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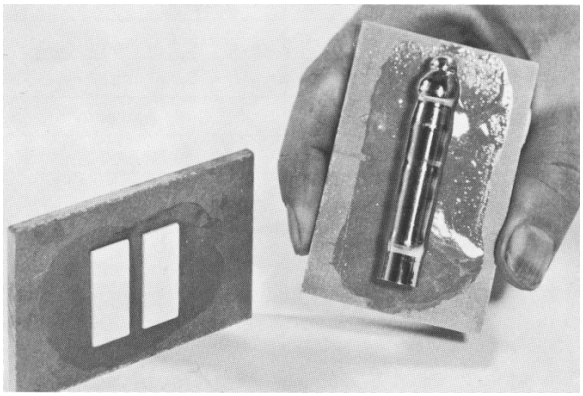
crystalbond™ - temporary adhesives AGB7297

Wash away adhesives are used as a temporary bond for holding delicate crystals, metallurgical specimens, glass components, and ceramic substrates for dicing, slicing, drilling, grinding and polishing. These materials adhere readily to metals, glass and ceramic and are then washed away using various solvents after machining.



The photo shows two typical applications of Crystalbond™ 509. A metal single crystal is shown bonded to a ceramic plate for slicing; and two ceramic substrates are shown positioned from Crystalbond ™ for dicing.

GENERAL DESCRIPTION

Crystalbond™ 509 – Offers excellent adhesion to metals, glass and ceramic, and is dissolved in acetone. This material is the best for precise high purity work since it leaves no residue after dissolving and does not clog the diamond wheel compared to conventional waxes.

CRYSTALBOND ™ APPLICATIONS

Machining or slicing single crystal metal specimens.

Grinding and polishing sapphire, ceramic, optical garnets, ferrites and LCD glass.

Dicing and slicing germanium and silicon wafers in semiconductor production.

Dicing and slicing alumina and beryllia substrates for IC and microelectronic production.

Holding beam leads in IC devices for pull-off tests.

Dicing sub miniature chip capacitors and microwave IC substrates.

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CRYSTALBOND ™ PROPERTIES

CRYSTALBOND™ GRADE	**509**	**555**
Description	Thermoplastic polymer	Thermoplastic monomer
Form	7/8" Dia. x 7" sticks	Lump
Softening Point	160°F (71°C)	125°F (52 °C)
Flow Point	275°F (135°C)	130°F (54°C)
Viscosity at Flow Point	6, 000 cps	500 cps
Colour	Clear Amber	White
Solvent	Acetone	Water

CRYSTALBOND™ 509, 555 – INSTRUCTIONS FOR USE

1) Heat the backup plate to the flow point of the Crystalbond™.
Flow points: 509 - 275°F, 555 - 130°F. A laboratory hot plate is recommended.

2) Apply the Crystalbond™ by pressing it on to the heated surface. Spread it into a uniform layer. Make sure you maintain the proper flow temperature because prolonged exposure to higher temperatures will degrade the adhesive properties of the Crystalbond™.

3) After depositing a uniform layer, lay the substrate onto it. Try to let it settle evenly so that air bubbles are not drawn back under the substrate.

4) Place a small weight onto the substrate and move the Crystalbond™ to create a fillet around the edges of the part. Let it remain on the hot plate until the part has reached the same temperature as the backup block.

5) Remove from the heat and allow to cool slowly until the exposed Crystalbond™ is hard. The weight can then be removed and the assembly cooled quickly to room temperature.

6) The dicing, drilling or other mechanical work can now be performed.

7) De-mount the parts by reheating the block to the flow point. Use an instrument to slide the parts off the backing block (the backup block is now hot and the next part can be mounted).

8) Clean the parts in the recommended solvent. We suggest using 3 containers: a dissolving tank to remove the bulk of the Crystalbond™, a wash tank to remove the layer left; and final clean rinse tank. Conserve solvent by transferring from clean to contaminated tanks.

URL: http://www.agarscientific.com/crystalbond-adhesives.html