

TECHNICAL DATA SHEET

PRODUCT: PATTERN-COATTM PRIMER

DESCRIPTION

Pattern-CoatTM Primer is a high build, polyester coating material which allows the rapid surfacing of patterns constructed from wood, MDF, GRP etc. It can be applied wet-on-wet up to a thickness of 1.5mm in one operation without sagging or draining from vertical surfaces.

The material hardens rapidly and when cured can be easily sanded to a very smooth finish. It can then be polished to a surface glossy enough for many applications. Where higher gloss and/or hardness is required, it can itself be surfaced with Pattern-CoatTM Hi-Gloss. (See separate data sheet).

Pattern-CoatTM Hi-Gloss can be mixed with Pattern-CoatTM Primer to improve its surface gloss and gloss retention. Mixing 1 part of Pattern-CoatTM Hi-Gloss to 1 part of Pattern-CoatTM Primer will give a significant improvement in gloss; higher proportions of Pattern-CoatTM Hi-Gloss to Primer will further improve the gloss.

APPLICATION

Pattern-CoatTM Primer is designed to be spray applied but it can be applied by brush. Spray application will give a more uniform coating requiring much less finishing.

Gravity fed or siphon guns will require a line pressure of 15-60psi (1-4 bar) and a 1.5-3.0mm material nozzle. Bigger nozzles require more pressure and will result in a faster coverage rate. If the pressure is too high for the nozzle size, dry overspray will result. For pressure pot systems use a 10-20psi (0.7-1.3 bar) pot pressure and 40-60psi (2.5-4 bar) line pressure. It is important that the compressed air is free from impurities such as water or oil mist.

PATTERN SURFACING

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.

Pattern-CoatTM Primer can be applied directly to polyurethane foam, model board, tooling block, MDF, wood, metal and some plastics. Pattern-CoatTM Primer can be applied over patterns that have been filled with polyester body filler however it should not be applied to expanded polystyrene foam (Styrofoam) because it will react and dissolve the foam.

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-CoatTM Primer.

1. Ensure that the plug has been accurately made and is dimensionally stable. To ensure that the Pattern-CoatTM Primer bonds to the pattern surface, thoroughly sand the surface of the plug with 40-80 grit abrasive paper. Remove surface dust and degrease with an acetone or styrene dampened cloth. If the pattern has a

wood grain surface it can be painted with polyester resin. This should be allowed to harden before abrading any “raised” grain from the surface.

2. Mix Pattern-Coat™ Primer thoroughly before use. Pattern-Coat™ Primer can be applied by brush or with a spray gun. If spray application is intended, thin with pure acetone and thoroughly mix until the desired consistency has been obtained. The level of pure acetone can be varied to suit the particular equipment used. 25 parts by weight of pure acetone to 100 parts by weight of Pattern-Coat™ Primer is a good starting point.
3. Catalyse with 2% addition of MEKP Catalyst. The presence of the suggested level of pure acetone will extend the pot-life to more than 30 minutes and it will be possible to spray large areas without fear of gelation in the spray equipment except in very high temperatures.
4. Apply a thin mist coat and allow 1-5 minutes for the solvents to flash off, giving a matt surface on the Pattern-Coat™ Primer. The exact time required will depend on temperature, ventilation and absorbivity of the pattern material.
5. Follow with heavier, wet coats, building slowly to the desired thickness. Again, allow 1-5 minutes between passes to allow evaporation of solvents. Do not apply successive wet coats without allowing solvents to flash off as this will slow down the cure rate and may lead to entrapped solvent.
6. Allow the surface primer to cure until it can be dry sanded without excessive clogging of the abrasive paper. This time will depend on temperature and can be as little as 2 hours, though the material will still be easily sandable 24 hours later.

PIGMENTED GUIDE-COATS

When sanding a coated pattern it is very useful to know how far through the pattern coat you have sanded so as to avoid breaking through the coating and through to the pattern material (such as foam) underneath. To help with this we recommend applying the Pattern-Coat™ Primer in two layers, the first as supplied and the second layer with the addition of a 'guide coat' pigment, mixed into the Primer.

To do this, apply the first layer of Pattern-Coat™ Primer as described above (either by brush or spray gun) and allow to cure to a 'B-Stage' where it is firm but still slightly tacky, before mixing pigment in with a second batch of Pattern-Coat™ Primer and applying as above. This will not only result in a thicker application of Primer (allowing plenty of material to flat down through) but it will also alert you when you are down through the first layer of Primer and into the second layer meaning you can choose to stop and apply an additional layer of Primer if you choose or avoid breaking through in thinner areas.

FLATTING

Sand the surface back initially with 100-180 grit abrasive paper, progressing to finer grades up wet 1200 grit. If, after this, grain marks etc are still visible, remove them by dry sanding with 80 grit paper and then re-apply Pattern-Coat™ Primer from Step '3'. Leave the surface for 12 hours to allow it to dry and release solvents. This can be reduced to as little as 30 minutes if infrared heating is applied.

USING WITHOUT HI-GLOSS

Where only a reasonable level of gloss on the pattern is acceptable then Pattern-Coat™ Primer can be flatted and polished up to a smooth, medium gloss finish on its own.

1. Wet-sand using increasingly fine abrasive papers (240, 400, 800, 1200)

remembering to change the water when you change grits.

2. Wait for the Pattern-Coat™ Primer to cure fully (around 25hrs) before polishing using a power polisher.
3. Pattern-Coat™ Primer can be finished to a reasonable level of gloss using a polishing compound such as Polarshine C20 or Polarshine T10.
4. Following the application of a suitable release agent (such as Wax, PVA or Chemical Release Agent) moulds can be taken directly from the Pattern-Coat™ Primer finish.

**USING WITH
HI-GLOSS**

Where a high level of gloss or harder surface is required on the pattern then we recommend finishing the Pattern-Coat™ Primer to around a 120grit abrasive paper and then coating with Pattern-Coat™ Hi-Gloss before flattening and polishing to a very high gloss finish.

STORAGE

Pattern-Coat™ Primer should be stored in the dark in suitable closed containers. It is recommended that the storage temperature should be less than 20°C where practical, but it should not exceed 30°C. KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

SHELF LIFE

If stored under the above conditions the Pattern-Coat™ Primer will have a shelf life of 3 months, from the date of production.

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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