

DS-60B

POLYCOR[®] ISO/NPG GEL COATS FOR THE SWIMMING POOL INDUSTRY

960-L-293SW Medium Blue

960-L-826SW Aqua

960-LF-214SW Light “Baby” Blue

960-W-016SW White

DESCRIPTION:

These POLYCOR[®] gel coats are ISO/NPG products formulated for the swimming pool industry.

These gel coats are intended and recommended only for the original manufacture of swimming pools; they should not be used for post application (other than patching on the original units).

These gel coats are not recommended for the manufacture of spas or saunas.

These POLYCOR[®] gel coats meet the EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Swimming Pool Manufacturing.

POLYCOR[®] ISO/NPG series gel coats are formulated to yield high performance against water and certain chemicals. This series is made with *neopentyl glycol* (NPG). CCP swimming pool gel coats utilize this unique glycol to provide a gel coat that surpasses standard isophthalic gel coats in its resistance to water blistering.

These gel coats contain *isophthalic* acid as a co-component rather than *orthophthalic* acid. Isophthalic acid is used (rather than orthophthalic) to compliment the NPG for better end use properties. These gel coats provide durable, reduced-maintenance products.

CCP gel coats have enabled customers to meet certain requirements of the American National Standard for plastic bathtubs, shower receptors and shower stalls, IAPMO/ANSI Z124.1 .2-2005, Section 6.1.

These gel coats require only the addition of the proper amount of the appropriate methyl ethyl ketone peroxide to cure.

05/07 (Supersedes 10/05)

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COOK COMPOSITES AND POLYMERS

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www.ccponline.com

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 will 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.

<u>Test</u>	<u>Value</u>			
	960-L-293SW	960-L-826SW	960-LF-214SW	960-W-016SW
Viscosity, Brookfield RVF #4 Spindle @ 4 rpm	9,000 - 14,000	9,000 - 14,000	9,000 - 14,000	16,000 - 19,000
Thixotropic Index (2/20)	5.5 - 7.5	5.5 - 7.5	5.5 - 7.5	5.5 - 7.5
Flash Point	82°F	82°F	82°F	82°F
Hazardous Air Pollutants	See MSDS for Amounts			
Volatile Organic Compounds	38 - 40%	38.4 - 40.4%	37.3 - 39.3 %	36.2 - 38.2%
Weight per Gallon (pounds)	9.85 - 10.15	9.84 - 10.14	9.97 - 10.27	10.29 - 10.59
Gel Time at 77°F with 1.8% MEK- Peroxide (minutes)	10.5 - 16.5	10.5 - 16.5	10.5 - 16.5	1.0 - 16.0
Lay-up Time (minutes)	45 - 60	45 - 60	45 - 60	45 - 60
Sag Resistance	Good at 20 mils	Good at 20 mils	Good at 20 mils	Good at 20 mils
Hide (complete at)	6 - 11 mils	8 - 13 mils	8 - 13 mils	6 - 11 mils
Color Match (CMC max DE)	0.3	0.3	0.3	1.0

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 and at www.ccponline.com.

APPLICATION:

Although these gel coats are formulated as low VOC products, it should be noted that over-atomization of a gel coat means more volatilization (more overspray, more monomer and solids loss, more odor). It is important then to strive for good atomization (good fan pattern, no fingers or tails, uniform particle size of about 1/16") while maintaining lowest pump and atomizing pressures as practical.

The inherent chemistry of these gel coats does not allow for the same ease of *fluid movement* experienced with other gel coats. Adjustments may have to be made for pump pressure, delivery rate, tip size and atomization. CCP does not recommend fluid lines longer than 50 feet, or pumps smaller than 20:1 ratio. In addition, these gel coats are more sensitive to cold temperatures than are other gel coats.

APPLICATION (continued):

Delamination can occur if the gel coat is left in the mold overnight without being laminated. It is essential that the gel coat at least be *skinned* within 8 hours of being sprayed.

These gel coats are formulated for airless as well as conventional spray application. Neither brushing nor rolling is 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.

For optimum results, uniform catalyst mix must be achieved. 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. The equipment (and application procedures) must be monitored on a routine basis to ensure proper application and cure of the gel coat. Inquire about and adhere to all equipment manufacturers' recommendations.

For best overall end performance properties, a wet film thickness of 20 to 24 mils is recommended as ideal, then 18 to 22 mils of vinyl ester barrier coat, followed by vinyl ester skin coat. Films less than 12 mils may not cure properly, may be hard to patch, have more print-through, and be more susceptible to water blisters. Films above 24 mils may pre-release, trap porosity, crack and are more subject to weathering discoloration.

In addition to the low VOC chemistry, the lower viscosity and thixotropic index result in both less overspray and less monomer loss, but the total film thickness should be sprayed in multiple passes (at least 3 at 18 mils, 4 at 20 to 24 mils). More rapid film build could result in some sag and porosity.

Proper mold maintenance is important. Although these gel coats have excellent patching properties, minimal repair work is always desirable. Sanding and compounding can hasten the chalking and loss of gloss of all gel coats.

Avoid overspray settling on mold surfaces by beginning the spray pattern closest to the vapor/air exhaust and progressing to the opposite mold end. Maintain recommended spray distances from the mold surface.

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 Arkema 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. Arkema Luperox[®] DHD-9, NOROX MEKP-925 and NOROX MEKP-925H, and Chemtura HP-90 may yield slightly shorter gel and cure times.

CURE (continued):

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 90 minutes. This time element is dependent on material temperature, room temperature, humidity, air movement, and catalyst concentration. If lay-up time is checked by the finger method, slight pressure and rubbing should be used.

These products should not be used when temperature conditions are below 60°F, as curing may be adversely affected.

CAUTION:

These gel coats are not compatible in the liquid state with isophthalic gel coats or resins. Spray and pumping equipment must be completely clean of these products before they 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 mixing to the sides 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 potential for water or oil contamination.

Do not add any material, other than a recommended methyl ethyl ketone peroxide, to these products without the advice of a representative of the Cook Composites and Polymers Co. **Under no circumstances should glycerin be added.**

STORAGE LIMITATIONS:

Uncatalyzed, these gel coats have a usage life of 120 days from date of shipment from CCP 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° over 73°F. Totes of product can have even shorter usage life (66% of that for drums).

SHIPPING:

Shipment is normally made in open head 55-gallon drums.

DATA SHEETS/MSDS:

CCP data sheets and MSDS's are available in printable format at www.ccponline.com.

TEF 05/07

POLYESTER SAFETY INFORMATION
(Revised 09/00, supersedes 06/92)

All sales of products manufactured by Cook Composites and Polymers Co. (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 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 ingest or breathe vapor, spray mists or dusts caused by applying, sanding, grinding and sawing polyester 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) 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.

If the label or Material Safety Data Sheet indicates lead or lead chromate is present, do not use on toys, furniture or surfaces that might be chewed by children. Wash hands thoroughly after using and before smoking or eating. Long-term overexposure by inhalation or ingestion of mists and dusts from products containing lead compounds and lead chromate can cause harmful effects to the urinary, blood, reproductive and nervous systems and may create risk of cancer. Use a respirator as explained in Paragraph 4 of this Information Sheet.

Some polyester 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, 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.

Polyester 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 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

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

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WARRANTY, DISCLAIMER, AND LIMITATION OF LIABILITY

(Rev. 12/02, supersedes 06/01)

Seller warrants to Buyer that, at the time of shipment, the products sold hereunder shall meet Seller's then-applicable specifications for such product. Seller's specifications may be changed at any time without notice to Buyer. To assert a warranty claim, Buyer must give Seller notice in writing of the alleged failure of the product to conform to the applicable specifications (together with all identifying details, including the product code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product to Buyer and, upon Seller's request, shall return the alleged nonconforming product. The failure of Buyer to assert a claim within such period shall be an admission by Buyer and conclusive proof that such product is in every respect as warranted and shall release Seller from all claims for damage or loss in respect of such product. **THE WARRANTY DESCRIBED HEREIN SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.** Without limiting the generality of the foregoing, the warranty provided above does not extend to damage, loss, or injuries caused by or in any way related to misuse, misapplication, abuse, improper handling or storage of the product; normal weathering (including but not limited to cracking and blistering); or any cause beyond the control of Seller. Seller further disclaims any and all liability for Buyer's decision to modify, amend or reject any recommendation set forth herein. Seller does not warranty or guarantee that implementation of any of the recommendations set forth herein constitute compliance with any federal, state or local laws or regulations. Final determination of the suitability of the product for the use contemplated, the manner of use, and whether the use infringes any patents is the sole responsibility of Buyer.

Buyer's sole and exclusive remedy against Seller shall be, at Seller's option, the replacement of the nonconforming product or refund of the purchase price. **NO OTHER REMEDY SHALL BE AVAILABLE TO BUYER.** In no event shall Seller be liable for lost profits, lost sales or business opportunity, downtime, claims of Buyer's customers, injury to person or property, or any incidental, consequential, punitive, or special damages, or for labor or other costs in connection with testing, replacing, or returning product, whether such claim is made in contract, tort, strict liability, negligence or any other legal theory.