

## Lascaux Synthetic Resins and Dispersions

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### Acrylic Resin P 550 (Plexisol) 40% gloss

#### Base

Organic solution of an acrylic resin based on butyl methacrylate Tg 25°C.

#### Properties

- pure, soft, thermoplastic acrylic resin
- lightproof and age-resistant
- glass transition temperature (Tg) 25°C

#### Solubility

Soluble in White Spirit 16/18, xylene, toluene, acetone, methoxypropanol. Partially soluble in ethanol, isopropanol.

#### Uses

For conservation and consolidation of paint layers, lining of fine textiles, as well as a varnish.

#### Application

For conservation and consolidation of paint and ground layers on paintings on canvas, a 5-10% solution (1:4 to 1:9 in white spirit 16/18) is used. After drying of the resin, the painting can be flattened under light pressure and heat (approx. 40° C). Excess resin is removed afterwards with white spirit. When used highly diluted, this resin does not alter matt paint layers.

For consolidation of chalking paint layers on mural paintings (distemper, casein or fresco painting), a solution of 3-5% can be applied to the required degree of saturation. Excess resin is to be removed with white spirit. Acrylic Resin P 550-40% gloss is also suitable as an adhesive for lining fine textiles. A 10% solution in white spirit is either sprayed onto the lining fabric or onto both sides of an intermediate support. After drying of the resin, proceed with the lining at approx. 45° C and under light pressure.

Acrylic Resin P 550-40% gloss can also be used as a varnish, although Acrylic Resin 550/675 is preferable, having a slightly higher Tg of 40°C and better scratch resistance.

#### Safety

Please refer to the safety data sheet.

#### Storage

Keep containers closed when not using the product. Store in a cool and dry place.

#### Size

Jars of 1l

### Paraloid B 72

#### Base

Copolymer of ethyl methacrylate.

Available:

Granules

50% gloss, solution in toluene

10% gloss, solution in toluene/isopropanol 5:4

UV Protect 1 gloss

UV Protect 2 matt

UV Protect 3 semi matt

Fixativ liquid, 2% solids in solvent mixture

Fixativ spray

#### Properties

- thermoplastic acrylic resin
- lightproof and age-resistant, non-crosslinking
- medium-hard
- glass transition temperature, approx. 40°C
- softening point, approx. 70°C
- melting point, approx. 150°C

#### Solubility

Soluble in toluene and acetone. Dilutable with xylene, Shellsol A, isopropanol, ethanol, methoxypropanol (PM). Insoluble in white spirit.

#### Viscosity

approx. 200 mPas in acetone (40% solution at 25° C),

approx. 600 mPas in toluene (40% solution at 25° C),

approx. 980 mPas in xylene (40% solution at 25° C)

#### Use

Paraloid B 72 has been used since the 1950s in conservation as a consolidation agent and as a picture varnish. Extended tests have shown it to be one of the most stable resins used in the conservation of works of art.

Paraloid B 72 is used to consolidate and impregnate mural paintings and oil paintings, as a fixative for charcoal and chalk drawings, pastels, as well as for the consolidation of wood. It is also recommended as an adhesive for glass and ceramics.

#### Application

When working with Paraloid B 72, the right thinning rate is decisive for a successful treatment. Tests should be made in order to determine the thinning rate and the appropriate solvent to provide good penetration and consolidation properties. Since objects show different absorptions, it is advisable to work with lower concentrations and, if necessary, to repeat the application.

There is a risk of undesired saturation on the surface of the object when working with too high concentrations.

The solvent retention must be taken into consideration. Especially when using solvents with a low evaporation rate. It may take days or weeks for complete evaporation of the solvent. The result of the consolidation can be judged only after complete drying of the resin. Excess resin or gloss are to be removed with toluene.

### Examples

#### a) Mural paintings

For the consolidation and impregnation of mural paintings (a fresco/secco), limewash and silicate paint, crumbling plaster, etc. a solution of max. 5% in toluene/isopropanol is used. It is applied in several layers until the required degree of saturation is reached.

#### b) Paintings

For the conservation and consolidation of ground and pigment layers on wood or canvas supports, a 5 - 10% solution in toluene or toluene/isopropanol is to be used. After drying, possible cuppings can be flattened out with a heating spatula.

When used as a varnish, a 10% solution in toluene/xylene is applied. While the first layer can be applied with a brush, each subsequent layer should be sprayed on.

Please note that in certain cases, depending on the ambient temperature, hazing can occur due to evaporation. To overcome this problem, 10% Shellsol A or methoxypropanol (PM) should be added to the spray solution.

#### c) Wood

For wood consolidation, solutions of 5-10% in toluene are recommended. Impregnation is to be done in a wet-in-wet technique until saturation is reached. For slower and deeper penetration, solutions in toluene/xylene or toluene/ Shellsol A are preferable.

#### d) Glass and ceramics

Paraloid B 72 has proven useful as an adhesive for glass and ceramics. Solutions in acetone, acetone/alcohol dry very quickly. Depending on the porosity of the fragments, the edges should be isolated with a 10% solution to ensure good adhesion. A 20-40% solution is to be applied along the edges before the fragments are put together. Another method consists of reactivating the dry adhesive with solvent before the fragments are joined.

#### e) Fixativ

Paraloid B 72 is also very suitable as a fixative for pencil, chalk and charcoal drawings, pastels, etc. Spray applications of 2-4% in toluene/isopropanol are recommended. A ready-to-use solution of 2% is supplied in 12 oz. spray cans as Lascaux Fixativ.

#### f) Lascaux UV Protect

Lascaux UV Protect is an archival varnish with UV protection (light-fast, age-resistant and re-soluble). It is universally applicable and suitable for all Lascaux colour ranges. It can also be used on oil, tempera, water-colour and pastel painting, and is also suitable for drawings, inkjets and photos. The required surface is obtained by spraying on the varnish in fine, carefully metered layers. Avoid wet patches. With its short drying times it is easy to work with. Fine layers can be achieved with carefully dosed spraying.

Short drying time. Solvent odour dissipates quickly.

Apply as many layers as required to achieve desired surface. UV protection increases with each additional layer of varnish. Final sealing also increases colour intensity and can result in a slight change in colour tone. Varnish layer can be removed using solvents, e.g. with a mix of isopropanol/special boiling point spirit 100/140 in a ratio of 1:2 to 1:1. Varnish layer can be cleaned using paintbrush cleaner, special boiling point spirit 100/140 or white spirit 16/18. Lascaux UV Protect is available in 400 ml spray cans in three gloss levels (gloss, matt and semi matt).

### Safety

Please refer to the safety data sheet.

### Storage

Keep containers closed, when not using the product. Store in a cool and dry place.

### Sizes

Granules: buckets of 1 kg

50% gloss, solution in toluene: cans of 1l

10% gloss, solution in toluene/isopropanol: cans of 1l and 5l

UV Protect 1 gloss, UV Protect 2 matt, UV Protect 3 semi matt: cans of 400ml

Fixativ liquid: cans of 500ml and 1l and 5l,

Fixativ Spray: cans of 300ml

## Medium for Consolidation

### Base

Finely dispersed, aqueous dispersion of an acrylic copolymer.

### Properties

- dries to a clear and flexible film
- light-fast and age-resistant
- excellent penetrating power
- solids content: 25%
- MFT (Minimum film formation temperature): approx. 4°C
- pH: approx. 8-9

### **Solubility**

Dispersion dilutable with water. Film soluble in esters, aromatics, acetone, MEK.

### **Applications**

The Medium for Consolidation has been developed in cooperation with the Swedish National Heritage Board for the consolidation of paintlayers in medieval polychromy on wood.

The Medium for Consolidation has excellent penetrating power due to its low viscosity. This allows for the safe and efficient consolidation of loose and chalking paint layers, even on water-sensitive surfaces such as gilding or thin layers of distemper. These can be consolidated without swelling or spotting on wooden or textile supports.

The concentration of the medium can be adjusted by addition of distilled water. Prior to application of consolidant, white spirit can be used as wetting agent. Excess Medium of Consolidation can be removed completely with acetone or xylene after a drying time of approx. 24 hours.

The Medium for Consolidation has been successfully used in numerous Swedish restoration studios.

### **Safety**

Please refer to the safety data sheet.

### **Storage**

Keep containers closed when not using the product. Store at constant temperature between 5°C and 25°C. Undesired sediments which might appear during storage can filtered off before application.

### **Size**

Bottles of 250ml and 1l.

### **Literature**

Hedlund H.P., Johansson M., 'Prototypes of Lascaux's Medium for Consolidation, development of a new custom made polymer dispersion for use in conservation', *Restauro* 6/2005, 432-439.

#### **Disclaimer:**

The information provided above is given to the best of our knowledge and is based on our current research and experience. It does not absolve the artist from the responsibility of first testing the suitability of our products for the substrate and specific use conditions he or she has in mind. This technical sheet will become invalid with any revised edition. The latest update is always found on our website.

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