Technical Data Sheet

53 Series Gelcoat

DESCRIPTION:

53 Series gelcoat is formulated from a high quality isophthalic polyester resin, which cures to form a tough, glossy finish with superior weather and water resistance.

DISTINGUISHING CHARACTERISTICS:

- Excellent water/impact resistance
- Excellent weathering properties
- Resistance to staining, chalking, crazing and cracking

TYPICAL PROPERTIES (at 22°C or 72ºF):

These values may or may not be manufacturing control criteria; they are listed as a reference guide only. Particular batches will not conform exactly to the numbers listed because storage condition, temperature changes, age, testing equipment (type and procedure) can each have a significant effect on the test results. Gel-coat with properties outside of these values can perform acceptably.

% Styrene	Off-White – not to exceed 20% Colour – not to exceed 21%	
Viscosity	4500-5000 cps.	(10000-12000 cps for Brush version)
(Brookfield RVT Viscometer: Spindle #5, @ 20 RPM)		
Specific Gravity	1.20-1.35 g/cm^3	
Gel Time **(1% MEC-EX)** **(100 gm mass @ 22°C)**	15-18 minutes	

Note: Brush version is denoted by a B after the colour number (e.g. 53-310**B**)
UV additive is noted by a UV after the colour number (e.g. 53-310**UV**)
"-O" following the colour number indicates only organic pigments are used in tint for that particular product.

CURE:

It is recommended that gel time be checked in the customer's plant because age, temperature, humidity and catalyst will produce varied gel times. All data referencing gel or cure refers specifically to United Initiators MEC-EX @ 1.0%. Other MEKP catalysts can be used however gel and cure times may vary.

The catalyst level should be between 1.0 – 1.5% for best results. Over or under catalyzation will inhibit the gelcoat cure. Optimal temperature is 22°C (72°F). Do not use under 19ºC (66ºF).

When the part reaches ultimate cure depends upon time, temperature and satisfactory catalyzation. Too much or too little catalyst can result in permanent under-cure, which cannot be overcome. Practically speaking, serviceable cure time will range from overnight to a week and occasionally longer due to circumstance. Small, properly catalyzed, thin laminate that do not exotherm and do not receive external heat may take months or years to achieve ultimate physical properties. Sufficient external heat can reduce the cure time to less than a day.

APPLICATION:

- Apply in several thin overlapping layers rather than one single thick coat to avoid porosity, sagging and trapped solvent.
- Thinning is not recommended since it can cause drainage, solvent entrapment or inadequate cure.

PRECAUTION:

Do not over-mix. Over-mixing breaks down viscosity, increasing tendencies to sag, and causes styrene loss. Gelcoats should be mixed once a day for 10 minutes. The Gelcoats should be mixed to the sides and bottom of the container with the least amount of turbulence possible. Pressurized Air bubbling should not be used for mixing. It is not effective and only serves as a potential for water or oil contamination. Do not add any material other than recommended catalyst to this product without the advice of a representative of the Polynt Composites.

STORAGE:

Standard cure gel-coat have a usage life of 90 days from date of manufacture when stored at 22°C (73°F) or below in a closed, factory-sealed opaque container and out of direct sunlight.

SHIPPING:

Shipment is normally in lined 45-gallon (205 liters) and/or 4.4 gallon (20 liters) containers.

POLYESTER SAFETY INFORMATION

All sales of products manufactured by the Polynt Composites. and described herein are made solely on condition that our customers comply with applicable health and safety laws, regulations and orders relating to the handling of our products in the workplace. Before using, read the following information and both the product label and Material Safety Data Sheet pertaining to each product.

Most polyester products contain styrene. Styrene can cause eye, skin and respiratory tract irritation. Avoid contact with eyes, skin and clothing. Impermeable gloves, safety eyewear and protective clothing should be worn during use to avoid skin and eye contact. Wash thoroughly after use.

Styrene is a solvent and may be harmful if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Extended exposure to styrene at concentrations above the recommended exposure limits may cause central nervous system depression causing dizziness, headaches or nausea and if overexposure is continued indefinitely, loss of consciousness, liver and kidney damage.

Do not breathe or ingest vapor, spray mists and dusts caused by applying, sanding, grinding and sawing polyester products. Wear an appropriate NIOSH/MSHA approved, properly fitted, respirator during application and use of these products until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapors, mists and dusts are below applicable exposure limits. Follow respirator manufacturer's directions for respirator use.

The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans." This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement: Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene.

Styrene is classified by OSHA and the Department of Transportation as a flammable liquid. Flammable polyester products should be kept away from heat, sparks, and flame. Lighting and other electrical systems in the work place should be vapor-proof and protected from breakage.

Vapors from styrene may cause flash fire. Styrene vapors are heavier than air and may concentrate in the lower levels of molds and the work area. General clean air dilution or local exhaust ventilation should be provided in volume and pattern to keep vapors well below the lower explosion limit and all air contaminants (vapor, mists and dusts) below the current permissible exposure limits in the mixing, application, curing and repair areas.

Some polyester products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your Polynt Composites representative.

Keep polyester containers closed when not in use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Emptied containers may retain hazardous residue. Do not cut, puncture or weld on or near these containers. Follow container label warnings until containers are thoroughly cleaned or destroyed.

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FOR INDUSTRIAL USE AND PROFESSIONAL APPLICATION ONLY.
KEEP OUT OF REACH OF CHILDREN.

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January 2019

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