

POLYCOR[®]

944 Series

Isophthalic Gel Coats

Copyright 1989-2003

Description

POLYCOR[®] white gel coat 944W005 is a high quality coating developed for use in the fiberglass industry. This gel coat yields a quality finish, with good chemical/water resistance, gloss retention, weatherability, and resiliency. An un-tinted straight white gel coat, 944W005 is in the color match "C" category, meaning that batch-to-batch color variation can occur.

944W005 is formulated to meet the rigid requirements of transportation, boating, and sanitary applications. It has enabled customers to meet and surpass all requirements of the American National Standard for plastic bath tubs, shower receptors and shower stalls, ANSI Z124.1, .2 – 1995, Sec. 6.1.1.

POLYCOR[®] 944W005 is ready to use, easy to spray, sag resistant, fast curing and requires only the addition of the proper amount of an appropriate methyl ethyl ketone peroxide to cure.

Typical Properties (at 77°F)

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

Test	Value
Viscosity, Brookfield RVF #4 Spindle @ 4 rpm	16,000 – 20,000 cps
Thixotropic Index (2/20)	5.5 – 7.5
Flash Point	82°F
Hazardous Air Pollutants	See MSDS for amounts
Volatile Organic Compound	34.8 – 36.8%
Weight per Gallon	10.7 – 11.0 pounds
Gel Time at 77°F with 1.8% MEK	10.5 – 16.5 minutes

944 Series - Copyright 1989-2003

Lay-up Time	45 - 60 minutes
Sag Resistance	Good at 20 mils
Hide	Complete at 8 -13 mils
Color Match	CMC maximum DE of 1 unit

Refer to the MSDS for handling precautions. MSDS's will be supplied automatically with the first order for material, and are available by product code upon request from CCP's Regulatory Department, or on CCP's website at www.ccpcompositesus.com.

Application

CCP 944 gel coats are generally formulated for both airless and conventional spray applications. Brushing or rolling is not recommended. Refer to PB-16 (Application Guide) and PB-3 (Equipment Selection) Bulletins for additional specific recommendations.

CCP recommends a gel coat delivery rate of no more than 2.5 pounds per minute with conventional air atomized equipment, and no more than 4 pounds per minute with airless equipment.

Batch mixing is recommended to achieve the best catalyst mix and cure because even with the equipment properly calibrated, potential problems can occur due to poorly atomized catalyst; surging problems (gel coat or catalyst); poor tip alignment (catalyst to gel coat mix); contamination; and poor application procedures, which will quickly negate all benefits of calibration. Equipment (and application procedures) must be monitored on a routine basis to ensure proper application and cure of the gel coat. Ask about and adhere to all equipment manufacturers' recommendations.

Avoid over-spray settling on mold surfaces by beginning spray pattern closest to the vapor/air exhaust and progressing to the opposite mold end. Maintain recommended spray distances from the mold surface. Closer spray distances or larger tips may be required in hot weather to avoid dry spray buildup.

For best overall performance properties, a wet film thickness of 18±2 mils is recommended as ideal. Films less than 12 mils may not cure properly, may be hard to patch, have more print-through, and are more susceptible to water blisters. Films above 24 mils may pre-release, trap porosity, or crack, and are more subject to weathering discoloration. If water blisters are of great concern (boat hulls), 20 to 24 mils would perform better than a thinner film, but resistance to sag, porosity and cracking could suffer. If weathering (yellowing from sunlight, decks) is of great concern, then thinner films (12 to 16 mils) would perform better, but patchability, and resistance to print-through and blistering could suffer.

Proper mold maintenance is important. Although 944W005 has excellent patching properties, keeping repair work to a minimum is always desirable. Sanding and compounding can hasten the chalking and loss of gloss of all gel coats.

944 Series - Copyright 1989-2003

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 ATOFINA Luperox[®] DDM-9 catalyst. Norac NOROX MEKP-9 and NOROX MEKP-9H, Akzo Nobel CADOX L-50a and CADOX D-50 are expected to yield similar performance. ATOFINA Luperox[®] DHD-9, NOROX MEKP-925 and NOROX MEKP-925H, and Crompton HP-90 may yield slightly shorter gel and cure times.

The catalyst level should not exceed 3% or fall below 1.2% for proper cure. Recommended range is 1.2% to 3.0% with 1.8% at 77°F being ideal. Normally, the gel coat film is ready for lamination in 45 to 60 minutes. This time element is dependent on material temperature, room temperature, humidity, air movement, and catalyst concentration. Special fast-cure versions are available but must be requested. These products offer lay-up times of 30 minutes or less, depending on gel times. Fast cure products have shorter stability and should not be inventoried over 45 days.

These products (standard or fast-cure) should not be used when temperature conditions are below 60°F, as curing may be adversely affected.

Caution

Isophthalic gel coats are not compatible in the liquid state with ISO/NPG gel coats or ISO/NPG resins. Spray and pumping equipment must be completely clean of these gel coats or resins before isophthalics can be used.

Do not over-mix gel coats. Over-mixing breaks down gel coat viscosity, increasing tendencies to sag, and causes styrene loss, which could contribute to porosity. Gel coats should be mixed once a day for 10 minutes. The gel coat should be mixed to the sides and bottom of the container with the least amount of turbulence possible. 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 a recommended methyl ethyl ketone peroxide, to this product without the advice of a representative of CCP Composites US.

Storage Limitations

Uncatalyzed, 944W005 has a usage life of 90 days from date of shipment when stored at 73°F or below, in a closed, factory sealed, opaque container, and out of direct sunlight. The usage life is cut in half for every 20°F over 73°F. Totes of product can have even shorter usage life--66% of that for drums.

944 Series - Copyright 1989-2003

**CCP COMPOSITES US
WARRANTIES, DISCLAIMERS AND LIMITATION OF LIABILITY (Rev. 10/11)**

Seller warrants that: (i) Buyer shall obtain good title to the product sold hereunder, (ii) at Shipment such product shall conform to Seller's specifications; and (iii) the sale or use of such product will not infringe the claims of any U.S. patent covering the product itself, but Seller does not warrant against infringement which might arise by the use of said product in any combination with other products or arising in the operation of any process. **SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, EVEN IF THAT PURPOSE IS KNOWN TO SELLER. ANY APPLICATION INFORMATION OR ASSISTANCE WHICH SELLER MAY FURNISH TO BUYER IS GRATUITOUS AND SHALL IN NO WAY BE DEEMED PART OF THE SALE OF PRODUCT HEREUNDER OR A WARRANTY OF THE RESULTS OBTAINED THROUGH THE USE OF SUCH PRODUCT.**

Without limiting the generality of the foregoing, if any product fails to meet warranties mentioned above, Seller shall at Seller's option either replace the nonconforming product at no cost to Buyer or refund the Buyer the purchase price thereof. The foregoing is Buyer's sole and exclusive remedy for failure of Seller to deliver or supply product that meets the foregoing warranties. Seller's liability with respect to this contract and the product purchased under it shall not exceed the purchase price of the portion of such product as to which such liability arises. Seller shall not be liable for any injury, loss or damage, resulting from the handling or use of the product shipped hereunder whether in the manufacturing process or otherwise. In no event shall Seller be liable for special, incidental or consequential damages, including without limitations loss of profits, capital or business opportunity, downtime costs, or claims of customers or employees of Buyer. Failure to give Seller notice of any claim within thirty (30) days of shipment of the product concerned shall constitute a waiver of such claim by Buyer. Any product credit received by Buyer hereunder, if not used, shall automatically expire one (1) year from the date the credit was granted. Notwithstanding any applicable statute of limitations to the contrary, any action by Buyer relation to a claim hereunder must be instituted no later than two (2) years after the occurrence of the event upon which the claim is based. All the foregoing limitations shall apply irrespective of whether Buyer's claim is based upon breach of contract, breach of warranty, negligence, strict liability, or any other legal theory.

944 Series - Copyright 1989-2003

COMPOSITES SAFETY INFORMATION (October 2011)

All sales of products manufactured by CCP Composites US (CCP), and described herein, are made solely on condition that CCP's 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 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 ingest or breathe vapor, spray mists or dusts caused by applying, sanding, grinding and sawing products. Wear an appropriate NIOSH/MSHA approved and 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) reclassified styrene as Group 2B, "possibly carcinogenic to humans." This revised classification was 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 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 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 products may contain additional hazardous ingredients. To determine the hazardous ingredients present, their applicable exposure limits and other safety information, read the Material Safety Data Sheet for each product (identified by product number) before using. If unavailable, these can be obtained, free of charge, from your CCP representative or from: CCP Composites US, P.O. Box 419389, Kansas City, MO 64141-6389; 816-391-6053.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention.

Those products have at least two components that must be mixed before use. Any mixture of components will have hazards of all components. Before opening the packages read all warning labels. Observe all precautions.

Keep 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.

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