

Resin Blades

Soft bond for hard material.

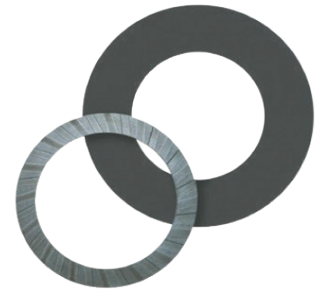
Resin binder enables blade wear management.

Resin-bond Blades are an excellent choice for hard and brittle materials such as: QFN/MLF, Thick Ceramic substrates, HTCC and Glass.

Blade thickness: 75 – 2500µm

Diamond grit size: 3 – 250µm

Available with various edge shapes



Diamond grit size (µm)	Product	Material	Matrix
35 up to 53	Ceramic Packages, Sensors	Alumina / AlN	C02/C07
53 up to 88	QFN (Half Etched) + Wettable QFN (Full cut)	Cu leadframe + molding	D02/D07
53 up to 88	QFN (Full Cu)	Cu leadframe + molding	E01
35 up to 53	DFN (0.3 – 0.5mm)	Cu leadframe + molding	E31/D02
53 up to 88	Wettable QFN First cut	Cu leadframe + molding	P07
30 up to 45	SAW Devices, RF Package	HTCC	QKP/C02
30 up to 53	CCD / Filter / Lens	Glass / Quartz	QKP/E33
45 up to 63	Optical & Electro Optical Components	Sapphire	QKP
30 up to 53	Passive & Active Devices. Communication Modules	LTCC	QKP

RESIN BLADES PART NUMBER DESCRIPTION

EDGE TYPE	O.D. & I.D.		GRIT SIZE ** (µm)	THICKNESS* (mil)
0 = Standard edge	1 = 2.188" x 40mm	K = 4.45" x 88.82mm	(003) = 3	(0.03) = 3
4 = Blade I.D. 3.5" (88.9mm)	2 = 4.256" x 88.82mm	J = 57mm x 40mm	(006) = 6	— (010) = 10
	3 = 3.0" x 40mm	M = 50mm x 40mm	(009) = 9	— (811) = 11.8
	4 = 4.5" x 88.82mm	N = 52.5mm x 40mm	(015) = 15	— (512) = 12.5
	5 = 5.0" x 88.82mm	P = 78mm x 40mm	(020) = 20	— (0.20) = 20
	6 = 4.6" x 88.82mm	R = 64mm x 40mm	(025) = 25	↓ (099) = 99
	7 = 4.7" x 88.82mm	S = 66mm x 40mm	(030) = 30	
	8 = 2.25" x 40mm	T = 74mm x 40mm	(035) = 35	
	9 = 2.5" x 40mm	U = 76.4mm x 40mm	(045) = 45	
	A = 53mm x 40mm	Q = 4.8" x 88.82mm	(053) = 53	
	B = 51mm x 40mm	W = 72mm x 40mm	(063) = 63	
	C = 56mm x 40mm	L = 80mm x 40mm	(075) = 75	
	D = 52mm x 40mm	V = 55mm x 40mm	(088) = 88	
	E = 54mm x 40mm	X = 59mm x 40mm	(105) = 105	
	F = 60mm x 40mm	Y = 77mm x 40mm	(125) = 125	
	G = 4.4" x 88.82mm	Z = 75mm x 40mm	(150) = 150	
	H = 58mm x 40mm		(200) = 200	

Example part number	X 0 777 - 4 006 - 010 - XXX	Product family
Standard Edge	4.5" O.D. x 88.82 mm I.D.	6 µm Grit
		10 mil Thickness

* Depends on diamond grit size

** Depends on blade thickness and diamond grit size

Other thickness options, diameters, edge geometries and diamond grit size are available upon request.





Dicing Blades | Range and Technical Data

Sintered Blades

With a slower wear rate than Resin but faster than Nickel, Metal-bond (Sintered) blades are best suited for retaining package shape and size in applications such as: BGA, Soft Alumina, TiC, LTCC, Ferrite.

Blade thickness: 80 – 1500µm

Diamond grit size: 2 – 70 µm

Serrations:

Serrations available for sintered blades as well as various edge shapes



Diamond grit size (µm)	Product	Material	Matrix
45 up to 55	BGA , LGA (Tape & Tape-less mounting method)	FR4, Plastic & molding	C2/R5
30 up to 50	QFN (Half Etched)	Cu leadframe + molding	Q7/C1
35 up to 45	Passive & Active Devices. Communication Modules	LTCC	P1/P9
35 up to 45	SAW Devices, RF Package	HTCC	P1
13 up to 25	Camera Module	Glass/ IR Glass	P1/P5
25 up to 45	Ceramic Packages	Alumina	P5/P9

METAL SINTERED BLADES PART NUMBER DESCRIPTION

THICKNESS TOLERANCE*	EDGE GEOMETRY**	O.D	I.D.	GRIT SIZE ** (µm)	THICKNESS* M=mm, I=tenths
2 = ± .0001"	0 = Standards	2 = 4.8"	1 = 3.5"	0A = 3-6	(050) = 50
3 = ± .0002"	N = Non Standard	3 = 4.7"	2 = 88.82mm	02 = 1-2	
4 = ± .0005"	SERRATED	4 = 4.6"	6 = 40mm	03 = 2-4	
B = ± .0003"	A = x16 slots (for 2" blades)	5 = 4.5"		07 = 6-8	
	A = x60 slots (for 4" blades)	6 = 4.4"		10 = 10	
	B = x32 slots (for 2" blades)	7 = 4.3"		↓	
		8 = 4.256"		70 = 70	
		9 = 4.0"			
		A = 3.0"			
		B = 2.5"			
		C = 2.25"			
		D = 2.188"			
		E = 2.0"			
		F = 58mm			
		H = 77mm			
		I = 60mm			
		K = 54mm			
		L = 82mm			
		M = 56mm			
		N = 75mm			
		P = 52mm			
		S = 2.75"			
		T = 78mm			
		Z = 74mm			
		W = 79mm			

Example part number	4S0 3 0 - 5 2 10 - 120-I XX	Product family
± .0002"	Standard	4.5" O.D. 88.82 mm 10 µm Grit 12 mil Thickness

* Depends on diamond grit size

** Depends on blade thickness and diamond grit size

Other thickness options, diameters, edge geometries and diamond grit size are available upon request.





Dicing Blades | Range and Technical Data

Nickel Blades

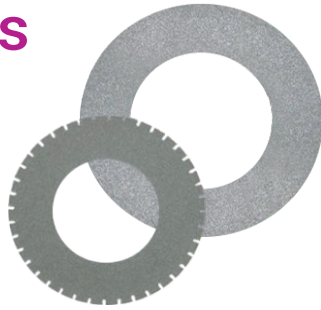
The Nickel binder provides longer blade life and lower wear rate. Nickel-bond Blades are a perfect choice for soft material applications such as: PCB, Silicon and BGA.

Blade thickness: 50 – 300µm

Diamond grit size: 3 – 50µm

Serrations:

Serrations available for Nickel blades as well as various edge shapes



Steel Core Nickel Blades

Best suited for applications such as Green Ceramic, BGA (Tape process).

Only the rim (the cutting edge of the blade) is composed of nickel and diamonds.

Blade thickness: 300 – 750µm

Diamond grit size: 10 – 70µm

Serrations:

Serrations available for Steel Core Nickel blades as well as various edge shapes

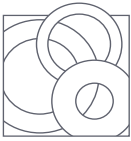


Diamond grit size (µm)	Product	Material	Matrix
30 up to 50	Ceramic / Capacitors	Green Ceramic	BLB/BL0
10 up to 30	PCB / LED Package	FR4 / Epoxy & Cu	BLZ,BLV,BLT
6-8 up to 10	Medical Ultrasound Sensors	PZT	AOT
2-4 up to 4-8	IC's	Silicon	Hub blades

NICKEL - BOND BLADES PART NUMBER DESCRIPTION

I.D.	O.D	GRIT SIZE (µm)	O.D SHAPE	EDGE GEOMETRY**	THICKNESS* (mil)	THICKNESS TOLERANCE*
0 = 88.82mm	0 = 4.34"	(1) = 2-4	0 = Standard	0 = Standard	(008) = 8	A = ± .0001"***
1 = 40mm	1 = 4.256"	(2) = 3-6	1 = Sandard	1 = Pre-dressed		B = ± .0002"***
3 = 2.75"	2 = 2.188"	(3) = 10	Serration:			C = ± .0003"
4 = 3.5" (88.9mm)	3 = 3"	(4) = 17	2" x 16 slots			D = ± .0005"
5 = 3"	4 = 4.6"	(5) = 30	3" x 40 slots			F = ± .0010"
8 = 55mm	5 = 5"	(6) = 50	4" x 60 slots			
9 = 52mm	7 = 4.4"	(9) = 10-15	5" x 60 slots			
	8 = 4.8"	(B) = 6-8				
	9 = 4.5"	(C) = 25				
	C = 95mm					
	D = 93mm					
	E = 78mm					
	G = 4.3"					
	H = 77mm					
	K = 98mm					
	L = 75mm					
	M = 4.7"					
	S = 4.36"					
Example part number	X 4 776 -8 2 0 1 - 070 -C				XX	Product family
3.5" I.D.	4.8" O.D.	3-6 µm Grit	Standard	Pre-dressed	7 mil Thickness	± .0003"





Dicing Blades | Range and Technical Data

NICKEL BLADES PART NUMBER DESCRIPTION

I.D.	O.D.	GRIT SIZE (μm)	O.D SHAPE	THICKNESS* (mil)	THICKNESS TOLERANCE*
Special 2" Nickel Blade Designator 40mm I.D. only	0 = 55mm	(1) = 2-4	0 = Standard	(008) = 8	A = $\pm .0001$ ***
	1 = 50.1mm	(2) = 3-6	1 = Pre-dressed		B = $\pm .0002$ ***
	2 = 50.2mm	(3) = 10	2 = Standard serration (x16 slots)		C = $\pm .0003$ "
	3 = 50.4mm	(4) = 17			D = $\pm .0005$ "
	4 = 50.6mm	(5) = 30			F = $\pm .0010$ "
	5 = 50.8mm	(6) = 50			
	6 = 51mm	(9) = 10-15			
	7 = 51.2mm	(B) = 6-8			
	8 = 51.4mm	(C) = 25			
	9 = 52mm				
	A = 58mm				
	B = 56mm				
	C = 54mm				
	D = 60mm				
	E = 50.5mm				
	F = 51.5mm				
	G = 58.2mm				
	L = 54.5mm				
	M = 2.25"				
	P = 61.6mm				
Q = 53mm					
R = 52.8mm					
S = 51.8mm					
T = 51.6mm					
J = 59mm					
Example part number	4B776-3 2 3 1	-045	-B	XX	Product family
40 mm I.D.	50.2 mm O.D.	10 μm Grit	Pre-dressed	4.5 mil Thickness	$\pm .0002$ "

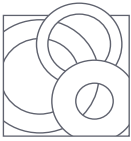
* Depends on diamond grit size

** Depends on blade thickness and diamond grit size

*** All special 2" Nickel blades have an I.D. of 40mm

Other thickness options, diameters, edge geometries and diamond grit size are available upon request.





Hub Blades

A perfect solution for the optimization of the dicing process for various types of materials such as: Silicon, GaAs and other wafers.

Our hub blades provide:

- Improved cut quality
- Longer blade life
- Higher UPH



HUB BLADES PART NUMBER DESCRIPTION

0	757	-	5	3	40	-	115	-	2	00
Special Definition	Product Family		Grit Size Mesh [µm]	Dimaond %	Max. Thickness µm		Min. Exposure µm		Bond Hardness	Special Definition
			1 = 5000 (0.5 - 2) 2 = 4500 (1 - 3) 3 = 4000 (2 - 4) 4 = 3500 (2 - 5) 5 = 3000 (2 - 6) 6 = 2500 (3 - 5) 7 = 2000 (4 - 6) 8 = 1800 (4 - 8) 9 = 1700 (6 - 8) A = 1500 (5 - 10) B = 4800 (1 - 2)	1 - Low 2 3 - Med 4 5 - High	40		1150		1 = Soft 2 = Medium 3 = Hard	

	Exposure	250	380	510	640	760	890	1020	1150	1270
Thickness [µm]	Tolerance Range [µm]	250-380	380-510	510-640	640-760	760-890	890-1020	1020-1150	1150-1270	1270-1400
15	10-15	15 x 250	15 x 380							
20	17-20	20 x 250	20 x 380	20 x 510						
25	20-25	25 x 250	25 x 380	25 x 510	25 x 640					
30	25-30	30 x 250	30 x 380	30 x 510	30 x 640	30 x 760				
35	30-35	35 x 250	35 x 380	35 x 510	35 x 640	35 x 760	35 x 890	35 x 1020		
40	35-40	40 x 250	40 x 380	40 x 510	40 x 640	40 x 760	40 x 890	40 x 1020	40 x 1150	
50	40-50	50 x 250	50 x 380	50 x 510	50 x 640	50 x 760	50 x 890	50 x 1020	50 x 1150	50 x 1270
60	50-60	60 x 250	60 x 380	60 x 510	60 x 640	60 x 760	60 x 890	60 x 1020	60 x 1150	60 x 1270
70	60-70	70 x 250	70 x 380	70 x 510	70 x 640	70 x 760	70 x 890	70 x 1020	70 x 1150	70 x 1270
80	70-80	80 x 250	80 x 380	80 x 510	80 x 640	80 x 760	80 x 890	80 x 1020	80 x 1150	80 x 1270
90	80-90	90 x 250	90 x 380	90 x 510	90 x 640	90 x 760	90 x 890	90 x 1020	90 x 1150	90 x 1270
A0	90-100	100 x 250	100 x 380	100 x 510	100 x 640	100 x 760	100 x 890	100 x 1020	100 x 1150	100 x 1270
A1	100-110	110 x 250	110 x 380	110 x 510	110 x 640	110 x 760	110 x 890	110 x 1020	110 x 1150	110 x 1270
A2	110-120	120 x 250	120 x 380	120 x 510	120 x 640	120 x 760	120 x 890	120 x 1020	120 x 1150	120 x 1270

