

# Application Guide



## Repairing, Fairing and Priming Application: *Marine Composites*

Use these Duratec® products to repair, fair and prime marine composites:

Duratec Vinyl Ester Fairing Putty (1810-013 Untinted)

Duratec Vinyl Ester Fairing Primer (1799-051 Blue)

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

Duratec Thinner (39LAC-1)

These products comprise the Duratec Marine System. Formulated for below-waterline, topside, deck and superstructure surfaces, they are ideal for one-off and production yacht fairing and osmosis and blister repairs.

### 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 Fairing Putty

#### Surface and Product Preparation

Important: *If the surface to be coated is epoxy laminate—*

- *Always test the compatibility between the epoxy surface and Duratec products.*
- *Do not apply Duratec Vinyl Ester products over epoxy putties that contain micro-balloons.*
- *If the surface is epoxy resin or laminate, scrub with an abrasive pad and water to eliminate any possible amine blush that may be exposed due to sanding and*



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*might interfere with the adhesion of Duratec products to the epoxy substrate.*

Sand surface to a 80- or 120-grit finish; wipe with a fast solvent and clean white cloth. **Do not use a tack rag.**

Thoroughly stir Duratec Vinyl Ester Fairing Putty in the can using a spatula or putty knife before catalyzing. Catalyze at 2 percent (20 cc/quart) with full strength mekP catalyst for a 9-11 minute gel time at 77°F, 25°C. Thicker putty mass will generate higher exothermic temperatures and will speed the cure while thinner putty mass will generate lower exothermic temperatures and a slower cure rate.

### Application Procedures

Apply Duratec Vinyl Ester Putty 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.

After 30-40 minutes, depending on temperature and thickness, the putty may be sanded with 80-grit sandpaper in preparation for topcoating with Duratec Vinyl Ester Fairing Primer and/or Duratec Vinyl Ester Primer.

### Duratec Vinyl Ester Fairing Primer

#### Surface and Product Preparation

*Important:: If the surface to be coated is epoxy laminate—*

- *Always test the compatibility between the epoxy surface and Duratec products.*
- *Do not apply Duratec Vinyl Ester products over epoxy putties that contain micro-balloons.*
- *If the surface is epoxy resin or laminate, scrub with an abrasive pad and water to eliminate any possible amine blush that may be exposed due to sanding and might interfere with the adhesion of Duratec products to the epoxy substrate.*



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When Duratec Vinyl Ester Fairing Primer is applied over Duratec Vinyl Ester Fairing Putty, spread and sand the putty as directed above. Otherwise, sand, sweep or sandblast (**do not use silica blasting media**) the surface to a 80 or 100-grit finish; wipe with a fast solvent and a clean white cloth. **Do not use a tack rag.**

Thoroughly mix Duratec Vinyl Ester Fairing Primer in the can before catalyzing.

*Note: Use a machine mixer because the low-density filler will separate and float to the top forming a crust. Do not discard the crust.*

Pour out the quantity of material required. Due to the rapid gel time of the fairing primer, mix only what can be applied in 15-18 minutes. 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 full strength mekP catalyst (20 cc per quart). Thin 10-20 percent if necessary to a desired spray viscosity with mek (methyl ethyl ketone) solvent; if (and only if) application temperatures are below 77°F, 25°C, the fairing primer should be thinned with acetone.

*Note: Do not thin with lacquer-thinner or slow/medium speed solvent. Residual solvent in the fairing primer may cause cracking during the curing process.*

### Application Procedures:

Duratec Vinyl Ester Fairing Primer can be sprayed, brushed or rolled.

*Spray Application:* Gravity, siphon or pressure-pot spray systems can be used. Line air pressure should be between 35-50 psi and pot pressure should be 12-15 psi. A 3.0-3.5mm diameter aircap, needle and nozzle arrangement is recommended.

If excessive porosity exists, first squeegee the surface with catalyzed fairing primer before spraying. Apply a tack coat to the surface and allow it to flash for two minutes. Follow with wet passes, slowly building to a maximum 2-4mm, 80-



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160 mils, wet thickness, allowing for flash time between wet passes. If greater thickness is desired, wait 20-40 minutes after the initial wet coat has gelled and continue spraying.

*Note: If additional wet coats are necessary and more than 8 hours have passed, the initial wet coat must be sanded with 80-grit sandpaper before recoating.*

*Brush or Roller Application:* Apply Duratec Fairing Primer with solvent-resistant brushes or rollers, catalyzed as described. After the initial wet coat has been applied, wait until gel has occurred and repeat the process, building to the desired thickness.

Depending upon thickness and temperature the fairing primer will be ready to sand within 1-5 hours. Sand with 80-grit sandpaper and re-apply the Fairing Primer to fill low spots or porosity. Sand again with 80-grit sandpaper and wipe the surface with a fast solvent and clean white cloth before topcoating with Duratec Vinyl Ester Primer.

### Duratec Vinyl Ester Primer

#### Surface and Product Preparation

*Important:: If the surface to be coated is epoxy laminate—*

- *Always test the compatibility between the epoxy surface and Duratec products.*
- *Do not apply Duratec Vinyl Ester products over epoxy putties that contain micro-balloons.*
- *If the surface is epoxy resin or laminate, scrub with an abrasive pad and water to eliminate any possible amine blush that may be exposed due to sanding and might interfere with the adhesion of Duratec products to the epoxy substrate.*

When Duratec Vinyl Ester Primer is applied over Duratec Vinyl Ester Fairing Putty or Duratec Vinyl Ester Fairing Primer, follow instructions outlined above. Otherwise, sand or sandblast the surface to a 80- or 120- grit finish and wipe with



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a fast solvent and clean white 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 (20cc/quart) for an 18-20 minute pot life. If ambient temperatures are excessive, cool the primer to 77°F, 25°C to create a longer pot life. Thin, if necessary, 10-20 percent with Duratec Thinner or mek solvent after catalyzation.

### Application Procedures:

#### Important:

- *For proper blister/osmosis resistance, Duratec Vinyl Ester Primer must have a minimum of 0.5 mm, 20 mils, dry thickness remaining after sanding before topcoating. If the primer is used for cosmetic applications above the waterline, no minimum thickness is required.*
- *After sanding, allow the primer to cure overnight at 77°F, 25°C before topcoating. This allows for the release of solvents that may be trapped at the surface.*

*Spray Application:* Gravity, siphon or pressure-pot spray systems can be used. Line air pressure should be between 35-50psi and pot pressure should be 12-15psi. A 1.5-2.5mm diameter aircap, needle and nozzle arrangement is recommended. (Plural-component spray equipment —airless, air-assist and/or air-aspirated gelcoat type equipment—can also be used.) *Contact Hawkeye Industries for spray equipment recommendations.*

To spray, apply a tack coat to the surface and allow it to flash for 2 minutes. Follow with wet passes, building to 1mm, 40 mils, wet thickness, allowing for flash time between wet passes. If greater thickness is desired, wait 20-40 minutes and continue spraying.

*Note: If recoating is necessary and more than 8 hours have passed, the initial coat must be sanded with 80-grit sandpaper before applying the primer.*



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*Roller Application:* For rolling use a solvent-resistant roller. Catalyze as for the spray application and build to 1 mm, 40 mils thickness. Repeat the process if greater thickness is required, waiting at least 20 minutes between applications to allow the initial layer to gel. The primer will be ready to sand in 1-5 hours.

When properly sanded and cured, Duratec Vinyl Ester Primer will be ready to top-coat with bottom and topside paint systems.

*Note: Do not apply abrasive bottom paints directly onto Duratec Vinyl Ester Primer. First, apply an epoxy primer and follow with the abrasive bottom paint. Hard non-abrasive bottom paint can be applied directly onto Duratec Vinyl Ester Primer.*

**SAFETY PRECAUTIONS:** Duratec Vinyl Ester Fairing Putty, Fairing Primer and Primer 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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