PRODUCT BULLETIN

November 2023

FC PATCHAID® 970C961

Fast Cure Spraycure™

DESCRIPTION

Fast Cure (FC) PATCHAID® 970C961 Spraycure™ is a stabilized monomer solution designed to improve the processing properties of gel coat used for patching. When mixed in the gel coat, FC PATCHAID® 970C961 thins the gel coat for easier spray and less orange peel. It also improves patch cure.

FC PATCHAID® 970C961 can also be used as an overspray to seal the open side of spray patches for improved patch cure and sandability.

NOTE: Because FC PATCHAID® 970C961 contains wax, it should not be added to clear gel coats as it could lead to hazing the clear gel coat film.

BENEFITS & FEATURES

- Excellent color match between the patch and gel coat
- Low viscosity for easier spray and less orange peel
- Fast curing time and quicker repairs
- Excellent sanding and buffing due to good cure and smoother surface
- Minimized sandpaper "gumming"

Unlike other Polynt PATCHAID® products, FC PATCHAID® 970C961 does not contain any UV stabilization additives. FC PATCHAID® 970C961 should only be used at low levels, < 10%. When used at low levels FC PATCHAID® 970C961 will not significantly dilute the UV stabilization of the gel coat.

NOTE: Patching materials for open mold processing are exempt from the MACT standard. The Environmental Protection Agency National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing (NESHAP), 40 CFR Part 63, lists exemptions in subpart 63.5698, paragraph (d) (2) which states: "Pigmented, clear, and tooling gel coat used for part or mold repair and touchup. The total gel coat materials included in this exemption must not exceed 1 percent by weight of all gel coat used at your facility on a 12-month rolling-average basis."

PROPERTIES – LIQUID

Property[1]	Unit	FC PATCHAID® 970C961
Viscosity	-	Water thin
Flash Point	°C/°F	18/65
Volatile Organic Compounds	%	96.1
Weight per Gallon	lbs/gal	7.7

1) All properties at 25°C/77°F unless otherwise noted

SPRAY REPAIR PROCEDURE

No matter how much care is taken in producing parts, some will have defects and require repair. The source of defects should always be investigated to determine if they can be prevented. Defect prevention is nearly always more cost effective than continuously performing repairs. In addition, determine if a repair is absolutely needed. Repairing the exterior coating will result in some compromise of its appearance and field performance (weathering, blush resistance, etc.). The level of compromise depends on the type of coating and the quality of repair. See Polynt's Composites Applications Guide for general patching and finishing procedures.

1. Identify the area to be repaired. Locating repair edges at design lines, break lines or other part features that visually break-up the part surface can help hide patches.

2. Prepare the area to be patched by sanding with 150-grit to 320-grit sandpaper. Remove sanding dust. Wipe the area with ethyl acetate, methyl ethyl ketone or other suitable solvent to eliminate wax, oil or other contaminants. Be sure that the area to be patched is clean and dry before proceeding. Mask the area surrounding the patch area to prevent overspray from accumulating on part.

3. Mix the FC PATCHAID® 970C961 before using to ensure that the material mixture is uniform. Note: If the temperature of FC PATCHAID® 970C961 drops below 55°F the solution will separate and must be reincorporated prior to use. To reincorporate, heat FC PATCHAID® 970C961 to 95-100°F and mix thoroughly.

4. Obtain a sample of the same batch of gel coat that was used to fabricate the part being repaired. Failure to use the same batch will almost certainly result in an off-color patch. Make sure the gel coat has been well mixed prior to obtaining the sample. Mixing is needed to obtain a good color match and also for spray properties. See the gel coat technical datasheet for mixing instructions.

5. Add only enough FC PATCHAID® 970C961 to achieve a workable viscosity. Recommended levels are 2-5%. Do not exceed 10%. Adding higher levels of FC PATCHAID® 970C961 may reduce hide and cause sagging on vertical surfaces. Catalyze the patch mixture with 2-3% MEKP peroxide.

6. Spray with a Binks #115, DeVilbiss EGA touchup gun, or aerosol canister. For the touchup gun, use 25 to 50 psi to achieve acceptable atomization. Equipment requirements will vary with the reduction.

7. Some types of gel coats colors or clears require that the patch open-side be sealed to enhance the cure and achieve a tack-free surface. Use uncatalyzed FC PATCHAID® 970C961 for this purpose. Apply the FC PATCHAID® 970C961 using an aerosol canister while the patch is still wet (within 5-10 minutes of the patch being sprayed). Keep the area surrounding the patch masked-off when applying the FC PATCHAID® 970C961. The PATCHAID® 970C961 can reduce the gloss or cause streaking in the surrounding gel coat.

   Note: When used as an overspray, FC PATCHAID® 970C961 does not require catalyst. For it to provide an efficient seal, it must be sprayed as a film rather than a dust coat. Do not flood it on or spray it too thick.

8. Allow the patch to cure before sanding. Cure time will vary with color and gel coat. Fast cure gel coats may be ready for sanding in 30-60 minutes. Others may require longer cure. The best test for cure is sanding the patch. If the sandpaper becomes gummed or loaded, then the patch needs additional cure time. Another check for film cure is the "thumbnail" test. If the patch has not cured sufficiently, a thumbnail pressed into the patch will leave an impression. Patch cure may be accelerated by using a heat gun or infrared lights. For best results:

    a. Wait for several minutes after spraying the patch before applying heat. Heat the patch slowly and evenly. If heated too fast, only the surface will be cured, and the patch will be unacceptable.

    b. Maintain the surface temperature between 100°F and 120°F. At this temperature, the surface should feel slightly warm to the touch. As described above, cure time will vary with color and gel coat. One hour at temperature should be sufficient for most gel coats.

       Note: Do not overheat the part. If the temperature is too high, the color of the patch may be unacceptable. High temperatures can also cause surface distortion and fiber pattern near the patched area.

    c. Let the patch cool to room temperature before sanding and buffing.

    Note: Do not use electrical appliances around flammable materials, including acetone and styrene-containing products.

9. Sand the patch using a sequence of increasingly finer grit sandpapers. A recommended sequence is 400-grit, 600-grit and 800-grit. For best results sanding should be done by hand with the 400-grit step done dry to remove any orange peel and the 600-grit to 800-grit steps done wet. A dual action sander can also be used. Wipe off sanding dust in between each step. After sanding with 800-grit sandpaper, use water to remove all loose dust and grit.

10. Buff gloss back using appropriate polishing compounds.

CURE

Spray patch mixtures (gel coat mixed with FC PATCHAID® 970C961) require the addition of MEKP peroxide for cure. Typical MEKP peroxides include Arkema Luperox® DDM-9, United Initiators NOROX® MEKP-9 and NOROX® MEKP-9H, and Akzo Nobel CADOX D-50. These peroxides are expected to yield similar performance. Peroxides such as Luperox® DHD-9, United Initiators NOROX® MEKP-925 and NOROX® MEKP-925H, and Akzo Nobel CADOX L-50a may also be used, but gel times will vary.

The recommended MEKP peroxide range for patching is 2.0% to 3.0%. A typical patch will be ready to sand in 30 minutes to two hours under ideal conditions. However, sanding times can vary greatly depending on the cure characteristics of the gel coat. Patches made with short gel time gel coats will require shorter cure times prior to sanding than longer gel time gel coats.

Additional factors affecting sanding time include: level of FC PATCHAID® 970C961; age of materials; temperature of air, part and material; humidity; air movement; and catalyst amount and type.

Do not make patches when temperature conditions are below 70°F, as curing may be adversely affected.

APPLICATION

Refer to Polynt's Composites Applications Guide ("Cookbook") for equipment and application recommendations. Each user must determine the suitability of this product to his/her particular mode of operation and intended end-use application. A Polynt representative will be available to assist in the proper selection of all Polynt products available for commercial use.

CAUTION

Always mix before using. This assures a uniform mixture that will perform the same from first patch to last.

Do not add any material other than gel coat and a recommended MEKP peroxide to these products without the advice of a representative of Polynt Composites.

If FC PATCHAID® 970C961 has been allowed to become cooler than 70°F, it could become cloudy and, at this point, would no longer be a homogenous solution. The material should be warmed to 76-78°F and returned to its original appearance before using.

Secure the lid after each use. Do not punch vent holes in the can lid. An open or vented container will lose styrene and pick up dirt. Both can have negative effects on patches.

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

SHELF LIFE & STORAGE

The shelf life of un-initiated FC PATCHAID® 970C961 is 90 days from the date of manufacture from Polynt. To maximize usage life and maintain optimum properties, resins and gel coats should be stored in the original closed container at temperatures below 23°C/73°F and away from ignition sources and sunlight. Keep containers sealed to prevent moisture pick-up and monomer loss. The shelf life of FC PATCHAID® 970C961 is cut in half for every 20°F over 73°F.

SAFETY & WARRANTY

To receive a copy of our safety and warranty information, please email safetyandwarranty@polynt.com.