

GEL COAT: Basic Information

Gel coat is a polyester resin specially formulated with thixotropic ingredients for increased viscosity and non-sag properties. It incorporates pigments for desired color and contains additives for controlling flow-out, gel and cure times. Most high quality marine gel coats use ISO/NPG (Isophthalic/Neopentyl Glychol) resins, which are higher quality polyesters. They are stronger and more durable than standard polyester resins (orthophthalic).

Gel coat is best applied by spray application with a pressure pot or catalyst injection system. Gel coat also can be applied with a standard paint gun with primer nozzle (70-80 thousandths) at 40-50 psi or Preval sprayer. Make sure that the catalyzed gelcoat does not set up inside the sprayer. The sprayer needs to be cleaned with acetone before the gel coat gels. The gel time is typically 17 to 20 minutes. Gel coat can be also applied with a brush or a roller.

Standard polyester resin should not be used as a gel coat, because it is not a coating. Standard resin does not have the same ingredients as gel coat and has very little strength on its own. Standard polyester resin must be used in conjunction with a fiberglass material to reinforce the resin for structural integrity.

TYPES OF EVERCOAT POLYESTER GELCOAT MATERIALS:

PREMIUM LAMINATING GEL KOTE (105673, 105675, 105676, 105677) – A premium quality laminating polyester gelcoat that remains tacky between layers for easy re-coating. This air-inhibited product requires the use of a Mold Release agent (105685) to seal off the air and ensure cure to a hard surface when used as a final coat. This product is available in neutral (clear) and white colors. Available in pint, quart and gallon sizes.

ONE STEP FINISH GEL COAT (105670, 105671) – A premium quality finish polyester gelcoat that cures to a hard surface. This gelcoat does not require the use of a mold release, but needs to be sanded between the layers to ensure proper adhesion. This product is available in a white color only. Available in pint and quart.

POLYESTER GEL PASTE (100695) – A premium quality finish polyester gel paste that cures to a hard surface. This material can be used to fill deep gouges or fill in the spots where the gel coat is severely damaged. This formula is thicker than the gel coat, and is ideal for applications where material build is necessary. Available in a pint size.

POLYESTER GEL COAT APPLICATION PROCESS

Preparing The Surface

The surface must be dry and free of any debris, and as smooth as possible. The final gel coat layer will look only as smooth as the original surface was. Remove all paint, grease, oil, dirt or wax. Sand only affected area with coarse grit abrasive. Wipe area clean with acetone and allow to dry sufficiently.

Mixing the product

If you desire to tint the gel coat with Evercoat Coloring Agents, mix the coloring agent into the gel coat prior to catalyzing the material. The coloring agent can be added at a maximum amount of 1 oz. per quart of gel coat. Adding color to white gel coat will produce a pastel color and adding color to neutral gel coat will produce a bold color.

After tinting, add the catalyst to the gelcoat in the following proportions:

12 drops of hardener per ounce of gel coat

11 cc of hardener per quart of gel coat

40 cc of hardener per gallon of gel coat

The product cannot be used if the ambient temperature is below 60 F. Mix only the amount that can be used in 10 minutes. Stir the mixture thoroughly for about 1 minute. Be sure to scrape sides and bottom of mixing container to insure a proper mix. Catalyzed mixture will begin to harden in about 20-30 minutes at 80F. Gel times will vary with temperature.

Gel coat can be thinned for spraying by adding 10 to 15 percent acetone. Do not increase the acetone amount beyond 15%, as it can retard proper cure and damage surface quality.

Application

Apply catalyzed gel coat to a thickness of approximately 20 mils or slightly above surrounding gel coat. Gel coat is best applied by spray application with a pressure pot or catalyst injection system. Gel coat also can be applied with a standard paint gun with primer nozzle (70-80 thousandths) at 40-50 psi or Preval sprayer. Make sure that the catalyzed gelcoat does not set up inside the sprayer. The sprayer needs to be cleaned with acetone before the gel coat gels. Gel coat can be also applied with a brush or a roller.

If a laminating gel coat is used (Evercoat Premium Gel Kote #105673, 105675, 105676, 106577), no sanding is required between the applied layers, as the gel coat cures to a tacky surface. However, for the final coat, an Evercoat Mold Release (#105685) must be sprayed onto the surface as the gel coat begins to gel. Mold Release agent creates a thin film on the surface of gel coat. This film seals off the air and allows the gel coat to cure to a hard finish. The Mold Release agent can be washed off with soap and water after 24 hours.

If a finish gel coat (Evercoat One Step Finish Gel Coat # 105670, 105671) or polyester gel paste (Evercoat Gel Paste #100695) is used, sanding is required between the layers. This finish gel coat cures to a hard surface, which needs to be roughed up to insure proper adhesion. Use 200-grit sandpaper to achieve a proper surface. The One Step Finish Gel Coat and / or Polyester Gel Paste do not require the use of a Mold Release agent to achieve a hard finish.

Once the gel coat is cured, sand with 400-grit sandpaper, then 600-grit or finer to achieve a smooth surface. For best results use a sanding block for finishing. Buff with a fiberglass rubbing compound, polish with a fine polishing compound and protect surface with a premium boat wax.

Clean-Up

Prior to full cure, gel coat can be removed with acetone. Be sure to put all tool into an acetone bath before the gel coat has time to harden.

TROUBLESHOOTING: POLYESTER GEL COAT

TINTING: Only color agents made specifically for polyesters should be used when tinting or coloring polyester gel coat. Any chemical foreign to the polyester can interrupt the curing process and damage properties. No more than 1 ounce of color agent to a quart of resin should be added. Tinting the resin may not yield an exact color match.

THINNING: Polyester gel coat can be thinned with acetone in the ratio of 10 to 15%.

COMMON PROBLEMS WITH POLYESTER RESIN APPLICATIONS

Problem: Gel coat is sticky all over after hardener has been mixed into the resin and proper cure time has elapsed.

CAUSE #1: Incorrect mixing ratio was used when combining gel coat and hardener. Use 12 drops of hardener per ounce of resin; 11 cc of hardener per quart of resin or 40cc of hardener per gallon of resin.

CURE: Scrape off as much of the uncured gel coat as you can. You can use acetone to clean the surface of any residue of uncured gel coat. Follow with an application of properly mixed gel coat.

Problem: Gel coat is still tacky (a finger leaves a fingerprint) after hardener has been mixed into the resin and proper cure time has elapsed.

CAUSE #1: The clear Hardener (Catalyst) that comes with the gel coat can lose some of its potency or power with time, and/or adverse storage conditions.

CAUSE #2: May have selected the incorrect gel coat for the project.

CURE: If a Premium Gel Kote (#105673, 105675, 105676, and 105677) was applied without the use of a Mold Release agent (#105685), the surface will remain tacky. This gel coat is a laminating gel coat, and it is designed to remain tacky between layers for easy re-coating. Apply another layer of the laminating gel coat and follow with a Mold

COVERAGE, CURE TIMES, APPLICATION SUGGESTIONS.

Product (Product Number)	Coverage per gallon @ 10 mils	Working Time / Apply Second Coat	Fully cured	Important Notes
Premium Gel Kote (#105673, 105674, 105676, 105677)	60 sq. feet per 1 gallon at 20 mils thickness (equals 20 sheets of paper)	17 minutes / 30 minutes	4 to 6 hours	Cures to a tacky finish for easy re-coating. Must use a Mold Release agent (105685) if a hard finish is desired.
One Step Finish Gel Coat (#105670, 105671)	50 sq. feet per 1 gallon at 20 mils thickness (equals 20 sheets of paper)	15 minutes / 30 minutes. Must sand between layers	4 to 6 hours	Cures to a hard finish. Must be sanded between layers to ensure proper adhesion.