POLYCOR®

945CJ007, 965CJ036
Tooling Gel Coat Patching Thinners

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Description

POLYCOR® 945CJ007 and 965CJ036 are non-filled, non-thixotropic based resin patching thinners developed specifically for patching and surfacing tooling gel coat molds and plugs. POLYCOR® 945CJ007 was developed for use with POLYCOR® 945 Series polyester tooling gel coats POLYCOR® 965CJ036 was developed for use with the POLYCOR® 945 and 965 Series vinyl ester tooling gel coats.

POLYCOR® 945CJ007 and 965CJ036 dilute the gel coat for better spray characteristics. They do not contain a surfacing agent, which allows for their use in multiple applications. Since they are composed of the same base material as their respective tooling gel coats, the thinner/gel coat mix can be any ratio desired. A suggested starting point is 50:50.

Features and Benefits

- Low color to provide an excellent color match between the gel coat and patch
- Low viscosity for easier spray and less orange peel
- Long working time (appropriate type), advantageous for repairing large defects and for mold resurfacing
- Good surface cure, which minimizes sandpaper “gumming”
- Excellent sanding and buffing due to less orange peel

Typical Properties (at 77°F)

Typical properties of POLYCOR® 945CJ007 and 965CJ036 are shown below. 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 conditions, temperature changes, age, and testing equipment (type and procedure) can each have a significant effect on the test results. Patching thinner with properties outside of these ranges can perform acceptably. Final suitability of these products is in the end use performance.

Test	945CJ007	965CJ036
Flash Point	82°F	88°F
Weight per Gallon	8.87 lbs.	8.68 lbs.
Viscosity (1)	93.0 cps	140 cps
Gel Time	19.0 minutes (2)	18.5 minutes (3)

(1) Brookfield LV #2 Spindle @ 60 rpm
(2) 100 g mass at 77°F, 1.8% Arkema Luperox® DDM-9
(3) 100 g mass at 77°F, 2.0% United Initiators Norox® MEKP-925

Application

Always shake or mix these products before using. This assures a uniform mixture that will perform consistently, from the first patch to the last.

Dilute the appropriate tooling gel coat with POLYCOR® 945CJ007 or 965CJ036 patching thinner. A suggested starting ratio is 50:50, although this ratio can be altered to suit individual needs.

NOTE

Tooling gel coats are formulated with low hide. Further dilution with these products (or any other patching material) will further reduce the hiding power of the tooling gel coat.

For the final surface coat, a PATCHAID® or wax solution (POLYCOR® 970C940 or 970C949) can be added to the final mix or an oxygen barrier (such as PVA) can be sprayed on top of the final coat. Refer to the data sheets for those products.

Polynt Composites tooling gel coats are formulated for air atomized (pot gun) and airless air-assist spray applications. Brushing and rolling are not recommended. When patching, best results are obtained using siphon or pressure pot spray equipment and batch mixing.

Cure

The cure rate of POLYCOR® 945CJ007 and 965CJ036 patching thinners depends on a number of factors including the product's age, temperature, catalyst type, catalyst level and ambient humidity. For these reasons, we recommend that you check the cure rate in your plant.

POLYCOR® 945CJ007 patching thinner is quality control tested using Arkema Luperox® DDM-9. United Initiators Norox® MEKP-9, United Initiators Norox® MEKP-9H, Akzo Nobel CADOX® L-50a and CADOX® D-50 are expected to yield similar performance. Arkema Luperox® DHD-9, United Initiators Norox® MEKP-925 and United Initiators Norox® MEKP-925H, and Chemtura Hi-Point® 90 may yield slightly shorter gel and cure times.

POLYCOR® 965CJ036 patching thinner is quality control tested using United Initiators Norox® MEKP-925. Arkema Luperox® DHD-9, United Initiators Norox® MEKP-925H, and Chemtura Hi-Point® 90 are expected to yield similar performance. Arkema Luperox® DDM-9, United Initiators Norox® MEKP-9, United Initiators Norox® MEKP-9H, Akzo Nobel CADOX® L-50a and CADOX® D-50 may yield slightly shorter gel and cure times.

The catalyst level should not exceed 2.4% or fall below 1.2% for proper cure. A catalyst level of 1.8% at 77°F is considered ideal.

For best results, it is recommended that the temperature be above 70°F.

A typical patch will be ready to re-coat or sand in approximately 1 to 2 hours under ideal conditions. Factors that will affect this time include: age of materials; gel and cure of the tooling gel coat used; temperature of air, part, and material; humidity; air movement; and catalyst, both amount and type.

When using a heat source, such as a heat gun or infrared lights, to speed cure:

- Use the heat source only where it will not be a fire hazard. Electrical appliances are an ignition source around flammable materials (including products that contain acetone and styrene).
- The spray patch must be gelled and partially cured before heat is applied; wait approximately 15 to 30 minutes. Un-gelled patches are a fire hazard. In addition, the heat source will start to gel and cure from surface down. This can produce unacceptable results.
- Heat will speed up cure, but it must be done properly for best results. The patch needs to be heated slowly and evenly.
    - If heated too rapidly, only the surface will be cured. This can result in unacceptable patches.
    - If the temperature is too high, the color of the patch may be unacceptable. Generally, surface temperature should be slightly warm to the touch. This is about 120°F, which is adequate to speed the cure.
- Use of heat can cause post cure, then additional surface distortion and fiber pattern near the patched area.

Caution

Catalyzed masses become very hot as they cure. Polynt Composites recommends that excess catalyzed patching materials be placed in a bucket of water.

Do not add any material, other than the recommended organic peroxide, to these products without the advice of a representative of the Polynt Composites.

Related Products

POLYCOR® 945CJ007 patching thinner is compatible with any polyester tooling gel coat. Refer to the data sheets for Polynt Composites' 945 Series polyester tooling gel coats.

POLYCOR® 965CJ036 patching thinner is compatible with Polynt Composites' 945 and 965 Series vinyl ester tooling gel coats. Refer to the data sheets for the following Polynt Composites products: 945 Series vinyl ester tooling gel coats; 965 Series vinyl ester tooling gel coats; and 965BK228 Thermoforming tooling gel coat.

Storage

Uncatalyzed, POLYCOR® 945CJ007 and 965CJ036 have a shelf life of 90 days from the date of manufacture when stored at 73°F or below in closed, factory sealed, opaque containers and out of direct sunlight. The shelf life is cut in half for every 20°F over 73°F.

SDS / Data Sheets

SDS and data sheets can be obtained by contacting your Polynt representative or Polynt Customer Service at 800-322-8103.

POLYNT SAFETY INFORMATION

All sales of products manufactured by Polynt Composites USA Inc. and described herein, are made solely on condition that Polynt Composites USA 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 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 12th Report on Carcinogens issued by the National Toxicology Program lists styrene as a “reasonably anticipated” carcinogen, but the Report cautions that the NTP listing does not mean that styrene presents a risk to persons in their daily lives. The Styrene Information and Research Center does not agree with the classification as it did not include a review of all available data. SIRC states: “HHS included styrene in the 12th RoC despite the fact that European Union regulators have determined styrene does not represent a human cancer concern. E.U. scientists reviewed the full styrene database, weighing all of the available data in reaching their conclusion.”

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 workplace 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 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 or from: Polynt Composites USA Inc., 99 East Cottage Avenue, Carpentersville, IL 60110, 800-322-8103.

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.

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LIMITED WARRANTY.

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