

# Electroformed Bond Blades with HUB **NBC-ZH SERIES**

**High performance hub-type blade that challenges cutting**



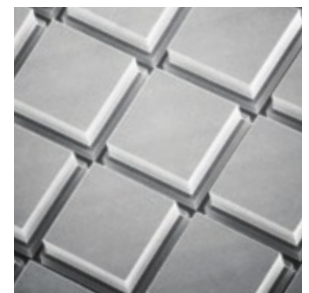
**The NBC-ZH series provides high productivity and excellent process results thanks to its superb cutting ability and long life.**

The NBC-ZH series is produced using Disco's original technology. A combination of an ultra-thin diamond blade and an aluminum hub provides enhanced operation efficiency and stable cutting results. In combination with Disco's vast application knowledge, these blades provide excellent cutting results when dicing silicon wafers and compound semiconductor wafers such as GaAs.

- Advanced dicing process - bevel and step cutting
- Wide range of grit sizes and bond types to support various application requirements
- Easy to handling ultra-thin blades
- Shorter blade change time - increased productivity
- Environment-friendly PP (polypropylene) packaging



Bevel Cut



Step Cut

### Applications

*Silicon, GaAs, GaP, LiTaO<sub>3</sub>, etc.*

## Specifications

### Standard Type (Kerf width less than 0.060 mm)

| Bond <sup>1</sup>                 | Hub Type               | Diameter                       |
|-----------------------------------|------------------------|--------------------------------|
| O Standard Bond                   | SE Sharp hub edge type | 27H O.D. ø55.56<br>I.D. ø19.05 |
| J Soft Bond                       |                        | 35H O.D. ø76.20<br>I.D. ø31.75 |
| F For Backside Chipping Reduction |                        |                                |

### NBC - ZH 2 05 0 - SE 27H E D D

| Concentration <sup>1</sup> | Grit Size <sup>1</sup> | Grit Size Code | Exposure      | Kerf Width    |
|----------------------------|------------------------|----------------|---------------|---------------|
| 1 Low Concentration        | 22 #5000               | A              | A 0.380~0.510 | A 0.015~0.020 |
|                            | 26 #4800               |                | B 0.510~0.640 | B 0.020~0.025 |
| 2 Standard Concentration   | 02 #4500               | B              | C 0.640~0.760 | C 0.025~0.030 |
|                            | 27 #4000               |                | D 0.760~0.890 | D 0.030~0.035 |
|                            | 03 #3500               | C              | E 0.890~1.020 | E 0.035~0.040 |
|                            | 04 #3000               |                | F 1.020~1.150 | F 0.040~0.050 |
|                            | 05 #2000               | D              | G 0.050~0.060 | G 0.050~0.060 |
|                            | 29 #1800               | E              |               |               |
|                            | 06 #1700               | F              |               |               |
| 07 #1500                   | G                      |                |               |               |

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### Standard blade types<sup>2</sup>

| Kerf Width | Exposure    | A B C D E F |             |             |             |             |             |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|            |             | mm          | 0.380-0.510 | 0.510-0.640 | 0.640-0.760 | 0.760-0.890 | 0.890-1.020 |
| A          | 0.015~0.020 | AA          |             |             |             |             |             |
| B          | 0.020~0.025 | AB          | BB          | CB          |             |             |             |
| C          | 0.025~0.030 |             | BC          | CC          | DC          |             |             |
| D          | 0.030~0.035 |             | BD          | CD          | DD          | ED          |             |
| E          | 0.035~0.040 |             |             | CE          | DE          | EE          | FE          |
| F          | 0.040~0.050 |             |             | CF          | DF          | EF          | FF          |
| G          | 0.050~0.060 |             |             |             | DG          | EG          | FG          |

<sup>2</sup> Please contact a Disco representative for details.

### \*1 Standard specification range by grit size

| Grit Size | Concentration | Bond |   |       |
|-----------|---------------|------|---|-------|
|           |               | 1    | 2 | O J F |
| 22 #5000  |               | ✓    |   | ✓     |
| 26 #4800  |               | ✓    |   | ✓     |
| 02 #4500  |               | ✓    | ✓ | ✓     |
| 27 #4000  | ✓             | ✓    | ✓ | ✓     |
| 03 #3500  | ✓             | ✓    | ✓ | ✓     |
| 04 #3000  | ✓             | ✓    | ✓ | ✓     |
| 05 #2000  | ✓             | ✓    | ✓ | ✓     |
| 29 #1800  | ✓             | ✓    | ✓ | ✓     |
| 06 #1700  | ✓             | ✓    | ✓ | ✓     |
| 07 #1500  | ✓             | ✓    | ✓ | ✓     |

### Actual blade thickness with greater than 0.060 mm

### NBC-ZH 2 05 0 - D - S1 - T1 - SE

| Exposure      | Slit <sup>3</sup>  | Blade Shape <sup>4</sup> |
|---------------|--|--------------------------|
| A 0.380~0.510 | S1 No. of slits 4  | T1                       |
| B 0.510~0.640 | S2 No. of slits 8  | T2                       |
| C 0.640~0.760 | S3 No. of slits 16   | T3                       |
| D 0.760~0.890 | SS Optional  | T3A T3B                  |
| E 0.890~1.020 | *3 All slit widths are 0.5mm (except for the SS type)<br>All slit depths are 80~100% of exposure(except for the SS type)<br>Blade thickness greater than 0.06 mm are available | T4                       |
| F 1.020~1.150 |  | T4A T4B                  |
| G 1.150~1.280 |  |                          |
| H 1.280~1.410 |  |                          |
| I 1.410~1.540 |  |                          |
| J 1.540~1.670 |  |                          |
| K 1.670~1.800 |  |                          |

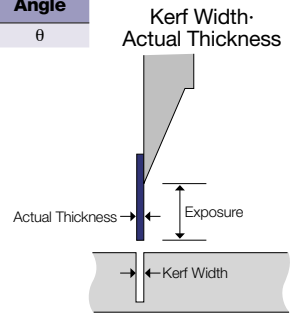
(mm)

\*4 Blade thickness greater than 0.1 mm are available

### 55.56 x 0.1 x 19.05 x 45°

|        | O.D.  | Thickness <sup>5</sup> | I.D.  | Angle |
|--------|-------|------------------------|-------|-------|
| 2 inch | 55.56 | 0.060~0.200            | 19.05 | θ     |
| 3 inch | 76.20 |                        |       |       |

\*5 Since the applicable ranges differ depending on the grit (mesh) size, bond and concentration, please contact your DISCO representative for details.



### 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 wheels 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 maximum rpm if it is specified.
- FOLLOW the instruction manual of the machine to mount wheel properly.
- DO NOT DROP OR HIT wheels. this may cause wheel breakage or injury.
- Always CHECK the wheel for chipping or any other wheel damage before starting to use the wheel. DO NOT USE the wheel if there is any damage.
- READ the operation manual of the cutting/ grinding equipment before use.
- DO NOT USE a wheel with a modified or customized equipment.
- DO NOT USE a wheel that has a different size from the one recommended for your machine.
- DO NOT USE a wheel for any other purpose than Grinding, Cutting, or Polishing.
- Always USE water or coolant to prevent wheel breakage.

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