

Glass Bond™ / Glass Free™



For Electrophoretic Glass Support Plates

National Diagnostics' Glass Bond™ permits polyacrylamide gels to become permanently affixed to the glass support plates used for casting these electrophoresis gels. During the Glass Bond procedure, the glass plate is chemically modified so that the gel becomes covalently bound to the glass, enabling it to be manipulated without danger of the gel ripping or slipping off the plate.

Glass Bond eliminates the normal risks of handling gels, such as swelling, curling, floating and tearing of the gels. On plates treated with Glass Bond, at ambient conditions, the gels dry down to a smooth plastic film without the use of a gel dryer. Autoradiogra-

phy can easily be performed on the dehydrated glass bonded gel.

National Diagnostics' Glass Free™ surface coats glass gel casting plates for easy release of polyacrylamide gels. Glass Free Prevents the cast gel from binding to the removable upper glass casting plate. Glass Free, used in conjunction with Glass Bond, guarantees whole, manageable, cast electrophoretic gels time after time.

GLASS FREE™ METHOD OF USE

Always work with Glass Free in a hood.

1. For preparing glass plates for gel casting, Glass Free is to be used only on the removable upper plate. Clean the glass with detergent, water, distilled water, and methanol. If the glass plate has previously been treated with Glass Bond, it is first necessary to soak the glass in 20% sodium hydroxide for 3-16 hours and then wash with water and distilled water.
2. After the plate is thoroughly dry immerse it in a dish of Glass Free for 5 minutes, making sure that all areas of the glass are well covered by the reagent. Remove any trapped air bubbles. Use latex, PVC or polyethylene gloves.
3. Remove the glass plate from the Glass Free vessel and thoroughly rinse it with an organic solvent such as toluene, xylene or mineral spirits.

4. Rinse the solvent off with methanol. Lightly buff out the methanol with a paper towel. The plates are now ready for use. Store in a plastic bag and interleaved with paper.
5. To reuse a plate that has previously been treated with Glass Free, wash the plate with water and distilled water and follow by a final rinse with methanol and buff.

Alternate (From Step 1):

2. Wipe clean plates with Glass Free on a lap wipe.
3. All to air dry.
4. Wash with detergent, rinse with methanol and air dry.

GLASS BOND™ METHOD OF USE

1. Glass plates should be clean and dry before starting the bonding procedure (distilled water should always be used as a final rinse). If plates have previously had gels bonded to them, they should be soaked in 20% sodium hydroxide (wear protective gloves and safety goggles) for 3-16 hours and then thoroughly rinsed with water. Washing the plates with methanol and then allowing them to dry can facilitate the bonding process. Plates which have not previously had gels bonded to them will also benefit from the sodium hydroxide wash.
2. Prepare enough bonding solution to fully submerge all the plates that are to be treated. Adjust the pH of 500 ml of water to 3.5 by the addition of glacial acetic acid (~50µl). Add 2.0 ml of Glass Bond to the 500 ml of water (pH 3.5) and mix well with a magnetic stirrer until the liquid dissolves (~20 minutes).
3. Pour the Glass Bond solution into a suitable vessel containing the clean electrophoresis plates (Pyrex baking dish). Move the plates around to release trapping air bubbles. Incubate for 1-3 hours. Magnetic stirring during the incubation period will aid the bonding procedure.
4. Remove plates from the incubation vessel and rinse them with distilled water. Allow the plates to air dry and wipe them gently with a non-scratch tissue.

5. Store the plates interleaved between sheets of dry paper in a plastic storage bag.
6. Acrylamide gels which have been denatured with urea will crack upon drying unless they have been fixed for 30 minutes in 10% acetic acid-10% methanol to remove the urea.
7. If it is necessary to remove the gels intact from the plate, submerge the plate with the bonded gel in water and carefully run a razor between the gel and glass surface. For gels that have been dried on the glass surface, first rehydrate the gel by soaking in distilled water for 2-3 hours before detaching the gel from the plate.

Glass Bond

Order No. EC-620

25 ml

Glass Free

Order No. EC-621

450 ml

STORAGE: Glass Bond and Glass Free are best stored tightly capped in a cool dry area.