



#### Halnn Superhard Material Co., Ltd.

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Http://www.halnn-group.com

Branch office: Wuxi, Chongqing, Hong Kong, Tianjin, Shanghai, Japan, Singapore









# Aerospace Composite Cutting Tool



## **ABOUT HALNN**

#### 

Special tools for the automotive industry
One-stop integrated service provider







ISO9001-2008

National Measurement Oualification

As a high-tech enterprise in the metal machining field, Zhengzhou Halnn Superhard Material Co, Ltd isknown as the leading company which dedicate itself on researching and providing cuting tools for hardmaterial and difficult-to-machine materials.

With the lab and R&D team which was developed from Henan Superhard Material institute, Halnn is thepioneer to research on application of CBN, PCD, ceramic, and specific carbide materials.

During past 20 years, one after another new material grades were developed with patent certificates were issued by authority. Halnn has became a famous brand of hi-tech materials. Meanwhile, a solid salesnetwork has been established domestically. In recent years, the growth rate of annual turnover is over 30%.

For now, Halnn is a famous brand in Asia for its professional solutions on hard materials and dificult-to-process materials. In the future, we will work with our partners to promote the civilization of industrial technology in more and more countries and regions.

With the enterprise culture of innovation, freedom, justice and sharing, we devoted to build a system fromwhich our employees could realize and maximum their values and benefits. We always insist on ourcommitment of rapid response to customers demands to create value beyond the customers's expect. Wewill try all efforts to achieve our vision which is building a respectable hundred-years enterprise.





## China Sinoca (Hong Kong) New Materials Co., Limited

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Investment and international trade in the field of superhard materials and carbon materials





#### GLC PRECISION TECHNOLOGY PTE. LTD.

R&D, manufacturing and sales of grinding tools for disc parts and machine tools for precision hole processing.



## **Composite Cutting Tool**

For composite materials in aerospace industry and various harsh and complex conditions, it meets the requirements of high precision, ultra-high precision and high stability.



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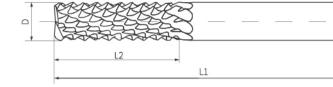
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### Solid Carbide Pineapple Teeth Router













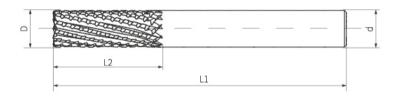
△ Suitable

			0.1000					
	Workpiece Material							
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP				
				0				
Diameter D (mm)	Cutting Edge Length L2 (mm)	Overall Length L1 (mm)	Shank d (mm)					
4	12	60	6					
6	18	75	6					
8	24	75	8					
10	25	75	10					
12	25	75	12					

#### Solid Carbide Rhombic Teeth Router





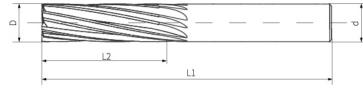


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		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
Diameter D	Cutting Edge Length L2	Overall Length L1	Shank d	
(mm)	(mm)	(mm)	(mm)	
4	12	60	6	
6	18	75	6	
8	24	75	8	
10	25	75	10	
12	25	75	12	

#### Solid Carbide Multi Teeth Router



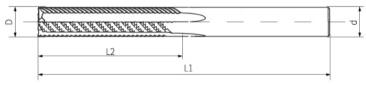


#### Recommended △ Suitable

	Workpiece Material		
Titanium	Stainless Steel	Alloy Steel	CFRP
			0
Cutting Edge Length	Overall Length	Shank	
(mm)	(mm)	(mm)	
12	60	6	
18	75	6	
24	75	8	
25	75	10	
25	75	12	
	Cutting Edge Length L2 (mm) 12 18 24 25	Titanium         Stainless Steel           Cutting Edge Length L2 (mm)         Overall Length L1 (mm)           12         60           18         75           24         75           25         75	Titanium         Stainless Steel         Alloy Steel           Cutting Edge Length L2 (mm)         Overall Length L1 d d (mm)         Shank d (mm)           12         60         6           18         75         6           24         75         8           25         75         10

#### Solid Carbide Straight Flute Router



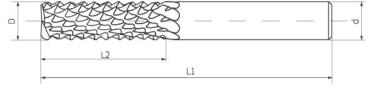


△ Suit	able	Э
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		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
Diameter D	Cutting Edge Length L2	Overall Length L1	Shank d	
(mm)	(mm)	(mm)	(mm)	
4	12	60	6	
6	18	75	6	
8	24	75	8	
10	25	75	10	
12	25	75	12	

#### Solid Carbide Pineapple Teeth Router (Diamond Coating)











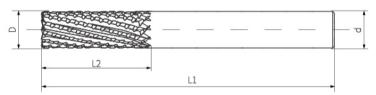
#### Recommended

△ Suitable

	Workpiece Material							
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP				
				0				
Diameter D (mm)	Cutting Edge Length L2 (mm)	Overall Length L1 (mm)	Shank d (mm)					
4	12	60	6					
6	18	75	6					
8	24	75	8					
10	25	75	10					
12	25	75	12					

#### Solid Carbide Rhombic Teeth Router(Diamond Coating)







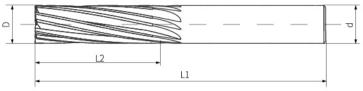


#### Recommended △ Suitable

Workpiece Material						
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP		
				0		
Diameter D	Cutting Edge Length L2	Overall Length L1	Shank d			
(mm)	(mm)	(mm)	(mm)			
4	12	60	6			
6	18	75	6			
8	24	75	8			
10	25	75	10			
12	25	75	12			

#### Solid Carbide Multi Teeth Router(Diamond Coating)





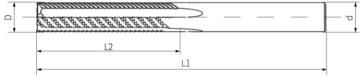
#### Recommended

△ Suitable

		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
Diameter	Cutting Edge Length	Overall Length	Shank	
(mm)	(mm)	L I	(mm)	
(11111)	(mm)	(mm)	(mm)	
4	12	60	6	
6	18	75	6	
8	24	75	8	
10	25	75	10	
12	25	75	12	

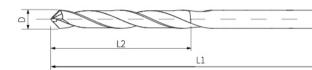
#### Solid Carbide Straight Flute Router(Diamond Coating)





		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
Diameter D (mm)	Cutting Edge Length L2 (mm)	Overall Length L1 (mm)	Shank d (mm)	
4	12	60	6	
6	18	75	6	
8	24	75	8	
10	25	75	10	
12	25	75	12	

#### Solid Carbide Twist Drill







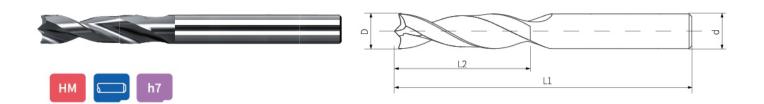




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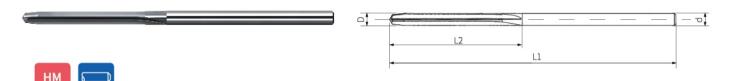
			⊚ Recomr	mended △ Suitable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
$\triangle$	$\triangle$	$\triangle$	$\triangle$	0
Dia	meter	Cutting Edge Length	Overall Length	Shank
in	D mm	L2	L1	d
.0980	2.49	mm 15	mm 60	mm 2.49
.1063	2.49	15	60	2.49
.1250	3.175	20	75	3.175
.1285	3.26	20	75	3.175
				3.45
.1360	3.45	20	75 75	
.1540	3.91	20	75	3.91
.1660	4.21	30	75	4.21
.1772	4.5	30	75	4.5
.1960	4.97	30	75	4.97
.2055	5.22	35	100	5.22
.2188	5.55	35	100	5.55
.2344	5.95	35	100	5.95
.2420	6.14	40	100	6.14
.2500	6.35	40	100	6.35
.2656	6.74	40	100	6.74
.2812	7.14	40	100	7.14
.2969	7.54	40	100	7.54
.3125	7.93	40	100	7.93
.3281	8.33	45	110	8.33
.3438	8.73	45	110	8.73
.3594	9.12	45	110	9.12
.3770	9.8	45	110	9.8
.4062	10.31	50	110	10.31
.4219	10.71	50	110	10.71
.4375	11.11	55	125	11.11
.5000	12.7	55	125	12.7

#### Solid Carbide Brad Point Drill



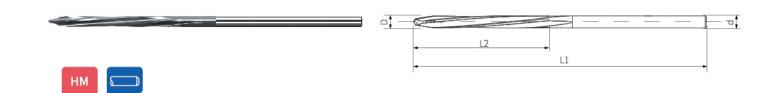
			@ 1 (000111	mortada Z daltable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
	Δ	$\triangle$		
	neter	Cutting Edge Length	Overall Length	Shank
	D	L2		d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.7	15	60	2.7
.1250	3.175	20	75	3.175
.1285	3.26	20	75	3.26
.1360	3.45	20	75	3.45
.1540	3.91	20	75	3.91
.1660	4.21	30	75	4.21
.1772	4.5	30	75	4.5
.1960	4.97	30	75	4.97
.2055	5.22	35	100	5.22
.2188	5.55	35	100	5.55
.2344	5.95	35	100	5.95
.2420	6.14	40	100	6.14
.2500	6.35	40	100	6.35
.2656	6.74	40	100	6.74
.2812	7.14	40	100	7.14
.2969	7.54	40	100	7.54
.3125	7.93	40	100	7.93
.3281	8.33	45	110	8.33
.3438	8.73	45	110	8.73
.3594	9.12	45	110	9.12
.3770	9.8	45	110	9.8
.4062	10.31	50	110	10.31
.4219	10.71	50	110	10.71
.4375	11.11	55	125	11.11
.5000	12.7	55	125	12.7

## Solid Carbide Straight Flute Dagger Drill



			⊚ Recom	mended △ Suitable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
	neter	Cutting Edge Length	Overall Length	Shank
	) 	L2	L1	d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.70	15	60	2.70
.1181	3.00	18	75	3.00
.1260	3.20	20	75	3.20
.1285	3.26	20	75	3.26
.1575	4.00	30	75	4.00
.1610	4.09	30	75	4.09
.1772	4.50	30	75	4.50
.1890	4.80	30	75	4.80
.1900	4.83	30	75	4.83
.1933	4.91	30	75	4.91
.1969	5.00	35	100	5.00
.1990	5.05	35	100	5.05
.2055	5.22	35	100	5.22
.2362	6.00	40	100	6.00
.2500	6.35	40	100	6.35
.3126	7.94	40	100	7.94
.3750	9.53	40	100	9.53
.5000	12.70	40	100	12.70

## Solid Carbide Helical Flute Dagger Drill



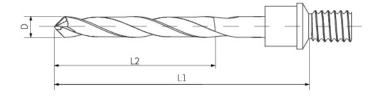
			@1(000111	mended Zoditable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
	meter	Cutting Edge Length	Overall Length	Shank
	D	L2	L1	d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.70	15	60	2.70
.1181	3.00	18	75	3.00
.1260	3.20	20	75	3.20
.1285	3.26	20	75	3.26
.1575	4.00	30	75	4.00
.1610	4.09	30	75	4.09
.1772	4.50	30	75	4.50
.1890	4.80	30	75	4.80
.1900	4.83	30	75	4.83
.1933	4.91	30	75	4.91
.1969	5.00	35	100	5.00
.1990	5.05	35	100	5.05
.2055	5.22	35	100	5.22
.2362	6.00	40	100	6.00
.2500	6.35	40	100	6.35
.3126	7.94	40	100	7.94
.3750	9.53	40	100	9.53
.5000	12.70	40	100	12.70

#### Solid Carbide Twist Drill With Threaded Shank







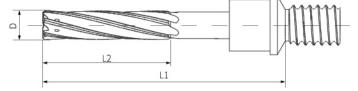


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			© Recom	mended \( \triangle \)
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0	0	0	0	
	neter O	Cutting Edge Length L2	Overall Length L1	Threaded Shank
in	mm	mm	mm	mm
		7.94	12.7	
.0938	2.38	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1065	2.78	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1250	3.175	14.28	25.4	
		28	53.98	
.1406	3.57	14.28	25.4	1/4-28UNF
.1400	5.57	28	53.98	174 20011
.1562	3.97	14.28	25.4	
.1302	5.97	28	53.98	
.1719	4.37	14.28	25.4	
.1718	4.07	28	53.98	
.1875	4.76	14.28	25.4	
.1073	4.70	28	53.98	
.2031	5.16	28	53.98	
.2188	5.56	28	53.98	
.2344	5.95	28	53.98	
.2500	6.35	28	53.98	
.2812	7.14	28	53.98	3/8-24UNF
.3750	9.53	28	53.98	

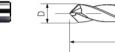
#### Solid Carbide Drill Reamer With Threaded Shank





			© Recom	imended $\triangle$ Suitable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0	0	0	0	
Dia	meter D	Cutting Edge Length L2	Overall Length L1	Threaded Shank
in	mm	mm	mm	
		7.94	12.7	
.0938	2.38	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1065	2.78	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1250	3.175	14.28	25.4	
		28	53.98	
.1406	3.57	14.28	25.4	1/4-28UNF
.1400	3.57	28	53.98	1/4-200NF
.1562	3.97	14.28	25.4	
.1302	3.97	28	53.98	
.1719	4.37	14.28	25.4	
.1719	4.57	28	53.98	
.1875	4.76	14.28	25.4	
.1075	4.70	28	53.98	
.2031	5.16	28	53.98	
.2188	5.56	28	53.98	
.2344	5.95	28	53.98	
.2500	6.35	28	53.98	
.2812	7.14	28	53.98	3/8-24UNF
.3750	9.53	28	53.98	

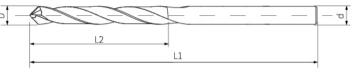
## Solid Carbide Twist Drill(Diamond Coating)







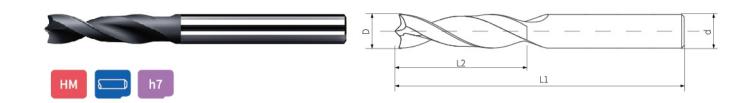




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		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
Δ	Δ	Δ	Δ	©
	meter	Cutting Edge Length	Overall Length	Shank
	D	L2		d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.7	15	60	2.7
.1250	3.175	20	75	3.175
.1285	3.26	20	75	3.26
.1360	3.45	20	75	3.45
.1540	3.91	20	75	3.91
.1660	4.21	30	75	4.21
.1772	4.5	30	75	4.5
.1960	4.97	30	75	4.97
.2055	5.22	35	100	5.22
.2188	5.55	35	100	5.55
.2344	5.95	35	100	5.95
.2420	6.14	40	100	6.14
.2500	6.35	40	100	6.35
.2656	6.74	40	100	6.74
.2812	7.14	40	100	7.14
.2969	7.54	40	100	7.54
.3125	7.93	40	100	7.93
.3281	8.33	45	110	8.33
.3438	8.73	45	110	8.73
.3594	9.12	45	110	9.12
.3770	9.8	45	110	9.8
.4062	10.31	50	110	10.31
.4219	10.71	50	110	10.71
.4375	11.11	55	125	11.11
.5000	12.7	55	125	12.7

## Solid Carbide Brad Point Drill(Diamond Coating)



Recommended	∆ Suitable
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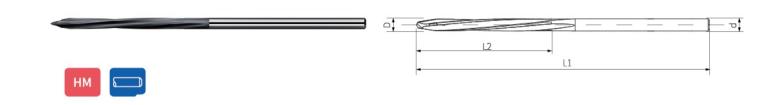
			© Recom	Tierided \(\triangle\) Sullable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
	Δ	Δ	Δ	
	meter	Cutting Edge Length	Overall Length	Shank
	D 	L2	L1	d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.7	15	60	2.7
.1250	3.175	20	75	3.175
.1285	3.26	20	75	3.26
.1360	3.45	20	75	3.45
.1540	3.91	20	75	3.91
.1660	4.21	30	75	4.21
.1772	4.5	30	75	4.5
.1960	4.97	30	75	4.97
.2055	5.22	35	100	5.22
.2188	5.55	35	100	5.55
.2344	5.95	35	100	5.95
.2420	6.14	40	100	6.14
.2500	6.35	40	100	6.35
.2656	6.74	40	100	6.74
.2812	7.14	40	100	7.14
.2969	7.54	40	100	7.54
.3125	7.93	40	100	7.93
.3281	8.33	45	110	8.33
.3438	8.73	45	110	8.73
.3594	9.12	45	110	9.12
.3770	9.8	45	110	9.8
.4062	10.31	50	110	10.31
.4219	10.71	50	110	10.71
.4375	11.11	55	125	11.11
.5000	12.7	55	125	12.7
				10000000

#### Solid Carbide Straight Flute Dagger Drill(Diamond Coating)

## L2 L1

			⊚ Recom	mended \( \triangle \) Suitable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
	meter	Cutting Edge Length	Overall Length	Shank
	D 	L2	L1	d
in	mm	mm	mm	mm
.0980	2.49	15	60	2.49
.1063	2.70	15	60	2.70
.1181	3.00	18	75	3.00
.1260	3.20	20	75	3.20
.1285	3.26	20	75	3.26
.1575	4.00	30	75	4.00
.1610	4.09	30	75	4.09
.1772	4.50	30	75	4.50
.1890	4.80	30	75	4.80
.1900	4.83	30	75	4.83
.1933	4.91	30	75	4.91
.1969	5.00	35	100	5.00
.1990	5.05	35	100	5.05
.2055	5.22	35	100	5.22
.2362	6.00	40	100	6.00
.2500	6.35	40	100	6.35
.3126	7.94	40	100	7.94
.3750	9.53	40	100	9.53
.5000	12.70	40	100	12.70

#### Solid Carbide Helical Flute Dagger Drill(Diamond Coating)



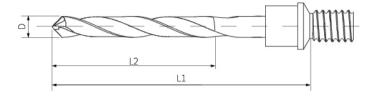
△ Suitable Stainless Steel CFRP 0 Cutting Edge Length .0980 2.49 15 60 2.49 .1063 2.70 15 60 2.70 75 18 3.00 .1181 3.00 75 .1260 3.20 20 3.20 .1285 3.26 20 75 3.26 30 .1575 4.00 75 4.00 30 75 .1610 4.09 4.09 75 .1772 4.50 4.50 75 .1890 4.80 30 4.80 .1900 4.83 30 75 4.83 .1933 4.91 30 75 4.91 35 .1969 5.00 100 5.00 35 .1990 5.05 100 5.05 .2055 5.22 35 100 5.22 .2362 40 100 6.00 6.00 .2500 6.35 40 100 6.35 .3126 7.94 40 100 7.94 .3750 9.53 40 100 9.53 100 .5000 12.70 40 12.70

#### Solid Carbide Twist Drill With Threaded Shank(Diamond Coating)









#### 

			© Recom	mended △ Suitable
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0	0	0	0	
Diam C		Cutting Edge Length L2	Overall Length L1	Threaded Shank
in	mm	mm	mm	
		7.94	12.7	
.0938	2.38	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1065	2.78	14.28	25.4	
		22	53.98	
		7.94	12.7	
.1250	3.175	14.28	25.4	
		28	53.98	
.1406	3.57	14.28	25.4	1/4-28UNF
.1400	3.37	28	53.98	1/4-200NF
.1562	3.97	14.28	25.4	
.1302	3.97	28	53.98	
.1719	4.37	14.28	25.4	
.1719	4.37	28	53.98	
.1875	4.76	14.28	25.4	
.1075	4.76	28	53.98	
.2031	5.16	28	53.98	
.2188	5.56	28	53.98	
.2344	5.95	28	53.98	
.2500	6.35	28	53.98	
.2812	7.14	28	53.98	3/8-24UNF
.3750	9.53	28	53.98	

#### 2 Flute PCD Countersink Drill











Workpiece Material				
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0	0	0	0	
	neter d		Diameter D	Threaded Shank
in	mm	in	mm	
		.0938	2.38	
.4375	11.1	.0984	2.5	
		.1250	3.175	
		.1283	3.26	
.5000	5000 12.7	.1562	3.97	1/4-28UNF
		.1590	4.04	
		.1874	4.76	
.6250	15.9	.1909	4.85	
		.1933	4.91	
.7500	19.1	.2500	6.35	
.7500	19.1	.3125	7.94	
.8750	22.3	.3750	9.53	3/8-24UNF
.0750	22.3	.4375	11.11	
1.000	25.4	.5000	12.7	

## 2 Flute PCD Countersink Drill(Replaceable Guide Pin)









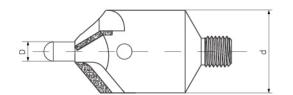


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			© Recom	mended \(\triangle\) Sullable
Workpiece Material				
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0	0	0	0	
Diam		Guide Pin D		Threaded Shank
in	mm	in	mm	
		.0938	2.38	
.4375	11.1	.0984	2.5	
		.1250	3.175	
	12.7	.1283	3.26	
.5000		.1562	3.97	1/4-28UNF
		.1590	4.04	
		.1874	4.76	
.6250	15.9	.1909	4.85	
		.1933	4.91	
.7500	19.1	.2500	6.35	
./500	19.1	.3125	7.94	
0750	22.2	.3750	9.53	3/8-24UNF
.8750	22.3	.4375	11.11	
1.000	25.4	.5000	12.7	

#### 3 Flute PCD Countersink Drill









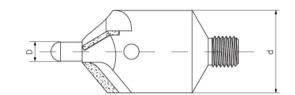


		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0				0

	Diameter d		Guide Pin Diameter D	
in	mm	in	mm	
		.0938	2.38	
.4375	11.1	.0984	2.5	
		.1250	3.175	
		.1283	3.26	
.5000	5000 12.7	.1562	3.97	1/4-28UNF
		.1590	4.04	
	15.9	.1874	4.76	
.6250		.1909	4.85	
		.1933	4.91	
7500	40.4	.2500	6.35	
.7500	19.1	.3125	7.94	
0750	22.2	.3750	9.53	3/8-24UNF
.8750	22.3	.4375	11.11	
1.000	25.4	.5000	12.7	

## 3 Flute PCD Countersink Drill(Replaceable Guide Pin)











#### 

△ Suitable

Workpiece Material					
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP	

©				0
Diameter d		Guide Pin Diameter D		Threaded Shank
in	mm	in	mm	
		.0938	2.38	
.4375	11.1	.0984	2.5	
		.1250	3.175	
		.1283	3.26	
.5000	12.7	.1562	3.97	1/4-28UNF
		.1590	4.04	
		.1874	4.76	
.6250	15.9	.1909	4.85	
		.1933	4.91	
.7500	19.1	.2500	6.35	
.7500	19.1	.3125	7.94	
.8750	22.3	.3750	9.53	3/8-24UNF
.0750	22.3	.4375	11.11	
1.000	25.4	.5000	12.7	

### **PCD Mills**









△ Suitable

Workpiece Materail				
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				<u> </u>

Diar	neter		lge Length		Length	Sha	ank
	) 		2	L			J
in	mm	in	mm	in	mm	in	mm
.1575	4	.6299	16	1.9685	50	.2362	6
.2362	6	.7480	19	2.4803	63	.2362	6
.2362	6	.9843	25	2.9528	75	.2362	6
.3150	8	.9843	25	2.4803	63	.3150	8
.3937	10	.9843	25	2.9528	75	.3937	10
.4724	12	.9843	25	2.9528	75	.4724	12

#### 2 Flute Solid Carbide Countersink Drill











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Workpiece Material					
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP	
0	0	0	0		
Dia	ameter d	Guide Pin I	Diameter	Threaded Shank	
in	mm	in	mm		
		.0938	2.38		
.4375	11.1	.0984	2.5		
		.1250	3.175		
.5000		.1283	3.26		
	12.7	.1562	3.97	1/4-28UNF	
		.1590	4.04		
		.1874	4.76		
.6250	15.9	.1909	4.85		
		.1933	4.91		
7500		.2500	6.35		
.7500	19.1	.3125	7.94		
9750	22.2	.3750	9.53	3/8-24UNF	
.8750	22.3	.4375	11.11		
1.000	25.4	.5000	12.7		

#### 3 Flute Solid Carbide Countersink Drill









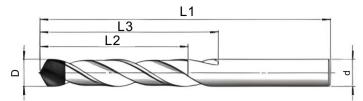


Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0				0
Diam C			Guide Pin Diameter D	
in	mm	in	mm	
		.0938	2.38	
.4375	11.1	.0984	2.5	
		.1250	3.175	
		.1283	3.26	
.5000	12.7	.1562	3.97	1/4-28UNF
		.1590	4.04	
		.1874	4.76	
.6250	15.9	.1909	4.85	
		.1933	4.91	
.7500	19.1	.2500	6.35	
.7500	19.1	.3125	7.94	
9750	22.2	.3750	9.53	3/8-24UNF
.8750	22.3	.4375	11.11	
1.000	25.4	.5000	12.7	

Workpiece Material

### **PCD** sintered Twist Drill









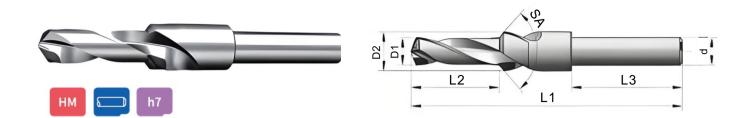




Recommended	△ Suitable	

		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
0				0
D	d	L2	L1	L3
in	mm	mm	mm	mm
.0787	2	12	38	15
.0984	2.5	12	43	16
.1180	4	12	46	17
.1380	4	15	52	21
.1570	4	17	55	23
.1770	6	18	58	25
.1970	6	20	62	28
.2170	6	21	66	30
.2360	6	21	66	30
.2560	8	23	70	33
.2760	8	25	74	36
.2950	8	25	74	37
.3150	8	27	79	39

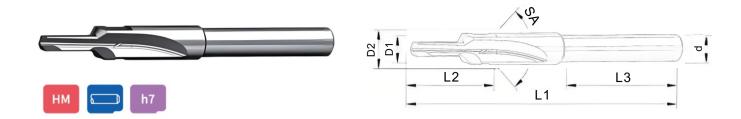
## PCD Step drill (Spiral groove)



Recommended	△ Suitable
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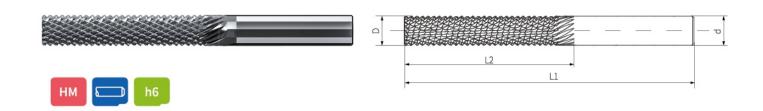
	Workpiece Material						
Alun	ninum	Titanium	Stainless Steel	Alloy Steel	CF	RP	
(	0				(	0	
D1	D2	d	L1	SA	L2	L3	
in	mm	mm	mm	(°)	m	nm	
.187	12	10	90	100	30	40	
.219	14	10	90	100	30	40	
.250	16	10	90	100	30	40	
.313	18	10	90	100	30	40	
.375	20	10	90	100	30	40	
.438	22	12	90	100	30	40	
.500	24	30	90	100	30	40	

## PCD Step drill (Straight groove)



			Workpiece Material			
Alumi	num	Titanium	Stainless Steel	Alloy Steel	CF	RP
(					(	0
D1	D2	d	L1	SA	L2	L3
m	m	mm	mm	(°)	m	m
.187	12	10	90	100	30	40
.219	14	10	90	100	30	40
.250	16	10	90	100	30	40
.313	18	10	90	100	30	40
.375	20	10	90	100	30	40
.438	22	12	90	100	30	40
.500	24	30	90	100	30	40

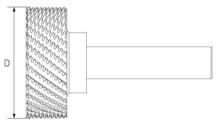
#### Roughing Router



			© Recon	interided \(\triangle\)
		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0
Diameter	Cutting Edge Length	Overall Length	Shank	
(mm)	(mm)	(mm)	(mm)	
4	12	60	6	
6	18	75	6	
8	24	75	8	
10	25	75	10	
12	25	75	12	

## Solid Carbide Honeycomb Hoggers+Slicer



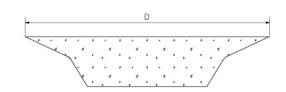


Workpiece Material					
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP	
				0	

Diam D	
in	mm
.50	12.7
1.0	25.4
1.5	38.1
2.0	50.8
2.5	63.5
3.0	76.2

### Solid Carbide Slicer











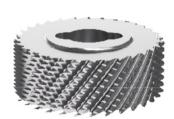


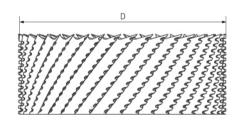
△ Suitable

Workpiece Material					
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP	
				0	

	meter D
in	mm
.50	12.7
1.0	25.4
1.5	38.1
2.0	50.8
2.5	63.5
3.0	76.2

## Solid Carbide Honeycomb Hoggers









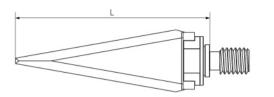


Workpiece Material					
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP	

		0
Dia	meter	
	D	
in	mm	
.50	12.7	
1.0	25.4	
1.5	38.1	
2.0	50.8	
2.5	63.5	
3.0	76.2	

### Ultra Sonic Blade











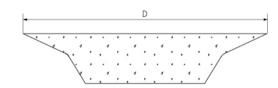
#### $\bigcirc$ Recommended $\triangle$ Suitable

		Workpiece Material		
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP

Diameter	
D	
in	mm
.50	12.7
1.0	25.4
1.5	38.1
2.0	50.8
2.5	63.5
3.0	76.2

## Solid Carbide Slicer(Diamond Coating)





△ Suitable



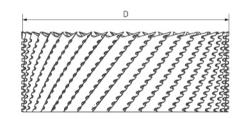


Workpiece Material				
Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
				0

Diameter	
D	
in	mm
.50	12.7
1.0	25.4
1.5	38.1
2.0	50.8
2.5	63.5
3.0	76.2

## Solid Carbide Honeycomb Hoggers (Diamond Coating)







	h6

o F		
(O)	Recommended	∧ Suita

- 1	Aluminum	Titanium	Stainless Steel	Alloy Steel	CFRP
					0
	Dian	neter			
- !	D				
	in	mm			
	.50	12.7			
	1.0	25.4			

Workpiece Material

1.5 38.1 2.0 50.8 2.5 63.5 76.2



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