

Application Guide



Manufacturing Application: *Molds Subject to High Heat Distortion and Chemical Corrosion*

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

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

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

Application Conditions

The pattern should be prepared with the proper release system. 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.

I. Polyester and Vinyl Ester Contact and RTM Molds

Duratec Vinyl Ester Hi-Gloss Topcoat Application

For the ultimate gloss mold finish use Duratec Vinyl Ester Hi-Gloss Topcoat.

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 16-18 minutes @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).

Product Application

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



Hawkeye Industries Inc.
P O Box 415 Bloomington, CA 92316
Tel 909-546-1160; Toll Free 800-977-0060; Fax: 909-546-1161
Email productinfo@duratec1.com Web www.duratec1.com

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be used.

Spray three wet passes of Duratec Vinyl Ester Hi-Gloss Topcoat to a total film thickness of 10-12 mils, 250-300 microns. Allow the film to tack off and repeat the process. Total topcoat thickness should be 20 mils, 500 microns.

Duratec Vinyl Ester Primer Application

Product Preparation

Thoroughly stir Duratec Vinyl Ester Primer in the can. Catalyze at 2 percent with full strength mekP catalyst (20 cc per quart). At temperatures higher than 77°F, 25° C catalyze at no less than 1.5 percent.

Product Application

After the Duratec Vinyl Ester Topcoat has tacked off, spray three wet passes of Duratec Vinyl Ester Primer to a total film thickness of 15-20 mils, 375-500 microns. Allow the total film thickness to tack off to the "thumbprint" stage (from 1-3 hours) prior to applying the first laminate.

When the mold is completed, demold from the pattern or master and prepare as a normally gelcoated mold.

Note: For an even stronger mold, consider using a vinyl ester laminating resin for manufacturing

II. Epoxy Contact Molds

Duratec Vinyl Ester Hi-Gloss Topcoat Application

For the ultimate gloss mold finish use Duratec Vinyl Ester Hi-Gloss Topcoat.

Product Preparation

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plied within 16-18 minutes @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).

Product Application

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 three wet passes of Duratec Vinyl Ester Hi-Gloss Topcoat to a total film thickness of 10-12 mils, 250-300 microns. Allow the film to tack off and repeat the process. Total topcoat thickness should be 20 mils, 500 microns.

Duratec Vinyl Ester Primer Application

Note: Always fully test the compatibility of Duratec Vinyl Ester Primer with the epoxy laminating resin system. Some epoxies will not properly bond to Duratec Vinyl Ester Primer.

Product Preparation

Thoroughly stir Duratec Vinyl Ester Primer in the can. Catalyze at 2 percent with full strength mekP catalyst (20 cc per quart). At temperatures higher than 77°F, 25° C catalyze at no less than 1.5 percent.

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.

Product Application

After the Duratec Vinyl Ester Topcoat has tacked off, spray three wet passes of Duratec Vinyl Ester Primer to a total film thickness of 15-20 mils, 375-500 mi-



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crons.

Very Important: Allow the total film thickness to cure until the surface is dry to the touch, 4-8 hours @ 77°F, 25°C.

Apply the first laminate (skin coat) and follow with the usual epoxy mold building technique. When the mold is complete, demold from the pattern or master and prepare as a normally gelcoated mold.

Dry sand the surface to remove entrapped dirt and dust beginning with 800- or 1000-grit sandpaper. Wait a minimum of 8 hours (@77°F, 25°C) for the solvent release and complete cure to develop prior to compounding and polishing.

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 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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