



MASTER CATALOG **2018**

VOLUME TWO | **ROTATING TOOLS**



HOLEMAKING | TAPPING | SOLID END MILLING | INDEXABLE MILLING

➤ SPF Drills for CFRP Composite Materials

Primary Application

B53_SPF series solid carbide drills offer a material-specific design and grade to machine carbon fiber-reinforced polymer (CFRP) composite materials by minimizing delamination and increasing tool life.

Features and Benefits

SPF Drill-Point Design

- Special 90° point angle increases centering capability.
- Low thrust and improved hole quality.

Unique Geometry

- Combination of point design, substrate, and coating provides longer tool life and requires substantially less cutting force.

KDF400™ Grade

- CVD multilayer diamond coating provides more wear resistance and reduced friction, increasing tool life and improving chip flow.

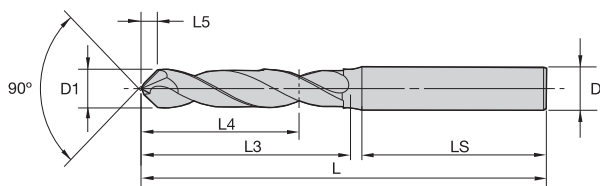


**Designed to machine carbon
fiber-reinforced polymers.**

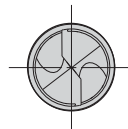


Customization

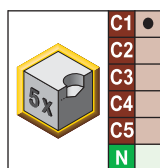
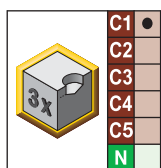
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.



For information on L, L3, and L4 max, see the Solid Carbide Drills foldout table.



■ B531/B532_SPF • ~3 x D/~5 x D



● first choice

○ alternate choice

D1 diameter

short • KDF400	long • KDF400	mm	in	fraction	wire size	L5	LS	D
B531A03200SPF	B532A03200SPF *	3,200	.1260	—	—	1,5	36	6
B531A03300SPF	B532A03300SPF *	3,300	.1299	—	—	1,5	36	6
B531A03600SPF	B532A03600SPF *	3,600	.1417	—	—	1,6	36	6
B531A04000SPF	—	4,000	.1575	—	—	1,8	36	6
B531A04366SPF *	B532A04366SPF *	4,366	.1719	11/64	—	2,0	36	6
B531A04851SPF	B532A04851SPF *	4,851	.1910	—	11	2,2	36	6
B531A04864SPF	—	4,864	.1915	—	—	2,2	36	6
B531A05100SPF *	B532A05100SPF	5,100	.2008	—	—	2,3	36	6
B531A05200SPF *	B532A05200SPF *	5,200	.2047	—	—	2,4	36	6
B531A06000SPF	B532A06000SPF	6,000	.2362	—	—	2,7	36	6
B531A06375SPF	B532A06375SPF *	6,375	.2510	—	—	2,9	36	8
B531A06400SPF	B532A06400SPF *	6,400	.2520	—	—	2,9	36	8
B531A06500SPF	B532A06500SPF *	6,500	.2559	—	—	3,0	36	8
—	B532A06700SPF *	6,700	.2638	—	—	3,0	36	8
—	B532A07200SPF	7,200	.2835	—	—	3,3	36	8
B531A07938SPF	B532A07938SPF *	7,938	.3125	5/16	—	3,6	36	8
B531A09550SPF	—	9,550	.3760	—	—	4,3	40	10
B531A09563SPF	B532A09563SPF *	9,563	.3765	—	—	4,3	40	10
B531A11125SPF *	—	11,125	.4380	—	—	5,1	45	12
B531A12725SPF	B532A12725SPF *	12,725	.5010	—	—	5,8	45	14

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

Tolerance • Metric

nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008
>6–10	0,006/0,021	0,000/-0,009
>10–18	0,007/0,025	0,000/-0,011
>18–25,4	0,008/0,029	0,000/-0,013

Tolerance • Inch

nominal size range	D1 tolerance m7	D tolerance h6
>.1181–.2362	.0002/.0006	.0000/-0.0003
>.2362–.3937	.0002/.0008	.0000/-0.0004
>.3937–.7087	.0003/.0010	.0000/-0.0004
>.7087–1.0000	.0003/.0011	.0000/-0.0005

C1	CFRP, CFRP/CFRP
C2	CFRP/Aluminum
C3	CFRP/Titanium
C4	CFRP/Stainless Steel
C5	CFRP/Aluminum/Titanium

■ SPF Drills • B53_ Series • Grade KDF400™ • Dry Applications • Drill Diameters 3–12mm (.1181-.4724")

Material Group											
		Cutting Speed — vc			Metric						
		Range — m/min			Recommended Feed Rate (f) by Diameter						
		min	Starting Value	max		3,0	4,0	6,0	8,0	10,0	12,0
C	1	90	120	150	mm/r	0,03–0,20	0,03–0,20	0,03–0,20	0,03–0,20	0,03–0,20	0,03–0,20
Material Group		Cutting Speed — vc			Inch						
		Range — SFM			Recommended Feed Rate (f) by Diameter						
		min	Starting Value	max		1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500
		300	390	490	IPR	.001–.008	.001–.008	.001–.008	.001–.008	.001–.008	.001–.008