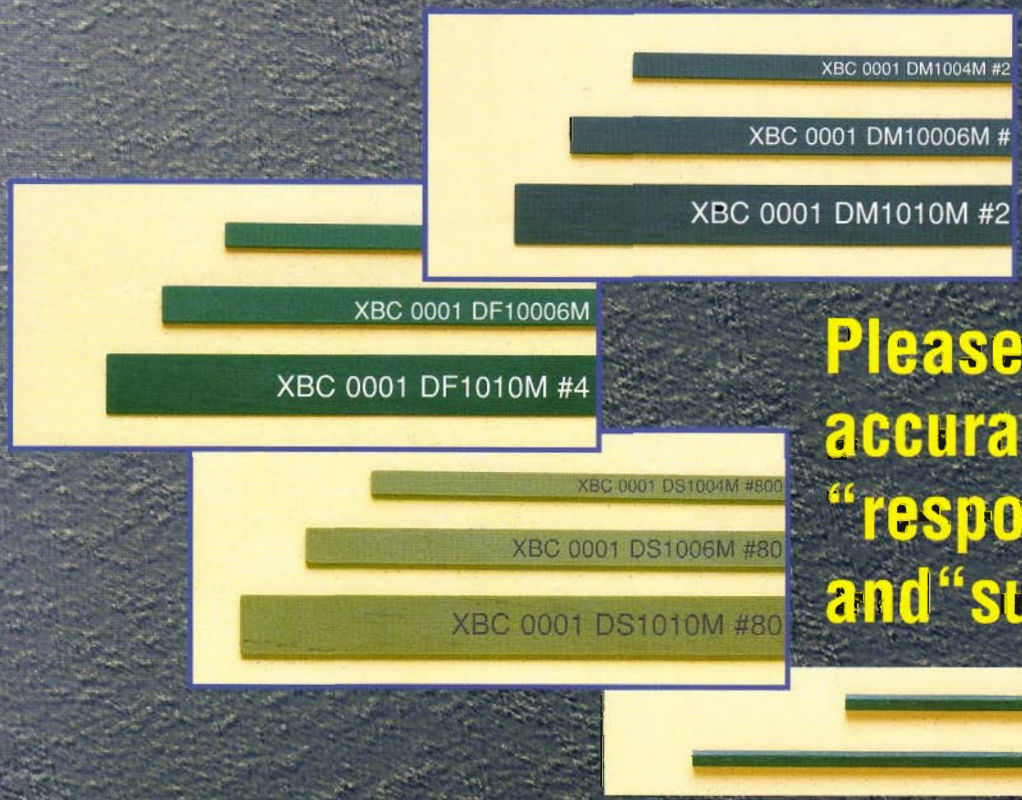
For polishing hardened steel and cemented carbide.

ISO9001 Certified

XEBEC products are manufactured in a plant certified by ISO 9001, the international standard of quality control and assurance.

XEBEC® Diamond

Patent Pending



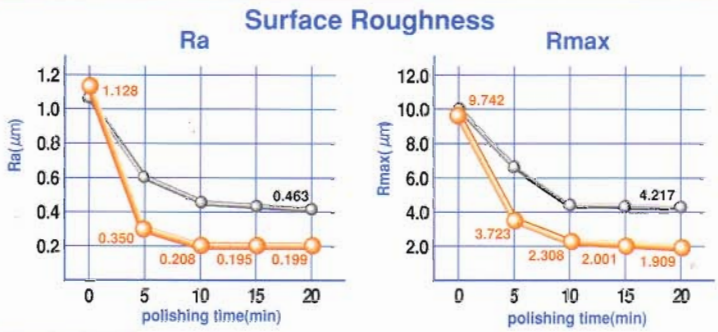
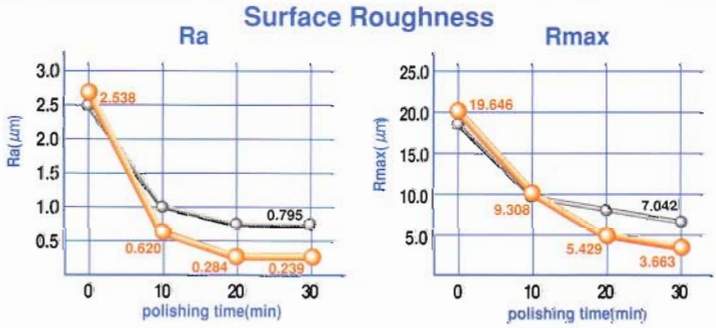
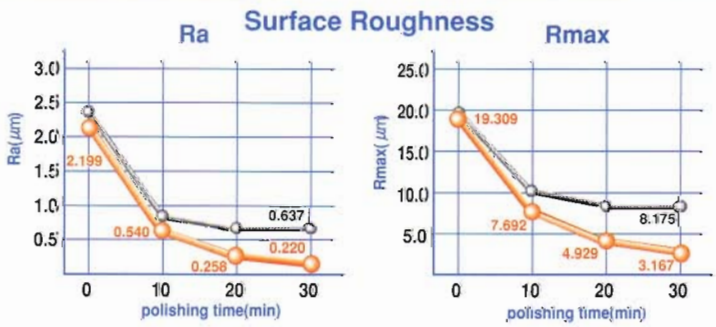
Please put to test the accurate "sharpness", "responsiveness", and "surface stability".

Features of the XEBEC Diamond

- Effeciently and cleanly polishes materials harder than HRC57 such as cemented carbide and hardened steel (SKD, DC, STAVAX, HPM, ASP, etc)
- Both the Stick and the Rod types can be used to polish by the tip or the side
- Can be formed into desired shape, such as a thinner tip
- Suitable for removing EDM scales, polishing ribs and deburring from edges and corners
- Far more efficient than electroplated diamond files, hand lappers, diamond pastes and diamond powders
  - While an electroplated diamond file has diamonds only on its surface, the XEBEC Diamond has diamonds embedded in layers, enabling it to be used to the end without losing its sharpness.
  - Also lasts longer than an electroplated diamond file.
- Can polish efficiently wet or dry
- Can be used even more efficiently when attached to tools (electric, air, or ultrasonic)
- Rod type can be attached to rotary tools (max. 30,000 r.p.m.)

XEBEC Diamond Polishing Performance Data -

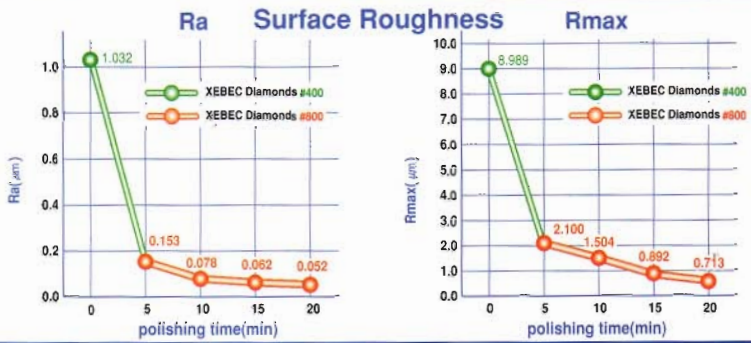
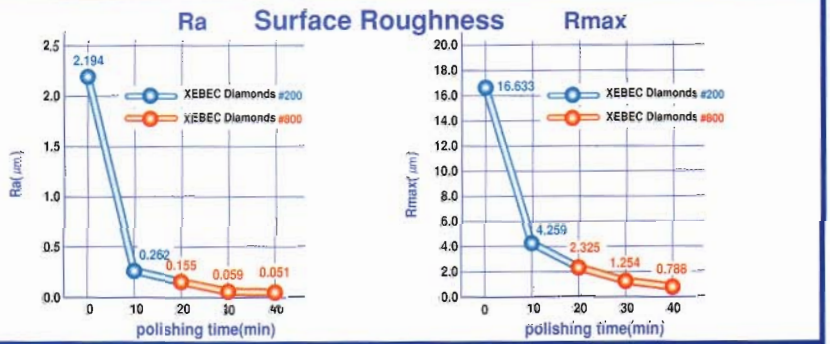
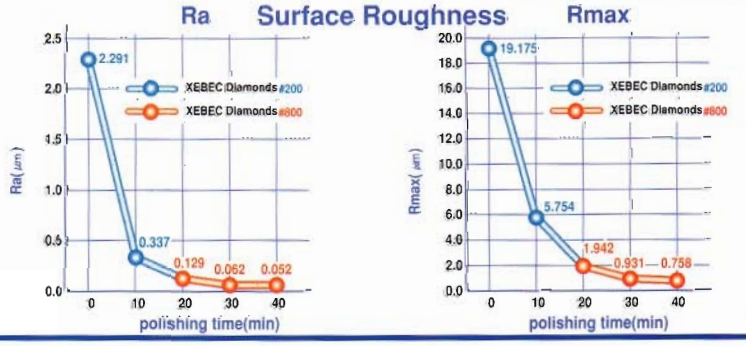
1. Polishing Performance by the Side

Work Polishing Surface		Comparison of Polishing Performance by the Side (Comparison with electroplated diamond file)
Cemented Carbide	V10 (HRA90) WEDM Surface	
Hardened Steel	SKD11 (HRC57) EDM Surface (HRC67)	
	DC53 (HRC61) EDM Surface (HRC69)	
The above ( ) indicate hardness. polishing conditions		XEBEC Diamond #200 (1mm^t) electroplated diamond file #200 polishing method : air tool, by the side, dry load : 250g air pressure : 5kgf/cm^2 (lap rounds 17,000r.p.m.) polishing area : 30mmX15mm

Explanation of the Graph

- The graphs represent comparisons of polishing performance data between XEBEC Diamond and an electroplated diamond file, both #200, using both on its side.
- Polishing efficiency is very high, and the surfaces are finished in a short time.
- The XEBEC Diamond shows maximum roughness (R max) to be very low, and that the surface is very even.
- Though the XEBEC Diamond may have the same grid, it can give surfaces a finer finish, thus enabling it to shorten the work which took far longer by electroplated diamond file.

2. Polishing Performance by the Tip

Work: Polishing Surface		XEBEC Diamond Polishing Performances of #200 / #400 / #800
Cemented Carbide	V10 (HRA90) WEDM Surface	
Hardened Steel	SKD11 (HRC57) EDM Surface (HRC67)	
	DC53 (HRC61) EDM Surface (HRC69)	
The above ( ) indicate hardness. / polishing conditions		XEBEC Diamond #200 (1mmt) XEBEC Diamond #400 (1mmt) XEBEC Diamond #800 (1mmt) polishing method : air tool, by the tip, dry load : 700g air pressure : 5kgf/cm² (lap rounds 17,000r.p.m.) polishing area : 30mmX15mm

Explanation of the Graph

- The graphs for Cemented Carbide show the surface smoothness of a wirecut surface by using XEBEC Diamond #400 for 5 minutes, then #800 afterwards.
- The graphs for Hardened Steel show the surface smoothness of an EDM surface by using XEBEC Diamond #200 for the first 20 minutes, then #800 afterwards.
- It takes a very short time to achieve high surface smoothness on both cemented carbide and hardened steel.
- With the above combination, R max=1μm can be achieved in a short time.

XEBEC Diamond Lineup

1. Stick type

Grit (color)	Dimensions (mm)	Code No.
#200 (black)	1 × 4 × 100	DM1004M
	1 × 6 × 100	DM1006M
	1 × 10 × 100	DM1010M
#400 (bluegreen)	1 × 4 × 100	DF1004M
	1 × 6 × 100	DF1006M
	1 × 10 × 100	DF1010M
#800 (gray)	1 × 4 × 100	DS1004M
	1 × 6 × 100	DS1006M
	1 × 10 × 100	DS1010M

2. Rod type

Grit (color)	Dimensions (mm)	Code No.
#400 (bluegreen)	φ3 × 50	PDF30S
	φ3 × 100	PDF30M

◉Usage

◆Ideal for polishing extremely hard die and mold (especially materials harder than HRC57).

◆Usage can be specified for:

- ○ Surface polishing
- ○ Finishing ribs after EDM
- ○ Finishing gates after EDM
- ○ Finishing and deburring in corners
- ○ Finishing and deburring in edges
- ○ Chamfering corners (to be rounded or chamfered)

◉For the Most Efficient Use...

◆Coolant

- ○ The **XEBEC Diamond** can be used either dry or wet.
- ○ Coolant will increase efficiency.

◆Forming (Shaping the tip of a tool in accordance with the shape of a workpiece.) / Dressing

<Stick type>

- ○ For easy and perfect forming / dressing, use an electrodeposited diamond stone. Do cutting same way.

<Rod type>

- ○ For easy and perfect forming / dressing, press a tool rotating in a hand grinder onto an electrodeposited diamond stone. Do cutting same way.

Precautions in use

◆When Using with an ultrasonic tool

- ○ Please check the appropriate output. The tool may break or generate heat when the output is too large.
- ○ Please check the appropriate length. On an inappropriate length, the tool may not oscillate, or concentrated output may result in heat generation.
- ○ A bad clamp may concentrate output, resulting in heat generation.
- ○ Polishing capabilities may vary depending on the structure and method of the clamp in use; please read carefully the instructions of your supersonic tool.

◆When Using with a hand grinder

- ○ Please use below the maximum 30,000rpm.
- ○ Please use below 50mm full length. (If full length is more than 50mm, make sure to cut it below 50mm.)

◆Others

- ○ Please wear protective eyeglasses, gloves and mask during use.

⚠ **Warning** Please always follow the above instruction and precautions in order to use the tools safely.

Please visit our homepage for details. ——— URL http://www.xebec-tech.co.jp

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