

Key Features

- Spray or Brush Application
- Very High Gloss
- Easily Sanded
- Polishable to a High Gloss

Safety Information

- The product has a strong 'styrene' odour and should only be used in a well ventilated workshop, studio or garage.
- Polyester resin is flammable and should be kept away from any sources of ignition.
- MEKP on its own is a strong oxidising agent and should be kept away from combustible materials, especially paper and cardboard.
- Always wear protective gloves and eye protection when handling the liquid resin and catalyst.
- Read this document in conjunction with the SDS

Product Description

PCG Polyester Pattern-Coat™ Hi-Gloss is a special polyester coating resin designed to be applied over prepared Pattern-Coat™ Primer to give a glossier and more durable surface. The material hardens rapidly and can be easily sanded and polished to high gloss.

PCG Polyester Pattern-Coat™ Hi-Gloss can be mixed with PCp Polyester Pattern-Coat™ Primer to improve the surface gloss of the Primer. Mixing 1 part of PCG Polyester Pattern-Coat™ Hi-Gloss to 1 part of PCP Polyester Pattern-Coat™ Primer will give a significant improvement in gloss. Higher proportions of HI-Gloss to Primer will further improve the gloss. For optimum levels of gloss, PCG Polyester Pattern-Coat™ Hi-Gloss can be used on its own, as described below.

Recommended Uses

This PCG Polyester Pattern-Coat Hi-Gloss is the essential ingredient to effective, high quality pattern making. It is applied to a already smoothed pattern to help give a Hi-Gloss surface layer ready for taking a mould from.

How to Use

Catalyst Ratio

100 p.b.w PCG Polyester Pattern-Coat Hi-Gloss

2.0% MEKP Catalyst

Resin to catalyst ratios above are listed as parts by weight although parts by volume will effectively yield the same results.

You must maintain the correct overall ratio of resin to catalyst to ensure a proper cure. Failure to do so will result in a poor or only partial cure of the resin, greatly reduced mechanical properties and possibly other adverse effects.

Mixing Instructions

For most castings a mix-ratio of 2% is suitable. This would mean 100g of resin to 2g of catalyst.

In very warm conditions the catalyst ratio can be reduced to around 1% and in colder conditions or when casting very small parts the ratio can be increased to 2.5%. Do not over-catalyze the resin; doing so can cause the resin to exotherm (cure too quickly and get hot) which can crack or discolour the resin. If in doubt, use a lower catalyst ratio and be patient whilst the resin cures fully.

PCG Polyester Pattern-Coat™ Hi-Gloss can be applied directly to higher density modelboard, tooling block, MDF, wood, metal and some plastics.

Application

PCG Polyester Pattern Coat Hi-Gloss can be applied by brush for excellent results although spray application (see below) will mean less finishing work is required.

Gravity fed or siphon guns will require a line pressure of 40-60psi and a 1.5-2.0mm material nozzle. For pressure pot systems use a 10-20psi pot pressure and 40-60psi line pressure. It is important that the compressed air is free from impurities such as water and oil mist.

Directions for use

Ensure that the materials and the workshop are at a minimum temperature of at least 15°C; 20°C will give improved results. Curing should not be carried out at temperatures below 15°C.

When not using PCG Polyester Pattern-Coat™ Primer, patterns made from very low density foams (anything less than around 40kgs/m3) should be 'scrimmed' with a layer of polyester resin reinforced with a lightweight glass cloth before application of the Pattern-Coat™ Hi Gloss.

If applying directly to a wood or MDF pattern (no PCP Polyester Pattern-Coat™ primer) it is suggested to paint the pattern with a thin coat of catalysed polyester resin, allow to cure and then flat back any raised grain or texture, repeating if necessary, before application of PCG Polyester Pattern-Coat™ Hi Gloss.

To ensure a good bond to the pattern surface (including PCP Polyester Pattern-Coat™ Primer), key the surface initially with 180 grit abrasive paper and finish with a 240grit abrasive paper and remove any dirt or grease using acetone.

PCG Polyester Pattern-Coat™ Hi-Gloss should be mixed with MEKP Catalyst at a ratio of 2% catalyst (can be adjusted according to pot-life required and ambient temperature). If spraying, see notes on thinning below.

Flattening

Once cured (around 3hours, depending on ambient temperature) it can be wet-sanded and flattened using 120 then 240grit abrasive papers to start to develop the smooth accurate lines of the pattern. If necessary additional coats of the Primer can be applied and then flattened back until satisfactory.

Brush Application

PCG Polyester Pattern-Coat™ Hi-Gloss can be applied by brush for excellent results although spray application (see below) will mean less finishing work is required.

- Apply PCG Polyester Pattern-Coat™ Hi-Gloss to the prepared pattern using smooth brush strokes, attempting to leave an even layer or around 0.5mm.
- Allow the first application to cure to a 'B stage' (still tacky but firm) before applying a second layer of Hi-Gloss, as per the first layer.

Spray Application

Application by gelcoat spray gun will yield the best results and mean much less finishing work is required. When spraying, thin the PCG Polyester Pattern-Coat™ Hi-Gloss using pure acetone at a ratio of 25%.

- Start by spraying a 'mist coat' over the pattern. Wait 2-5 minutes for the solvents to evaporate.
- PCG Polyester Pattern-Coat™ Hi-Gloss can be applied wet-on-wet but sufficient time must be left between passes (2-5 minutes) to allow time for the solvent to evaporate. Around 5 passes should leave a sufficient thickness of Hi-Gloss to ensure the surface can be properly flattened.

Finishing

Once initial cure is reached (around 3hours depending on ambient temperature) Hi-Gloss can be wet-sanded using abrasive papers from 120grit (following brush application) or 400grit (following spray application) up to 1500grit.

The coating should then be allowed to cure fully (around 12hrs) before polishing by hand or machine polisher up to a stunning high gloss using appropriate polishing compounds.

Transport and Storage

Resin and hardener should be kept in tightly seal containers during transport and storage. Both the resin and hardener should be stored in ambient conditions of between 10°C (50°F) and 25°C (77°F). Polyester solutions contain volatile and flammable monomers such as styrene and should be handled and used in a well ventilated, flame proof area.

KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

If stored under the above conditions the resin and hardener will have a shelf life of 3 months, from the date of production.

Disclaimer

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

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