

Electroformed Bond Hub Blades

ZHRF SERIES

Strengthens rigidity and prevents slant and wavy cutting

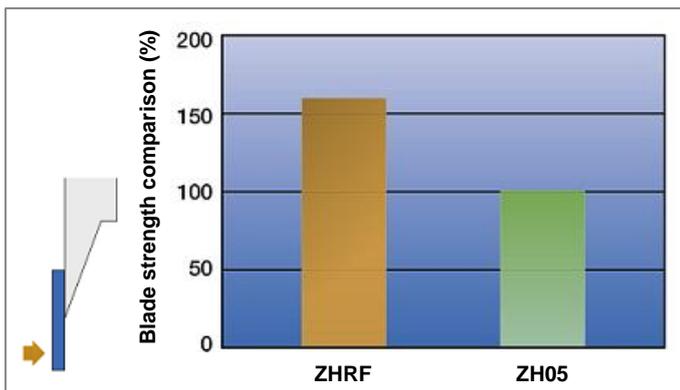
The ZHRF Series provides stable quality even for high processing loads due to improved blade strength.

By employing new technologies, the blade strength is improved compared to ZH05 blades. The ZHRF series minimizes blades slant cutting and achieves stable processing results even under high load conditions such as high speed processing, thick wafer cutting, or when cutting wafers with a large amount of metal on the streets. In addition, by combining ZHRF blades with laser grooving to process wafers with low dielectric constant (Low-k) layers, backside chipping and peeling are eliminated, and high speed processing is possible.



- Shows stable processing performance in high load processing.
- Realizes high speed wafer cutting after laser grooving.
- Supports processes that require large blade exposure.

Blade Strength Comparison



Compared to the previous series, the ZHRF Series shows improved strength.

Applications

Silicon wafers, etc.

Specifications

Bond
N1

Specification

ZHRF - SD 2000 - N1 - 110 - A** D D**

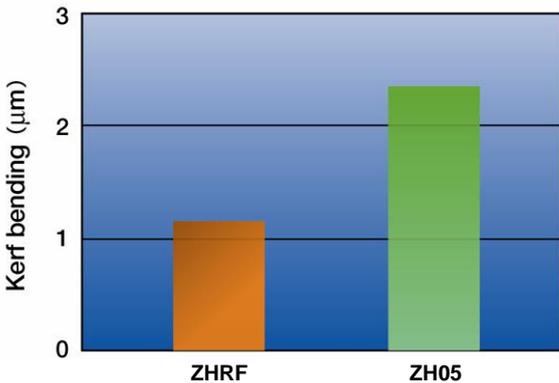
Grit type	Grit size		Concentration	Exposure		Kerf width	
SD	2000	#2000	50	A	0.38 - 0.51	A	0.015 - 0.020
	3000	#3000	70	B	0.51 - 0.64	B	0.020 - 0.025
	3500	#3500	90	C	0.64 - 0.76	C	0.025 - 0.030
			110	D	0.76 - 0.89	D	0.030 - 0.035
			130	E	0.89 - 1.02	E	0.035 - 0.040
				F	1.02 - 1.15	F	0.040 - 0.050
				G	1.15 - 1.28	G	0.050 - 0.060

(mm) (mm)

Experimental Data

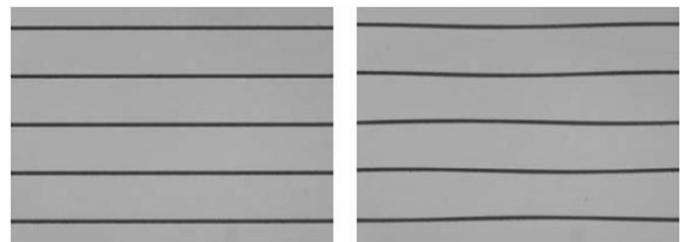
The ZHRF Series better controls slant cutting even under high processing loads and enables more stable processing compared to the previous blade series due to the improved blade strength.

Slant Cut Amount Comparison



Reduced Wavy Cut Occurrence

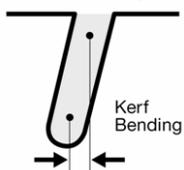
The ZHRF Series controls wavy cutting and slant cutting under high load and high rotation speed conditions. This makes stable processing possible.



Workpiece : Si
 Depth : 400 µm (half cut)
 Speed : 80 mm/s
 Spindle revolution speed : 55,000 min⁻¹
 Blades : ZHRF-SD2000-N1-110 FD
 ZH05-SD2000-N1-110 FD

*This evaluation was intentionally conducted under conditions which tend to generate wavy cutting.

Measurement point



Workpiece : Si + Cu layer, 2 µm
 Depth : 200 µm (half cut)
 Speed : 150 mm/s
 Blades : ZHRF-SD2000-N1-110 BB
 ZH05-SD2000-N1-110 BB

When ordering

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

When you place the first order with us, please provide application information such as materials to grind, sizes, machine, type, and other specifications.

We are ready to help you to determine which of our products is most appropriate 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 tools) 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 tools.
- FOLLOW the equipment's instruction manual to mount the precision tools properly.
- DO NOT DROP OR HIT the precision tools. This may cause breakage or injury.
- Always CHECK the precision tools for chipping or any other damage before starting to use it. DO NOT USE the tools if there is any damage.
- READ the operation manual for the cutting/grinding equipment before use.
- DO NOT USE the precision tools with modified or customized equipment.
- DO NOT USE precision tools that are a different size from the one recommended for your equipment.
- DO NOT USE the precision tools for any other purpose than grinding, cutting, or polishing.
- Always USE water or coolant to prevent damage to the precision tools.