DISCO
Kiru·Kezuru·Migaku Technologies

Electroformed Bond Blades

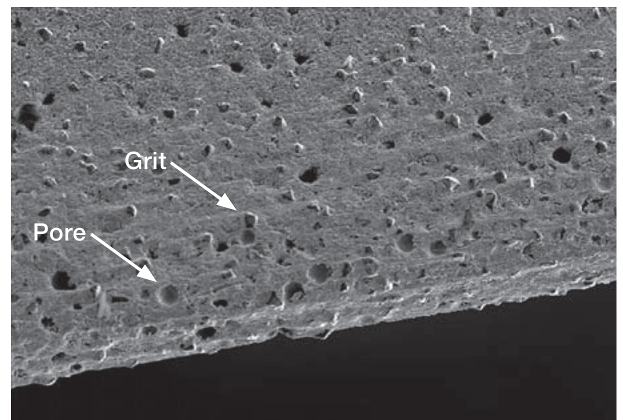
ZP07 SERIES

High grade processing is possible with electroformed porous structure blades

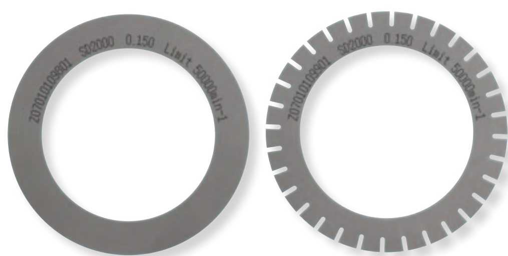
The ZP07 Series reallizes high-grade processing of hard materials and compound materials by making a porous structure inside the electroformed blade.

The ZP07 Series combines high cutting ability that is specific to electroformed bond blades and appropriate self sharpening ability by forming pores in the electroformed bond. It is now possible to process silicon + glass, silicon carbide (SiC) and other materials that have been difficult to cut with conventional electroformed bonds.

- Reallizes one-pass processing of silicon + glass wafer
- Realizes high-quality processing of silicon carbide (SiC) and other difficult-to-cut materials.
- Two types available: standard and low concentration.



New type of electroformed blade with pores in the blade.



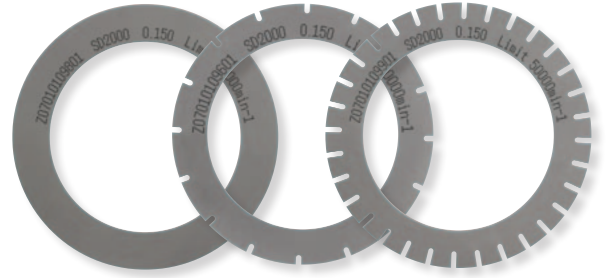
Applications

Composite materials (silicon + glass wafer etc), SiC, Ceramics, etc.

Specifications

Electroformed Bond Blades

ZP07 SERIES



ZP07 - SD 2000 - F1B333 - A** 54 × 0.1 A2 × 40 - L - S3**

(SD = Grit type; 2000 = Grit size; F1B333 = Type; A**** = Special specification; 54 = O.D.; 0.1 = Thickness; A2 = Thickness Accuracy; 40 = I.D.; L = Surface treatment; S3 = Slit)

Type[*1]	
F1B333	Standard
F1B322	Low concentration

Special specification

O.D.[*1]

Thickness[*1]

I.D.

Grit type[*1]
SD

Grit size[*1]	
320	#320
400	#400
600	#600
800	#800
1200	#1200
1500	#1500
1700	#1700
2000	#2000

Thickness Accuracy	
A1	±0.002
A2	±0.005
A3	±0.010
A4	±0.015
AS	Special specification

(mm)

Surface treatment	
L	Lapping specification

Slit[*2]			
S1		No.of slits	4
		Depth	1mm
S2		No.of slits	8
		Depth	1mm
S3		No.of slits	16
		Depth	1mm
S4	Small Slit	No.of slits	60
		Depth	1mm
	Large Slit	No.of slits	12
		Depth	2mm
S5		No.of slits	40
		Depth	1mm
SS		Optional	

*2 All slit widths are 0.5 mm (except for the SS type)
Blade thickness greater than 0.06 mm are available

*1 Standard specification range by grit size

(mm)

O.D.	Grit size	Thickness 0.060 - 0.099	Thickness 0.100 - 0.149	Thickness 0.150 - 0.399	Grit type SD	Type F1B333	Type F1B322
50.0 - 62.0	#320			√	√	√	
	#400			√	√	√	
	#600		√	√	√	√	
	#800		√	√	√	√	
	#1200		√	√	√	√	√
	#1500 - #2000	√	√	√	√	√	√
62.1 - 78.0	#320			√	√	√	
	#400			√	√	√	
	#600 - #800		√	√	√	√	
	#1200 - #2000		√	√	√	√	√

(mm) Note: For availability of specifications other than the above, please contact your DISCO sales representative.

Experimental data

The ZP07 Series can process laminated wafers (Silicon + glass) in one pass and can achieve high-grade results on the silicon, glass and bonded surfaces.

ZP07

Bonded surface

ZP07

Silicon surface

Silicon

Glass

ZP07

Glass surface

Workpiece: Si 0.5 mmt + Glass 0.5 mmt
Speed: 5 mm/s
Spindle revolution: 30,000 min^{-1}
Blade: ZP07-SD2000-F1B333
NBC-ZB1050
Size: 56 × 0.1 × 40 mm

Reference photo
(Current Electroformed Bond Blade)

Silicon surface
With the current electroformed blade, the processing load increases and both blade and wafer break.

When ordering

Please contact a DISCO representative with your product needs such as type, thickness, outer and inner diameter, and quantity.

When you place the first order with us, please explain application information such as materials to cut or grind, sizes, shape, machine, type, and other specification.

We are ready to help you to determine which is our most appropriate product type for your application.

Due to improvements in our products, it is possible that product specifications may be changed without advanced notice.
Please confirm the product specifications with a DISCO representative.

To use these DISCO blades and wheels (hereafter precision tooling) safely...

Please read carefully and follow the instructions below to prevent any accidents or injuries.

- USE a safety cover (nozzle case, cover), equipped as a standard accessory, to avoid injury.
- DO NOT EXCEED the specified rpm limit indicated on the precision tooling.
- FOLLOW the instruction manual of the equipment to mount the precision tooling properly.
- DO NOT DROP OR HIT the precision tooling. This may cause breakage or injury.
- Always CHECK the precision tooling for chipping or any other damage before starting to use it. DO NOT USE the tooling if there is any damage.
- READ the operation manual of the cutting/grinding equipment before use.
- DO NOT USE the precision tooling with modified or customized equipment.
- DO NOT USE precision tooling that has a different size from the one recommended for your equipment.
- DO NOT USE the precision tooling for any other purpose than grinding, cutting, or polishing.
- Always USE water or coolant to prevent precision tooling damage.

DISCO CORPORATION
13-11 Omori-Kita 2-chome, Ota-ku, Tokyo 143-8580, Japan
Phone: 03-4590-1100 Fax: 03-4590-1075 • www.disco.co.jp

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