


# ZH05 SERIES

Electroformed Bond Hub Blades

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## Provides stable processing through high-accuracy concentration control

Electroformed bond

Applications: Silicon wafer, Compound semiconductor wafers (GaAs, GaP, etc.), Oxide wafers (LiTaO<sub>3</sub>, etc.), etc

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.

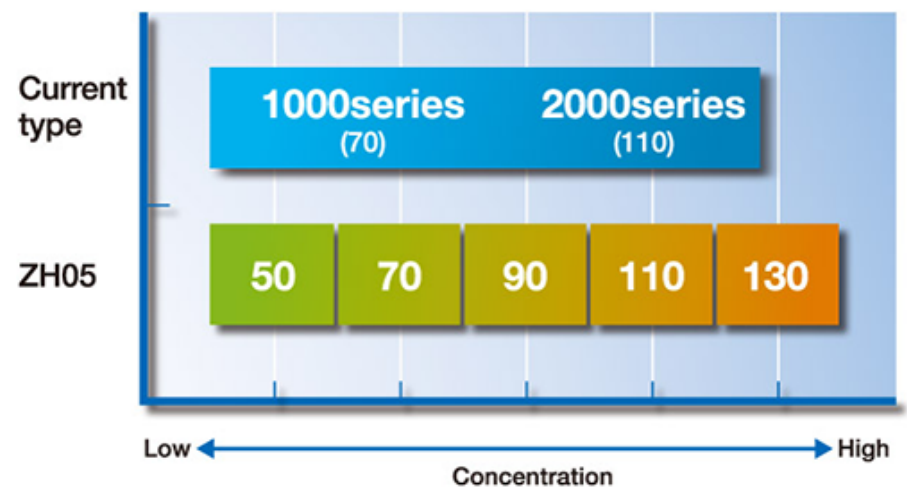


### Concentration range

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.

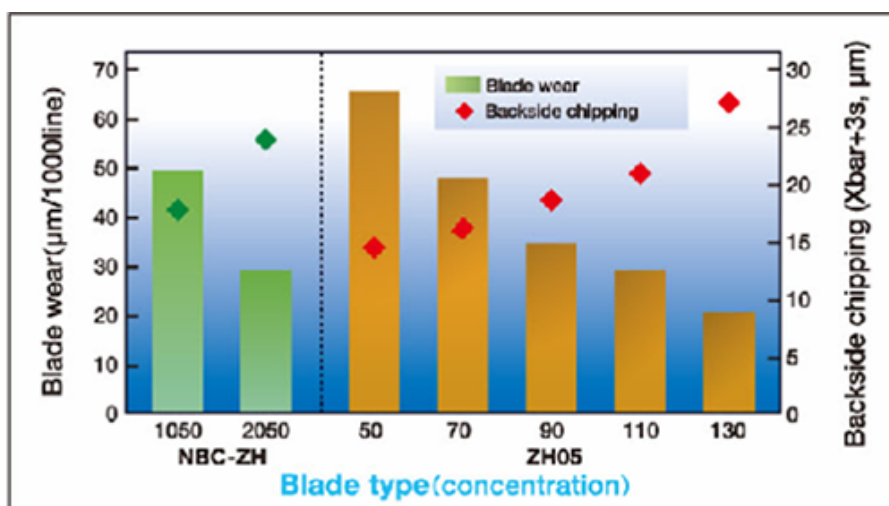
### Concentration range



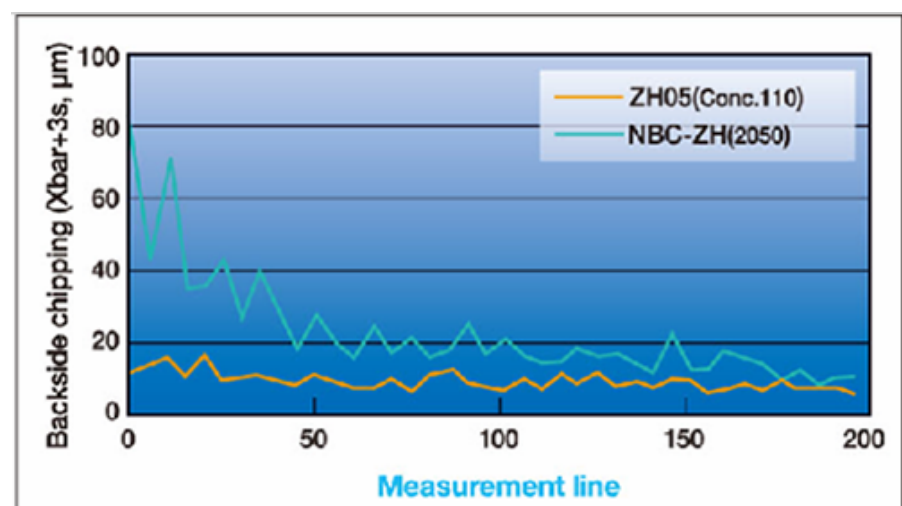
### Experimental Data

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.

#### Relationship between Wheel Wear and Backside Chipping



#### Precut Reduction Effect



**Workpiece** :Φ6" Si+Oxide layer  
**Depth** :400 μm (full cut)  
**Feed speed** :60 mm/s  
**Spindle revolution** :30,000 min<sup>-1</sup>

**Workpiece** :Φ6" Si  
**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>

Specification

Concentration  
 50  
 70  
 90  
 110  
 130

Bond  
 N1

Special specification

Angle  
 $\theta$

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

Grit type
SD

Grit size	
1500	#1500
1700	#1700
1800	#1800
2000	#2000
2500	#2500
3000	#3000
3500	#3500
4000	#4000
4500	#4500

Exposure
A 0.38 - 0.51
B 0.51 - 0.64
C 0.64 - 0.76
D 0.76 - 0.89
E 0.89 - 1.02
F 1.02 - 1.15
G 1.15 - 1.28
H 1.28 - 1.41
I 1.41 - 1.54

Kerf width
A 17.5 ± 2.5
B 22.5 ± 2.5
C 27.5 ± 2.5
D 32.5 ± 2.5
E 37.5 ± 2.5
F 45.0 ± 5.0
G 55.0 ± 5.0
H 65.0 ± 5.0
I 75.0 ± 5.0

Blade shape*	
E	
N	
M	
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  MA                             </div> <div style="text-align: center;">  MB                             </div> </div>

