



# VE-TTC

## Vinyl Ester Tooling Topcoat

### Technical Data Sheet

VE Tooling Topcoat is a high performance vinyl ester coatings designed for resurfacing fiberglass molds. The gel coat is formulated with a high heat distortion vinyl ester resin for applications where excellent strength, gloss, and resiliency are required. A unique "Air-uninhibited" additive package is included for the benefit of a thorough surface cure of the coating.

FEATURES	BENEFITS
• Unique polymer blend with high heat distortion	• Hard, durable, scratch resistant surface with high gloss
• Excellent application characteristics	• Complete surface cure without additional additives
• Excellent chemical resistance	• Molds are more resistant to solvent attack
• Special additive package	• Standard MEKP Initiator requirement

LIQUID PROPERTIES	RESULTS	TEST METHOD
Viscosity, Brookfield Model LV #4 Spindle @ 6 rpm, 77°F (25°C), cps	6500 – 8500	CRSTP-301
Thixotropic index	4.80 – 6.00	CRSTP-301
100 grams gel coat @ 77°F (25°C), catalyzed with 2.0% DDM-9 by volume Gel Time, min:sec	12:00 – 16:00	CRSTP-340
HAPs (Styrene), %	≤ 35.0	CRSTP-329
HAPs content, lbs/gal	≤ 3.10	CRSTP-329
Non-Volatile Matter, %	64.0 – 67.0	CRSTP-329
Weight per gallon @ 77°F (25°C), lbs/gal	8.25 – 9.25	CRSTP-308
Specific gravity @ 77°F (25°C)	0.99 – 1.11	CRSTP-308
* Gel time and reactivity will vary due to the type and concentration of a free radical initiator (peroxide), shop temperature and humidity		

TYPICAL PERFORMANCE PROPERTIES	RESULTS	TEST METHOD
Barcol hardness 934-I, 60 min	≥ 40.0	ASTM D2583
Heat distortion temperature, °C	148	ASTM D638
Film cure time @ 77°F (25°C), catalyzed with 2.0% DDM-9 by volume, min:sec	≤ 60:00	CRSTP-376
Sag resistance @ 77° F (25°C), mil of a wet film thickness	no less than 20	CRSTP-315
Material coverage (assuming no loss) @ 20 mils of a wet film thickness, ft <sup>2</sup> /gal	80.0	Calculated

**Application:** VE Tooling Topcoat is formulated for spraying as supplied. It is strongly recommended that the material be mixed before use. Optimum application temperature is 65°F - 90°F (18°C - 32°C). Two coats of 16 to 20 mils each are recommended to build to a film thickness of 32-40 mils. Spray 16 – 20 mils of gel coat on the mold in three passes. The first coat should then be allowed to gel before the second coat is applied. The second coat should be additional 16 – 20 mils. This two-step process is necessary to avoid porosity. Brushing is not recommended.

Molds that have been gel coated with vinyl ester tooling gel coat should not be stored outside or exposed to ultraviolet radiation. Failure to properly store vinyl ester tools may result in damage to the gel coat surface from oxidation and chalking.

**Storage and Handling:** VE Tooling Topcoat should be stored in closed, opaque containers at temperatures above freezing but not exceeding 77°F (25°C). Do not keep gel coat near catalyst storage areas. To avoid decomposition keep away from direct sunlight and excess heat. Refer to the Safety Data Sheet for further details on safety and storage.

All specifications and properties specified above are approximate. Specifications and properties of material delivered may vary slightly from those given above. Lilly-RAM makes no representations of fact regarding the material except those specified above. No person has any authority to bind Lilly-RAM to any representation except those specified above. Final determination of the suitability of the material for the use contemplated is the sole responsibility of the Buyer. Our technical sales representatives will assist in developing procedures to fit individual requirements but all advice is accepted at your risk and should be checked for suitability to your particular processes. These test data and properties are based on results obtained for a specific material under the specified test conditions. They are not to be used as specifications and are not warranted as performance attributes for any product or system. Specifications and properties of standard production material may vary slightly from those in this report. Lilly-RAM makes no warranties regarding any material and/or samples described in this report unless that representation is provided to your company in writing by a Technical Director of Lilly-RAM or one of his or her managers. (03/12/15)

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