Kiru Kezuru Migaku

DISCO

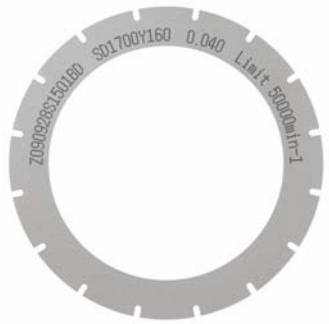
Electroformed Bond Blades

Z09 SERIES

Electroformed blades with higher strength and variety of concentration

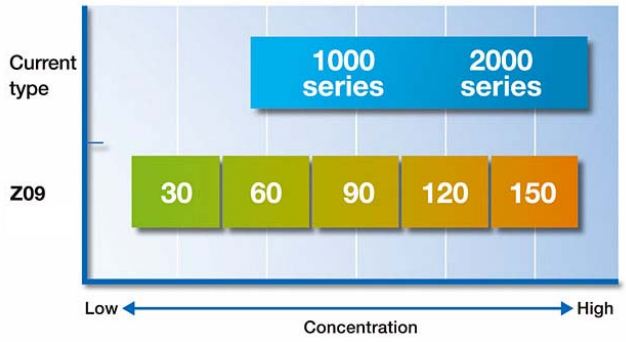
The Z09 series adopts a newly developed high strength bond and meets various needs thanks to highly accurate concentration control technology

The Z09 series consists of electroformed bond blades for applications needing fine grit sizes, which require particularly high quality processing. Since there are five levels of concentration, a blade having a good balance of quality and life is selectable. Furthermore, the newly developed high strength bond realizes highly straight processing and increases the process speed.



- Increases the choices for blades thanks to the technology allowing for more detailed classification of concentration.
- Introduces a blade with a concentration of 30.
- Reduces interval dressing by offering low concentration blades.
- Realizes highly straight processing and increases the process speed thanks to the high strength bond.

Concentration range



During dicing, concentration affects both the speed of blade wear and the size of chipping. By selecting precisely a concentration* that is appropriate to the application, both wear speed and process quality can be made more stable and consistent.

*Concentration refers to the percentage of diamond grit in the abrasive portion of the blade. For example, a concentration level of 100 indicates 25 % diamond grit by volume.

Applications
PZT, $LiTaO_3$, Ceramics, Silicon wafers, etc.

Electroformed Bond Blades

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Specifications

Z09 – SD 1700 – Y1 – 60 51 × 0.1 A2 × 40 × 45 E – L – S3

Grit type	
SD	Synthetic Diamond

Grit size	
1700	#1700
2000	#2000
3000	#3000
3500	#3500
4000	#4000
4500	#4500
4800	#4800
5000	#5000

Bond
Y1

Concentration
30
60
90
120
150

O.D.
51

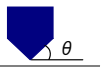
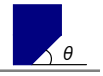
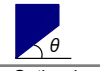
Thickness※1
0.1

Thickness accuracy	
A1	±0.002
A2	±0.005
A3	±0.010
A4	±0.015
AS	Optional

(mm)

I.D.
40

Angle
θ

Blade shape※1	
E	
N	
M	
V	
S	Optional

Surface treatment	
No code	Single surface grit protruded type
L	Lapped type
N	Increased strength type
V	Grains protruding on both sides

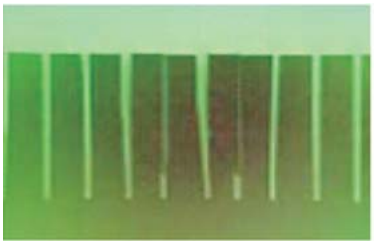
Slit※2			
S1		No. of slits	4
		Depth	1mm
S2		No. of slits	8
		Depth	1mm
S3		No. of slits	16
		Depth	1mm
S4	Small Slit	No. of slits	60
		Depth	1mm
	Large Slit	No. of slits	12
		Depth	2mm
S5		No. of slits	40
		Depth	1mm
SS		Optional	

*1 Blade thickness greater than 0.1 mm are available.
*2 All slit widths are 0.5 mm (except for the SS type)
Blade thickness greater than 0.04 mm are available.

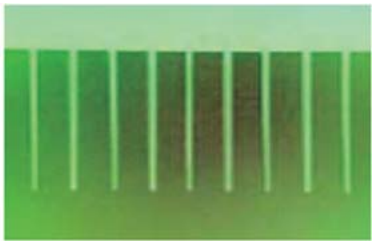
Experimental Data

Processing of PZT

The Z09 series enables highly straight deep grooving which was difficult with the NBC-Z blade.



NBC-Z

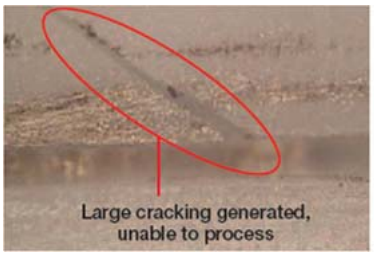


Z09

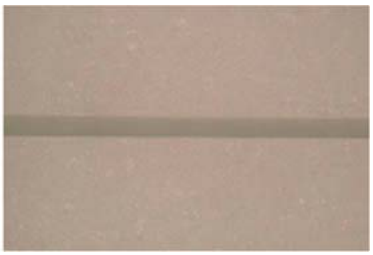
Workpiece : PZT
Blade : NBC-ZB 1060-V 52 x 0.03 x 40
Z09-SD1700-Y1-30 52 x 0.03A1 x 40-V
Blade exposure : 1.3 mm
Speed : 4 mm/s
Spindle revolution : 30,000 min^{-1}
Depth : Half Cut (1 mm depth)

Processing of Alumina ceramics

The Z09 series processes ceramics at a speed which could not be realized with the NBC-Z blade.



NBC-Z
Speed: 4 mm/s



Z09
Speed: 8 mm/s

Workpiece : Alumina ceramics
Work size : 70 x 60 x 0.28 mmt
Blade : NBC-ZB 1060-V 52 x 0.03 x 40
Z09-SD1700-Y1-30 52 x 0.03A1 x 40-V
Blade exposure : 1.3 mm
Spindle revolution : 20,000 min^{-1}

When ordering

Please contact a DISCO representative with your product needs such as type, wheel size, and quantity.

When you place the first order with us, please explain application information such as materials to grind, sizes, 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
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