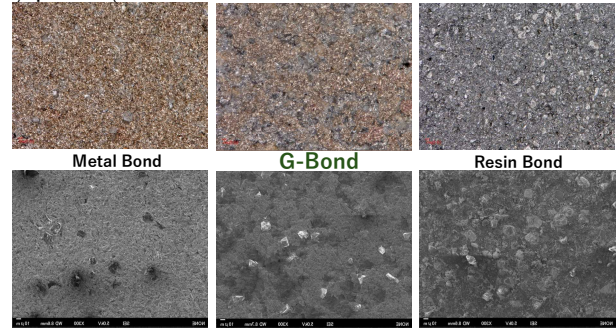


Newly developed blade (G-Bond) G-Bond BLADE

The newly developed blade (G-Bond) is particularly suitable for hard and brittle materials such as ceramics. The greatest advantage of the conventional metal bond was its long life, but its disadvantage was its poor sharpness against hard brittle materials compared to resin bonds. Our company has developed a new bond, G-Bond, which has a sharpness that conventional metal bonds could not have and a longer life than resin bonds, using our unique sintering technology.

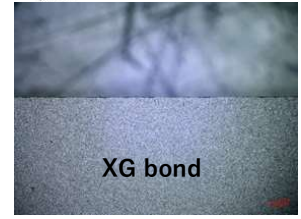
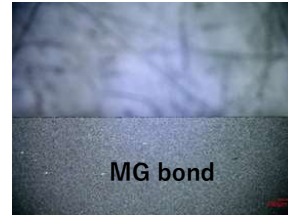
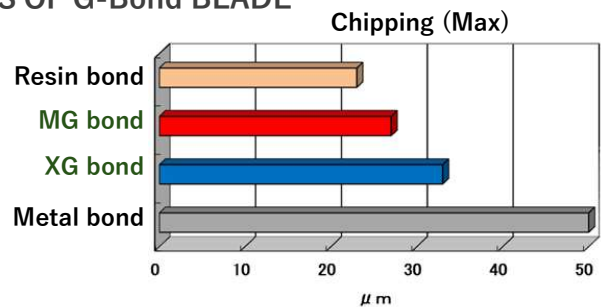
Magnification: x 500



Magnification: x 300 (SEM)

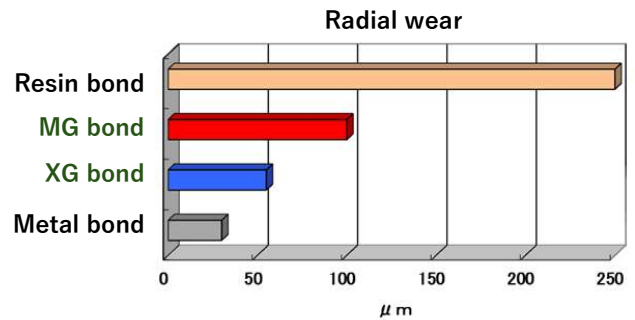
COMPARISON OF SHARPNESS OF G-Bond BLADE

Test conditions
 Workpiece: aluminium nitride
 Size: 58.0 x 58.0 x 0.635 T (mm)
 Number of revolutions: 30,000 rpm
 Feed speed: 20 mm/sec
 Blade size: 54D x 0.15T x 40H
 Abrasive grain specification: SD600N25



LIFE COMPARISON OF G-Bond BLADE

Test conditions
 Workpiece: WA dressed material
 Size: 100.0 x 25.0 x 6.0 T (mm)
 Number of revolutions: 15,000 rpm
 Feed speed: 30 mm/sec
 Blade size: 54D x 0.15T x 40H
 Abrasive grain specification: SD600N25



Weaknesses of Metal Bond

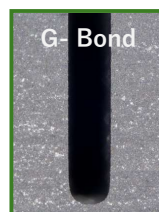
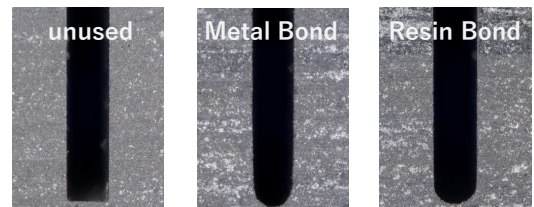


- Due to material hardness, difficult for the outer diameter of the blade to wear.
- High damage to the workpiece due to the large amount of abrasive grains protruding.

Characteristics of G-bond



- High rigidity but high bond fracture resistance and shape loss.
- High autogenous action and good sharpness.



Differences in blade edge shape

Accelerated wear test conditions
 Workpiece: WA dressed material
 Size: 100*25*6.0T (mm)
 Rotation speed: 15,000 rpm
 Feed speed: 100 mm/sec
 Depth of cut: 1000um