Technical Data sheet

944 X Series Gelcoat

DESCRIPTION:

944X isophthalic gelcoats are high-quality coatings for the fiberglass industry. These gelcoats provide quality finishes that offer good chemical/water resistance, luster retention, weather resistance and resilience.

These gelcoats are formulated to meet the stringent requirements of transport, the marine sector, and sanitary applications. They allow users to meet and exceed the requirements of Canadian national standards CSA B45,5-02 and American, ANSI Z124.1, .2-1995, Sec. 6.1.1. and for bathtubs, shower cubicles and other related sanitary facilities.

944X gelcoats are ready to use, easy to spray, resistant to sagging, they have a quick cure and only require the addition of the appropriate amount of methyl ethyl ketone peroxide to polymerize.

944X isophthalic gelcoats are available in a wide range of attractive colors. The development of particular colors is available on request. See the Polynt Composites 944-W-005 datasheet for white isophthalic gelcoat standards.

PHYSICAL CHARACTERISTICS (AT 25°C or 77ºF):

The values below are not necessarily production control criteria, they are listed as a reference guide only. Some specific batches may not exactly comply with the data listed due to storage conditions, changes in temperature, age, and test equipment (type and procedure). Each of these conditions can have a significant effect on test results. Gelcoats with properties outside this range can also perform in an acceptable way.

	Value Test
Viscosity	
Brookfield RVF rotor #4 @ 4 rpm	
White and off-white	16,000 – 20,000 cps
Colors	11,000 – 16,000 cps
Index thixotropic (2/20)	5.5 – 7.5
Flash point	27.8°C – 31.1°C (82°F – 88°F)
Pollutants hazardous to the air	(See Safety Data Sheet)
Volatile organic compounds	35 – 42%
Weight in lbs. per gallon	U.S.9.0 – 11.00 (depending on colors)
Density	1.08 –1.32 Kg/liter
Freezing time at 1.8% MEKP	10 – 17 minutes
Waiting before rolling	45 – 60 minutes
Resistance to subsidence	Good at 20 mils
Opacity (Most formulations)	Complete to 10 mils

Shades of red, yellow, and dark blue may have lower opacity. Ask a Polynt Composites representative if the chosen color requires special application procedures (such as increasing the thickness of the film in multiple applications).

944 X Series Gelcoat

Refer to the Safety Data Sheet for safe handling measures. The Safety Data Sheet will be provided to Polynt Composites' sales department upon request.

APPLICATION:

Polynt Composites 944X gelcoats are generally formulated for conventional vaporization or "Airless" applications. Use with a brush or roller is not recommended. Refer to PB-16 (Application Guide) and PB-3 (Equipment Selection) if additional specific information is required.

Polynt Composites recommends a maximum gelcoat flow rate of 2.5 pounds per minute with conventional atomized air equipment and no more than 4 pounds per minute with "Airless" equipment.

For best results, the gelcoat-catalyst mixture should be complete. Even with properly calibrated equipment, some problems can occur because of:
a poorly atomized catalyst, surging problems (gelcoat or catalyst), and poor tip alignment (catalyst to gelcoat mix), contaminations and a poor application procedure will quickly reduce the benefits of good calibration. Equipment and application procedures should be evaluated on a routine basis to ensure proper application and cure of gelcoat. Inquire and follow all the manufacturers' recommendations.

Avoid the "Over Spray" from settling on the surface of the mold by starting to spray as close as possible to the vapor/air exhaust and progressing to the opposite of the air outlet. Maintain the recommended spray distances on the surface of the mold.

For optimal performance, a wet film with a thickness of 18 ± 2 mils in 3 passes of 6 mils is recommended. Applying less than 12 mils may not polymerize properly, may be difficult to patch, will have more print-through, and will be more susceptible to water blisters.

A thickness greater than 24 mils can pre-demold, cause porosity, crack and will be more prone to chalking. If water blisters are one of the very important criteria, (boat hulls), a wet thickness of 20 to 24 mils would perform better than a thinner film, but would be less resistant to sagging, porosity and cracking. If weather resistance (yellowing of the sun) is a more important criterion, then a thinner film (12 to 16 mils) would perform better, but the ease of retouching, print-through and blistering could suffer.

Good mold maintenance is important. Although the 944X from Polynt Composites has excellent patching properties, a minimum of finishing work is always required. Sanding and polishing can accelerate chalking and loss of gloss from all gelcoats.

POLYMERIZATION:

It is recommended to check the freezing time of the product in the customer's factory taking into account the age, temperature, humidity, and catalyst. These parameters influence the freezing time. All data referring to the gel or cure refer specifically to Norac's MEKP 925 catalyst. Norac's Norox MEKP-9 and MEKP-9H as well as Cadox L-50, Arkema's DDM-9 and Akzo Nobel's L-50A are all

expected to achieve similar results. Norac's MEKP-925H, Arkema's DHD-9 and Crompton's HP-90 can give a slightly faster freeze and cure time.

The catalyst level should always be between 1.2 - 3.0%. The recommended percentage is 1.8% at 77°F (25°C). Normally, the gelcoat film is ready for rolling between 45 to 60 minutes. This element depends on the temperature of the material, the temperature of the room, the movements of the air and the concentration of the catalyst. Special quick cure versions are available on special requests. These products offer rolling waiting times of 30 minutes or less depending on freezing times.

PRECAUTION:

Isophthalic gelcoats are not compatible in the liquid state with ISO/NPG gelcoats or ISO/NPG resins. The equipment for spraying and pumping must be completely cleaned of these gelcoats or resins before the isophthalic gelcoat can be used.

Do not mix gelcoats too much. This affects viscosity, increases porosity, and causes styrene losses that can contribute to porosity. Gelcoats should be mixed once a day for 10 minutes. The gelcoat should be mixed completely from the edge to the bottom of the container with as little turbulence as possible. Mixing with a pressurized air hose should not be used. This method is inefficient and poses a significant risk of water and oil contamination.

Do not add any product other than methyl ethyl ketone peroxide to gelcoat without the advice of a representative of Polynt Composites.

STORAGE LIMITATIONS:

The gelcoat has a shelf life of 90 days from the date of manufacture when stored at 22°C (73°F) or less, in a closed opaque container, sealed by the manufacturer and outside the sun's rays. Fast reactivity (freezing time less than 9 minutes) is stable for 45 days. The service life is cut in half for every 11°C (20°F) above 22°C (73°F). Totes of products can even have a shorter lifespan (66% of that for drums).

PACKAGING & SHIPPING:

Shipping is normally done in a 205-litre (45-gallon imp.) or 20-litre container
(4.4 gallons imp).

DISPOSAL :

Dispose of empty containers in accordance with local and provincial regulations. Do not incinerate closed containers. Incineration treatment must be carried out by approved and authorized companies.

944 X Series Gelcoat

Safety Information

All sales of products manufactured by Polynt Composites and described herein are made only on the condition that customers comply with the applicable health and safety laws belonging to each product. Most polyester/ vinyl ester products contain styrene. Styrene can cause irritation to the eyes, skin, and respiratory tract. Avoid contact with eyes, skin, and clothing. Waterproof gloves, safety glasses and protective clothing should be worn during use to avoid contact with skin and eyes. Clean them completely after use. Styrene is a solvent and can be dangerous if inhaled. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent damage to the brain and nervous system. Prolonged exposure to styrene, at concentrations above the recommended exposure limits, can cause central nervous system depression causing dizziness, headache, or nausea and, if overexposure continues indefinitely, exposure could also cause loss of consciousness, liver, and kidney damage.

Do not breathe or ingest vapors, mists or dust caused by the application, sanding, polishing, and sawing of polyester products. Wear an appropriate, PROPERLY adjusted NIOSH/MSHA approved breathing apparatus during application and use of these products until vapors, mists and dusts are aspirated unless the air monitor indicates that vapors, mists, and dusts would be below the applicable exposure limits. Follow manufacturers' instructions for the use of the respirator. The International Agency for Research on Cancer (AIRC) has reclassified styrene in Group 2B as "possibly carcinogenic to humans". This new classification is not based on new health information related to humans or animals, but on a change in the classification system of the International Agency for Research on Cancer. The information on styrene and the research centre do not agree with the reclassification and published the following paper. "Recently published studies tracing 50,000 workers who were exposed to the high occupational level of styrene over a 45-year period showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed among the average worker) and no increase in styrene-related mortality.

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 flames. Lighting and other electrical systems in the workplace should be explosion-proof and shock-proof. Styrene vapors can ignite quickly. They are heavier than air and can concentrate in lower levels of mussels and in the workplace. General ventilation or source capture should be used to keep vapors well below the explosive limit for all air contaminants (vapors, mists, and dusts) below the current exposure limits allowed for mixing, applying in the workplace.

Most polyester/vinyl ester resins contain dangerous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, consult the product safety data sheet (identified by the product identifier) prior to use. They can be obtained from your representative otherwise you just have to contact us: 819 477-4516

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

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944 X Series Gelcoat

WITHDRAWAL AND LIMITS OF LIABILITY

The products sold above should meet the specifications upon delivery. The manufacturer's specifications may be subject to change at any time without notice to the buyer. Buyer must give Seller written notice of all defects covered by this warranty (with full details, including product code, description, lot number and date of purchase) within 30 days of the date of delivery of the product or prior to the expiration of useful life or delivery, the one that comes first.

The warranty described above should stand in lieu of any other warranty, expressed, or implied including, but not limited to, a warranty of sale or implied for any specific or particular application; there is no warranty that applies other than specified on the label.

Buyer's sole and exclusive remedy against Seller will be replacement of the product or refund of purchase price unless Seller sees that a condition has not been met. No other conditions (including, but not limited to, accidental or consequential damages for loss of profit, lost sales, injury to a person or property or any other accidental or consequential loss) should be available to the buyer.

The sole purpose of this exclusive condition is to provide the buyer with the replacement of the product or a refund of the purchase price of the product if a defective product is found. This exclusive condition should not be deemed to have failed its essential purpose as the seller is able to replace defective products or refund the purchase price.

The information contained above is accurate and is to the best of our knowledge. The final determination of the suitability of the material for the intended use, the manner of use and/or the suggested use if infringes a patent is the sole responsibility of the buyer.

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