

# Application Guide



## Resurfacing Application: *Molds Subject to High Heat Distortion*

Use these Duratec® products to resurface polyester, vinyl ester, epoxy contact and RTM molds, which are subject to high heat distortion:

Duratec Vinyl Ester Mold Repair Putty (1804-007 Untinted, 1802-007 Black)

Duratec Vinyl Ester Primer (1794-005 White, 1799-005 Gray)

Duratec Vinyl Ester Hi-Gloss Topcoat (1904-045 Clear, 1908-045 Orange)

Duratec Thinner (39LAC-1)

### Application Conditions

The surface should be clean, dry and free from oil, grease, wax or other contaminants. Ambient temperatures should be in excess of 60°F, 16°C to ensure a rapid and complete cure. Time calculations are based on temperatures of 77°F, 25°C.

### Duratec Vinyl Ester Mold Repair Putty Application

Use Duratec Vinyl Ester Mold Repair Putty to repair cracks, holes and chips in the mold surface.

### Surface and Product Preparation

Important::

- *Always test the compatibility between an epoxy surface and Duratec products.*
- *Do not apply Duratec Vinyl Ester products over epoxy putties that contain micro-balloons.*
- *Scrub epoxy surfaces with an abrasive pad and water to eliminate any possible*



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*amine blush that may be exposed due to sanding and might interfere with the adhesion of Duratec products to an epoxy substrate.*

### Surface and Product Preparation

Mask off the area to be repaired. This will minimize the surface that will be puttied. For maximum bonding, rout or sand all cracks and chips into the glass substrate.

Aggressively sand the adjoining surface with 80-grit sandpaper to bevel the edge of the routed area. It is important to eliminate the sharp repair line. Follow by wiping the area clean with solvent-soaked white cloth or paper towel. **Do not use a tack rag.**

Thoroughly stir Duratec Vinyl Ester Mold Repair Putty in the can using a spatula or putty knife prior to catalyzing. Due to the rapid gel time of the putty, catalyze only what can be applied in 6-8 minutes. Catalyze at 3 percent with BPO catalyst and mix thoroughly.

Note: Always massage or knead the BPO cream hardener (catalyst) as separation can occur in the tube

### Application Procedures

To ensure proper adhesion, rub the catalyzed putty into the repair area and follow by applying with a spatula, putty knife or squeegee. Fill the void completely by working the putty in all directions. For exceptionally deep repairs, repeat the process to ensure a porosity-free surface. Slightly mound the putty to allow for shrinkage.

When cured (20-30 minutes), sand the cured putty to a 400 or 600 grit finish. Compound, polish and prep as you would a new mold surface. No tooling gelcoat is required. The air-cured putty is the finished surface, and it will develop to a hardness and gloss equal to or greater than the original mold surface. Continue the resurfacing application with Duratec Vinyl Ester Primer.

### Duratec Vinyl Ester Primer Application

#### Surface and Product Preparation

Sand or sand blast surface to an 80- or 120-grit finish; wipe with a fast-flashing



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solvent and a clean cloth. Do not use a tack rag. Thoroughly stir Duratec Vinyl Ester Primer in the can. Catalyze at 2 percent with full strength mekP catalyst (80 cc per gallon) for a 18-22 minute pot life @ 77°F, 25°C. If ambient temperatures are excessive, cool the primer to 77°F, 25°C to create a longer pot life. Thin 10-20 percent if necessary with Duratec Thinner after catalyzing.

The primer can be applied with a sprayer or roller. Clean equipment with acetone or mek solvent.

### Application Procedures—Sprayer

*Equipment Note: Use air aspirated or pressure pot spray equipment. The recommended line air pressure is 35-50 psi and pot pressure is 10-15 psi. Airless, air-assisted airless and air aspirated gelcoat plural-component spray systems can also be used.*

To spray, apply a tack coat to the entire surface and allow it to flash for 2 minutes. Follow with wet passes, building to 20-mils, 500 microns, wet thickness. If greater thickness is desired continue spraying, building up to 80 mils, 2000 microns, with repeated wet passes. Depending upon thickness and temperature, the primer will be ready to sand in 1-5 hours.

### Applications Procedures--Roller

To roll, use foam or short-napped roller. Roll catalyzed primer on the surface, building to 20-mils, 500 microns wet thickness, or greater if necessary. The primer will be ready to sand within 2-6 hours, slightly longer than if sprayed due to slower solvent release.

### Sanding

Beginning with 180-grit sandpaper, sand to the desired finish. After sanding, wait a minimum of 8 hours (@77°F, 25°C) for the solvent to release prior to compounding and polishing. (If the sanding process takes longer than 24 hours, no wait time is required.)



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Note: *If topcoating with Duratec Vinyl Ester topcoat, sand the primed mold with 180-grit sandpaper. No waiting is required before applying the topcoat.*

### **Duratec Vinyl Ester Hi-Gloss Topcoat Application**

For the ultimate gloss finish use Duratec Vinyl Ester Hi-Gloss Topcoat after Duratec Vinyl Ester Primer has been applied as directed.

#### **Product Preparation**

Thoroughly stir Duratec Vinyl Ester Hi-Gloss Topcoat in the can prior to catalyzing. Due to the rapid gel time of the topcoat, mix only the amount that can be applied within 18 minutes at 77°F, 25°C. Higher temperatures yield a shorter pot life and gel time while lower temperatures yield a longer pot life and gel time. Catalyze at 2 percent with mekP catalyst (20 cc per quart). For improved flow and leveling properties, thin 5-10 percent with Duratec Thinner or mek solvent.

#### **Application Procedures**

Equipment Note: *Use air aspirated or pressure pot spray equipment. The recommended line air pressure is 35-50 psi and pot pressure is 10-15 psi. Airless, air-assisted airless and air aspirated gelcoat plural-component spray systems can also be used.*

Spray the entire surface with a fine mist coat and wait 2 minutes for the solvents to flash off. Follow with wet coats building to 15-20 mils, 375-500 microns, thickness.

Note: *Do not inhibit cure by adding wax surfacing agents. The topcoat will cure to a hard, glossy finish in approximately 4-6 hours.*

When cured, dry sand the surface to remove entrapped dirt and dust beginning with 320-400-grit sandpaper. Finish with 800-or higher-grit wet/dry sandpaper. Wait a minimum of 8 hours (@77°F, 25°C) for the solvent to release prior to compounding and polishing.



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### Compounding and Polishing

Use Aqua-Buff 1000-F Fast-Cut Compound and Aqua-Buff 2000 Compound/Polish to achieve a glossy, swirl mark-free finish.

**SAFETY PRECAUTIONS:** Duratec Vinyl Ester Mold Repair Putty, Vinyl Ester Primer, Vinyl Ester Hi-Gloss Topcoat and Thinner are extremely flammable. Do not apply near sparks, open flame or heat. Keep area ventilated. Do not smoke. Avoid continuous breathing of vapor. Do not take internally.



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