

DESCRIPTION

This system describes how a model (or plug) for the production of a polyester mould and produced from MDF, may be coated with a high gloss two component polyurethane system.

PRINCIPAL CHARACTERISTICS

This system may be applied to a model (or plug) made from MDF. The system is scratch resistant, and is resistant against various chemicals and solvents, including styrene. The system has an excellent gloss and colour retention.

SUBSTRATE CONDITIONS

MDF, sanded with grit paper P180, dry, free from any contamination and in good condition.

SURFACE PREPARATION

1. The surface should be completely dry and free from grease (moisture content maximum 12%);
2. Grit paper the surface with grit paper P180 after any spot repair;
3. Thoroughly remove all dust and residue from the surface.

MATERIALS AND SPREADING RATE

The following materials are used in the paint system:

Tweecolux	spreading rate approx. 0,1 l/m ²
Poltix Spuitplamuur	spreading rate approx. 0,5 l/m ²
Double Coat	spreading rate approx. 0,2 kg/m ²
Double Coat Spuitverdunner	spreading rate depends on application method, see additional information
Poltix Ethylacetaat	spreading rate depends on application method

APPLICATION

1. Repair damaged areas and joints with a suitable filler (see additional information);
2. Apply one to two coats of Tweecolux to a total dry film thickness of 50 µm (minimum spreading rate approx. 0,1 l/ m²);
3. Apply one coat Poltix Spuitplamuur to a total dry film thickness of 350 µm (minimum spreading rate approx. 0,5 l/m²);
4. Apply three coats Double Coat to a total dry film thickness of 90 µm (minimum spreading rate approx. 0,2 kg/m²);

ADDITIONAL INFORMATION

- MDF
MDF is an engineered wood product made from wood fibers and a resin binder formed by applying high pressure and temperature. Some advantages of MDF are:
 - A high density;
 - Good mechanical properties and rigidity;
 - Does not contain knots or rings;
 - Easy to cut and sand.MDF consists of small particles and does not have a surface texture such as plywood. MDF may be coated with various paint systems. The resin binder may migrate slowly from the MDF, having a negative effect on the adhesion of paint systems. Some sharp solvents may dissolve the resin thus reducing the strength of the MDF. It is always recommended to test the effect of the solvent on MDF.
This paint system is resistant to the most commonly used solvents in the polyester industry. When the paint system is not resistant to the solvents used in the polyester industry, surface defects may occur during the production of the mould. These defects may be visible in both model and mould as spots with lower gloss, craters and cracks.

- **Repair of MDF**
Damages to MDF may be repaired with a filler. Any damage of the foam core should be repaired. Suitable fillers are:
 - Variopox Finishing plamuur (buff, no shrinkage, but lower sanding properties);
 - Poltix Super Plamuur (grey, fast curing, easy to sand, slight shrinkage);
 - IJmofix (white, fast curing, fine filler, easy to sand, slight shrinkage);
- **Durability and surface preparation**
The durability of any paint system depends on a number of variables, amongst others: total dry film thickness, method of application, skill of labour, the conditions during which the coating is applied and cured, the exposure conditions during service and the preparation of the surface. Insufficient surface preparation might lead to blistering and loss of adhesion.
- **Sanding**
A durable adhesion will be obtained by thorough preparation of the surface. This may be achieved by sanding the surface. Sanding is also necessary when the time between application of each coat exceeds the maximum overcoating interval.
During application of the finishing coats, we recommend to use for each coat a finer grit paper.
- **Application of Double Coat**
Double Coat may be replaced with Double Coat Modellak. Double Coat Modellak is fully cured after 24 hours and is recommended when the model is exposed to the gelcoat the following day. Double Coat Modellak is fast curing and recommended for spray application to smaller models.
For spray Application Double Coat Spuitverdunner may be replaced by Double Coat Spuitverdunner 60. Depending on the model, Double Coat Spuitverdunner 60 will result in less overspray and better levelling.
- **Production of the mould**
The model (plug) should be allowed to cure at least 5 days after application of the final coat of Double Coat. Apply several layers of release agent; a suitable release agent is Mirroglaze TR88 or equivalent. Buff the release agent thoroughly.
- **Forced curing**
Avoid forced curing of the paint system as much as possible. Forced curing might result in surface defects in the tooling paste. This will affect the surface quality of the mould negatively.
- **Example working schedule**

Step	Activity	Dry film thickness (µm)	Spreading rate (m ² /l)	Recoating interval at 20 °C	Preparation before next step
1	Surface pre-treatment				
2	Repair with suitable filler	n.a.	n.a	8 hours	Sanding with P180.
3	Apply first coat of Tweecolux	25	18,0	2 hours	Sanding with P180
4	Apply second coat of Tweecolux	25	18,0	2 hours	Sanding with P180
5	Apply Poltix Spuitplamuur	350	2,0	8 hours	Sanding with P180-P240-P320.
6	Apply first coat Double Coat	30	14,3	24 hours	When recoated within 48 hours no preparation required, otherwise sanding with P320-P400. Use between each layer finer grit paper to avoid scratches.
7	Apply second coat Double Coat	30	14,3	24 hours	
8	Apply third coat Double Coat	30	14,3	24 hours	After 5 days production of mould may start. Apply several layers mould release agent first.

For detailed information on the products mentioned in this sheet, please refer to our technical information sheets.

Date: October 18

Disclaimer

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