●	MDA1130S12H05	76.6	93.5	159.5	1.5	12.0	1
	10	●	MDA1130S12H10	146.1	163.1	232.1	2.1	12.0	2
11.4	3	●	MDA1140S12H03	41.9	59.0	123.5	1.5	12.0	1
	5	●	MDA1140S12H05	76.4	93.5	159.5	1.5	12.0	1
	10	●	MDA1140S12H10	146.0	163.1	232.1	2.1	12.0	2
11.5	3	●	MDA1150S12H03	41.8	59.0	123.5	1.5	12.0	1
	5	●	MDA1150S12H05	76.3	93.5	159.5	1.5	12.0	1
	10	●	MDA1150S12H10	145.8	163.1	232.1	2.1	12.0	2
11.6	3	●	MDA1160S12H03	44.1	61.5	123.5	1.6	12.0	1
	5	●	MDA1160S12H05	80.1	97.5	159.5	1.6	12.0	1
	10	●	MDA1160S12H10	152.7	170.1	232.1	2.1	12.0	2
11.7	3	●	MDA1170S12H03	44.0	61.6	123.6	1.6	12.0	1
	5	●	MDA1170S12H05	80.0	97.6	159.6	1.6	12.0	1
	10	●	MDA1170S12H10	152.6	170.1	232.1	2.1	12.0	2
11.8	3	●	MDA1180S12H03	43.9	61.6	123.6	1.6	12.0	1
	5	●	MDA1180S12H05	79.9	97.6	159.6	1.6	12.0	1
	10	●	MDA1180S12H10	152.4	170.1	232.1	2.1	12.0	2
11.9	3	●	MDA1190S12H03	43.7	61.6	123.6	1.6	12.0	1
	5	●	MDA1190S12H05	79.7	97.6	159.6	1.6	12.0	1
	10	●	MDA1190S12H10	152.3	170.2	232.2	2.2	12.0	2
12.0	3	●	MDA1200S12H03	43.6	61.6	123.6	1.6	12.0	1
	5	●	MDA1200S12H05	79.6	97.6	159.6	1.6	12.0	1
	10	●	MDA1200S12H10	152.2	170.2	232.2	2.2	12.0	2

材種 DLX1700

## ■ 推奨切削条件(L/D=3D,5D)

被削材	アルミニウム合金鋳物/アルミニウム合金ダイカスト材 ADC, AC		アルミニウム合金 ジュラルミン系 Al-Zn-Mg系(7075)		アルミニウム合金展伸材 Al-Mg系(5052)	
	切削速度(m/min)	送り量(mm/rev)	切削速度(m/min)	送り量(mm/rev)	切削速度(m/min)	送り量(mm/rev)
刃径(mm)						
~ ø2.00	50 - 120	0.05 - 0.40	40 - 90	0.05 - 0.20	50 - 120	0.04 - 0.08
~ ø3.00	60 - 150	0.10 - 0.60	50 - 100	0.10 - 0.30	60 - 150	0.04 - 0.08
~ ø4.00	60 - 150	0.15 - 0.80	50 - 120	0.15 - 0.40	60 - 150	0.05 - 0.12
~ ø6.00	80 - 200	0.20 - 1.20	80 - 180	0.20 - 0.60	80 - 200	0.08 - 0.18
~ ø8.00	100 - 200	0.20 - 1.20	80 - 180	0.20 - 0.80	100 - 200	0.10 - 0.20
~ ø10.00	100 - 200	0.20 - 1.20	100 - 180	0.20 - 0.80	100 - 200	0.10 - 0.25
~ ø12.00	120 - 250	0.20 - 1.20	120 - 200	0.20 - 0.80	120 - 250	0.10 - 0.30

- ・上記推奨切削条件表は、水溶性切削油剤使用時を示すものです。
- ・内部給油でお使いください。
- ・切削油剤の供給圧、ø3以下は2.0MPa以上、ø3超えは1.5MPa以上を推奨します。
- ・ドリルの振れは0.02mm以下に抑えてください。
- ・異音・振動など異常がみられるときは、状況に応じて切削条件を変更してください。
- ・鑄抜き穴への加工時は、推奨条件の下限側を推奨いたします。

## ■ 推奨切削条件(L/D=10D以上)

被削材	アルミニウム合金鋳物/アルミニウム合金ダイカスト材 ADC, AC		アルミニウム合金 ジュラルミン系 Al-Zn-Mg系(7075)		アルミニウム合金展伸材 Al-Mg系(5052)	
	切削速度(m/min)	送り量(mm/rev)	切削速度(m/min)	送り量(mm/rev)	切削速度(m/min)	送り量(mm/rev)
刃径(mm)						
~ ø2.00	50 - 100	0.05 - 0.20	40 - 60	0.05 - 0.15	50 - 100	0.04 - 0.08
~ ø3.00	60 - 120	0.10 - 0.30	50 - 80	0.10 - 0.20	60 - 120	0.04 - 0.08
~ ø4.00	60 - 120	0.15 - 0.40	50 - 100	0.10 - 0.25	60 - 120	0.04 - 0.10
~ ø6.00	80 - 150	0.20 - 0.60	60 - 120	0.15 - 0.30	80 - 150	0.06 - 0.12
~ ø8.00	80 - 180	0.20 - 0.60	80 - 150	0.20 - 0.40	80 - 180	0.08 - 0.15
~ ø10.00	100 - 180	0.20 - 0.60	100 - 150	0.20 - 0.40	100 - 180	0.10 - 0.20
~ ø12.00	120 - 200	0.20 - 0.60	120 - 180	0.20 - 0.40	120 - 200	0.10 - 0.25

- ・上記推奨切削条件表は、水溶性切削油剤使用時を示すものです。
- ・内部給油でお使いください。
- ・切削油剤の供給圧、ø3以下は2.0MPa以上、ø3超えは1.5MPa以上を推奨します。
- ・ドリルの振れは0.02mm以下に抑えてください。
- ・異音・振動など異常がみられるときは、状況に応じて切削条件を変更してください。
- ・鑄抜き穴への加工については、10D(以上)ドリルは推奨いたしません。
- ・10D以上穴あけの加工では異常が発生する可能性がある為、先にガイド穴(穴深さは1D~2D)を加工ください。
- ・ガイド穴加工には3D(5D)ドリルがご使用頂けます。(ガイド穴加工時は「10D以上推奨送り量」より条件を下げてください)

### ◆ 安全にお使いいただくために ◆



- 高温の切りくずが飛散したり長く伸びた切りくずが排出されることがありますので、安全カバーや保護メガネ等の保護具を使用し、防災・防火に十分ご注意ください。
- 鋭い切れ刃を持っているため取扱いにご注意ください。
- 使用方法を誤ったり、使用条件が不適切な場合、工具破損、飛散を招きますので推奨条件の範囲内でご使用ください。
- 不水溶性の切削液をご使用になる場合は、自動消火装置を設置するなどの対策を講じて頂き、火災にくれぐれもご注意ください。
- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.
- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.
- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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