

Electroformed Bond Hub Blades

ZHRF SERIES

Strengthens rigidity and prevents slant or wavy cutting

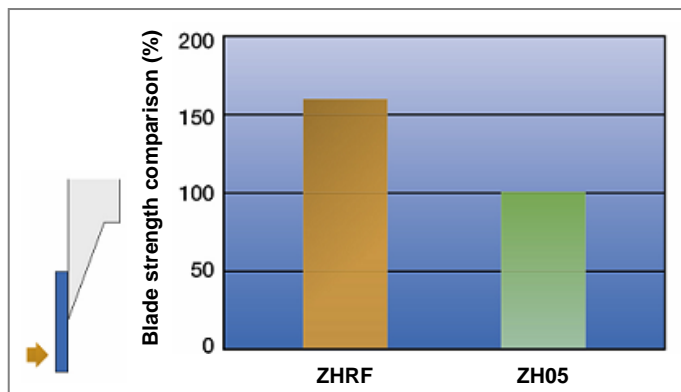
The ZHRF Series provides stable quality even for high processing loads due to improved blade strength.

By employing new technologies, the blade strength is further improved compared to previous hub-blades. The ZHRF series minimizes blades slant cutting and achieves stable processing results even under high load conditions such as high speed processing, thick water cutting, or when cutting wafers with a large amount metal on cutting streets. In addition, by combining ZHRF blades with laser grooving for the processing of low dielectric constant (Low-k) layer wafers, 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 processing required for long blade exposure.

Blades 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**

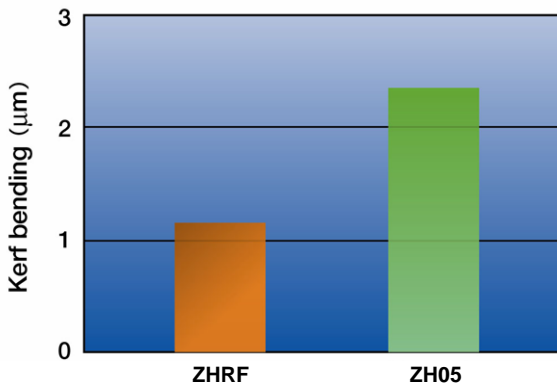
Grit type	Grit size		Concentration	Exposure		Kerf width	
SD	2000	#2000	50	A	0.38 - 0.51	A	0.015 - 0.020
	3000	#3000	70	B	0.51 - 0.64	B	0.020 - 0.025
	3500	#3500	90	C	0.64 - 0.76	C	0.025 - 0.030
			110	D	0.76 - 0.89	D	0.030 - 0.035
			130	E	0.89 - 1.02	E	0.035 - 0.040
				F	1.02 - 1.15	F	0.040 - 0.050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

(mm) (mm)

Experimental Data

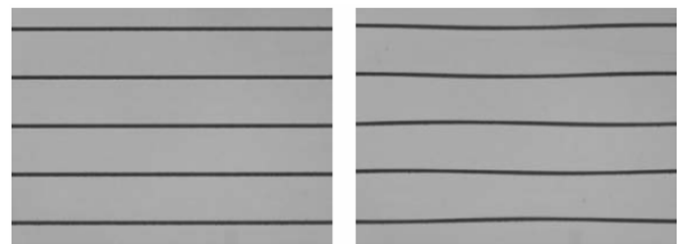
The ZHRF Series, compared to the previous blade series, controls slant cutting even under high processing loads and makes stable processing possible, due to the improved blade strength.

Slant cut amount comparison



Lowers the occurrence of wavy cuts

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



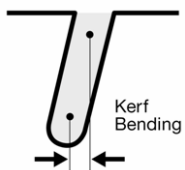
ZHRF

Workpiece : Si
 Depth : 400 µm (half cut)
 Speed : 80 mm/s
 Spindle revolution : 55000 min⁻¹
 Blade : ZHRF-SD2000-N1-110 FD
 ZH05-SD2000-N1-110 FD

ZH05

* This evaluation was conducted under conditions which intentionally trend to cause wavy cut.

Measurement point



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

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.