

# Flocking with 5399 Aqueous Polyurethane

5399 is an aqueous urethane-acrylic hybrid dispersion for use in the flock coating of wood, MDF, plastic substrates, polypropylene, polyester film, PVC, ABS and nylon. 5399 is suitable for screen printing, as well as paint brush, roller and spray-gun application.

5399, when dry, provides the performance advantages of urethanes: superior chemical resistance, good resistance to UV, exceptional abrasion resistance and a tough, durable, water-resistant film. Together with the performance advantages of acrylics: durability, hardness and the ability to accept pigments easily.

The coating has a low VOC content and provides a safer alternative to solvent based products without compromising the advantageous properties they offer.

When wet, 5399 can be cleaned with water. When dry it is necessary to use solvents such as Di-Limonene, Trichloroethylene or MEK to remove any unwanted residue.

5399 Aqueous Polyurethane is waterproof, durable and stain-resistant.

## Materials 5399 Aqueous Polyurethane is suitable for

- Wood
- MDF
- Plastic substrates
- Polypropylene
- Polyester film
- PVC
- ABS
- Nylon

## Preparation of the substrate

The substrate must be clean, dry and grease-free before the adhesive is applied. It is important that the adhesive coating does not get absorbed by the surface of the substrate, therefore, with porous substrates (e.g. wood, chipboard, etc), a primer (such as PVA glue) may have to be used prior to the adhesive. A thick layer of adhesive must be applied (approximately 1/10 of the length of the flock fibre), so that the flock can adhere adequately to the substrate.

## Method of Application

There are various ways to apply the adhesive; any way that you can apply paint to a surface is also a possible way to apply the adhesive. Any of the following methods can be used (although some will be more successful after the viscosity of the adhesive has been reduced).

- Paint Brush
- Paint Roller
- Spray Gun
- Screen Printing

The adhesive must not be applied to any part of the substrate that does not require flocking. Those areas should be covered with a mask or sealed off with masking tape.

## Curing Times

Air Temperature	Curing Time	
	Working Cure	Full Cure
°C	hrs	hrs
°C	hrs	hrs

Heat may be used to accelerate the drying process.

## Using Pigments

Pigments can be added to the adhesive, in order to achieve a seamless finish, where the substrate is a markedly different colour to the flock being used. In addition, if the substrate comprises more than one colour, adding pigment to the adhesive will prime the substrate, giving a uniform appearance. The adhesive is matched to the flock in colour. This also compensates for areas with a slightly lower flock density (e.g. in interior corners).

When applying a dark flock onto a bright substrate a few percents of pigment added are quite sufficient. At least 10% of white pigment has to be added to the adhesive for white flocking onto dark surfaces. When you are flocking a lighter coloured flock onto a darker coloured substrate (e.g. yellow flock onto a blue substrate) it will be necessary to add white pigment, as well as pigment matching the colour of the flock, to the adhesive in order to attain the appropriate finish.

## Reducing the viscosity of 5399 Aqueous Polyurethane

5399 Aqueous Polyurethane can be used straight from the container, it can also be diluted with water in order to reduce its viscosity. By thinning down the adhesive, you increase the range of possible uses, for example, priming a substrate or spray application. To thin down 5399 Aqueous Polyurethane, simply use clean water. The adhesive can be thinned down by ?%.

## Cleaning

Equipment may be easily cleaned with water if the adhesive is liquid, however, in the event of the adhesive drying, solvents e.g. Di-Limonene, Trichloroethylene or MEK will be necessary to remove the dried film. It is therefore recommended that the adhesive is cleaned off while it is still wet, as solvent use should be avoided wherever possible. Screens should be cleaned regularly before the adhesive dries.

## Storage

9888 Vinyl should be stored in well sealed containers (to prevent the evaporation of water and the formation of a skin on the surface) away from heat, direct sunlight and frost, at temperatures between 5°C and 20°C for not more than 6 months. Higher temperatures will affect quality and cause the formation of crusts and skins, especially if the containers are not tightly closed or subjected to direct sunlight for long periods.

## Health & Safety

9888 Vinyl is not classified as harmful if handled with normal care. However, it should not be ingested and care should be taken to avoid contact with skin and eyes. Splashes should be thoroughly rinsed with water.

Spillages can be absorbed with sawdust or other suitable material and small quantities may be washed away with water according to Local Authority Regulations.

The adhesive is water-based and is, therefore, non-flammable



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