

Electroformed Bond Hub Blades

# ZH05SERIES

## Advanced Hub blade for Improved process Stability and Consistency

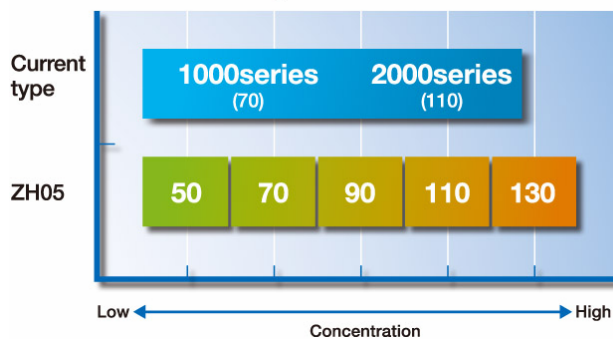
The high-precision grit concentration control of the ZH05 Series allows for extremely stable and consistent process results.

Newly developed grit concentration control technology has made possible five distinct levels of grit concentration. This wider range of choices offers improved balance between blade life and process quality (in particular, backside chipping).

- 5 grit concentration levels support diverse applications.
- The ZH05 Series offers shorter precut times and lower chance of blade breakage due to flying die.



### 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

Silicon and compound semiconductor (GaAs, GaP, etc.).

**Specification**

**ZH05 - SD 2000 - N1 - 110 - A\*\*\*\* D D × 60 E**

Concentration	
50	
70	
90	
110	
130	

Bond
N1

Special specification
A****
D D

Angle
θ

Grit type	Grit size	
SD	1500	#1500
	1700	#1700
	1800	#1800
	2000	#2000
	2500	#2500
	3000	#3000
	3500	#3500
	4000	#4000
	4500	#4500
	4800	#4800
	5000	#5000

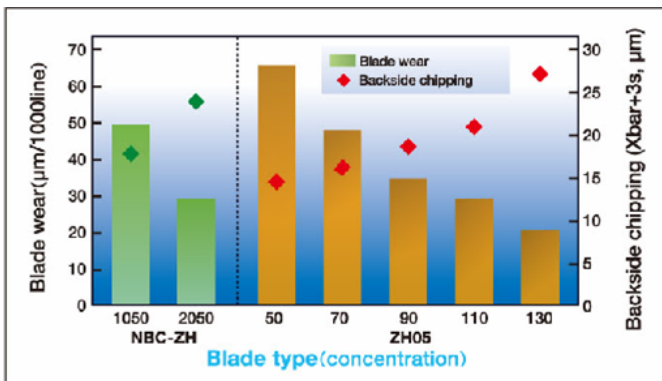
Exposure	Kerf width
A 0.38 - 0.51	A 0.015 - 0.020
B 0.51 - 0.64	B 0.020 - 0.025
C 0.64 - 0.76	C 0.025 - 0.030
D 0.76 - 0.89	D 0.030 - 0.035
E 0.89 - 1.02	E 0.035 - 0.040
F 1.02 - 1.15	F 0.040 - 0.050
G 1.15 - 1.28	G 0.050 - 0.060
H 1.28 - 1.41	H 0.060 - 0.070
I 1.41 - 1.54	I 0.070 - 0.080
J 1.54 - 1.67	J 0.080 - 0.090
K 1.67 - 1.80	K 0.090 - 0.100
	L 0.100 - 0.110

Blade shape*	
E	N
MA	MB
VA	VB

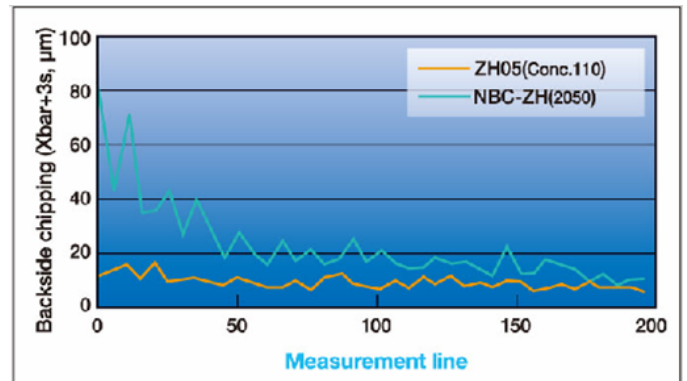
\*Blade thickness greater than 0.1 mm (L kerf) are available.

**Experimental Data**

By increasing the concentration options for ZH05, it is possible to precisely respond to customer needs. It also has the potential to shorten the precut time.



Workpiece : Si + Oxide layer ø6"  
 Depth : 400 µm (full cut)  
 Feed speed : 60 mm/s  
 Spindle revolution : 30,000 min<sup>-1</sup>



Workpiece : Si ø6"  
 Depth : 400 µm (full cut)  
 Feed speed : 10, 20, 30 mm/s ( each of 10lines)  
 40, 50 mm/s ( each of 20lines)  
 60 mm/s ( each of 130lines)  
 Spindle revolution : 30,000 min<sup>-1</sup>

**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.

