

Lascaux Synthetic Resins and Varnishes

Acrylic Resin P 550 (Plexisol) -40% gloss

Base

Butyl methacrylate at 40% solids in special mineral spirit 100/140

Properties

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

Solubility

Soluble in White Spirit 16/18, thinner X, 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 T_g of 40°C and better scratch resistance.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Jars in 1 l

Acrylic Resin 550/675 (Plexisol/Plexigum) -40% and 10% gloss

Base

Butyl methacrylate / iso-butyl methacrylate

At 40% solids in White Spirit 16/18

At 10% solids in White Spirit 16/18

Properties

- pure thermoplastic resin
- mixture of Plexisol P 550 and Plexigum 675
- lightfast and age resistant
- glass transition temperature (T_g) approx. 34° C

Solubility

Soluble in White Spirit 16/18, thinner X, toluene, acetone. Partially soluble in ethanol, isopropanol.

Uses

For the conservation and consolidation of ground and paint layers of paintings on canvas and mural paintings. For the treatment of porous materials, such as wood, gypsum, etc. As a varnish on oil and acrylic paintings. Acrylic Resin 550/675 is slightly harder than Acrylic Resin P 550-40 TB, i.e. a higher T_g, and therefore better suited as a final varnish. The T_g of 40° C is equal to the one of Paraloid B 72 and stands for a better scratch resistance.

Application

For the 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. Excess resin is to be removed after drying of the resin.

When highly diluted, Acrylic Resin 550/675 does not alter mat paint layers.

For consolidation of chalking paint layers on mural paintings (distemper, casein or fresco painting), a solution of 3-5% can be applied up to the required degree of saturation. Remove excess resin with White Spirit. The same resin is also suitable as a varnish (also mixed with Acrylic Varnish 550/675 matt). A 10% solution in White Spirit is either sprayed or applied with a brush. If highly diluted, the Acrylic Resin 550/675 tends to deposit after a while. This can be avoided by adding a few drops of thinner X or toluene. More stable solutions can be achieved by diluting the resin in White Spirit 35/38 (approx. 35% aromatic content).

One should note that the use of solvents with higher aromatic content will lower the viscosity and therefore enhance the capacity of penetration.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Jars in 1l

Acrylic Varnish 550/675 (Plexisol/Plexigum) -32% matt

Base

Butyl methacrylate / iso-butyl methacrylate, with pyrogene silica

At 32% solids in White Spirit 16/18

Properties

- Pure thermoplastic acrylic resin
- mixture of Plexisol P 550 and Plexigum 675 with pyrogene silica
- with pyrogene silica
- lightfast and age resistant
- glass transition temperature (T_g) approx. 34° C

Solubility

Soluble in White Spirit 16/18, toluene, thinner X, acetone. Partially soluble in ethanol, isopropanol.

Uses

For light proof and age resistant matt varnishes on oil and acrylic paintings, tempera and gouache paintings, reprints, etc.

Application

For the Acrylic Varnish 550/675 matt spray applications are recommended. Especially on large surfaces and where a deep matt finish is required, this varnish can only be successfully applied by means of a spray gun.

The varnish solution for spraying should not exceed 10-12% solids in White Spirit 16/18, depending on the type of spray equipment.

For deep matt varnishes, the Acrylic Varnish 550/675 matt is used alone. Care should be taken that the support is non absorbant when spraying deep mat varnishes. Otherwise the matting agent might be filtered out onto the support. Wherever necessary, a first coating of Acrylic Resin 550/675, prior to the matt varnish, is applied.

All intermediate grades of low gloss can be achieved by mixing Acrylic Resin 550/675 and Acrylic Varnish 550/675 matt.

Spray application should be carried out in several lay-

ers and not too wet, until an even low gloss is obtained. Since the matting agent shows a tendency to deposit, only as much varnish should be diluted as can be worked up.

Brush applications are possible on small paintings and objects only. In this case, solutions of 15-20% solids in mineral spirits with higher boiling point are recommended.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Cans in 1l

Acrylic Resin N 742 (Plexigum) gloss

Base

Ethylmethacrylate

At 33% solids in ethanol/butylglycol 7:1

Properties

- Thermoplastic acrylic resin, middle hard polymer
- lightfast and age resistant, colourless
- Glass transition temperature (T_g) approx. 64° C

Solubility

Permanently soluble in alcohols, esters, aromatics; insoluble in aliphatic hydrocarbons such as White Spirit.

Uses

For hard, well adherent coatings on paper, cardboard, wood, plaster, concrete, ceramics and glass, on plastic materials and foils. As fixative for delicate drawings with charcoal, pencil, pastel etc. As protective varnish on art prints, posters, photos etc.

Application

For coatings, Acrylic Resin 742-33% is diluted as required (e.g. with ethanol or isopropanol with approx. 10% butylglycol. As fixative, Acrylic Resin 742-33% gloss has to be diluted to max. 5% solids. Flattening painted warped wood panels: Traversing holes and cracks in the painted wood must first be covered with wax. Dilute the Acrylic Resin N 742-33% gloss to approx. 10% solids with ethanol (industrial spirit) or isopropanol (which evaporates three times slower than spirit). Impregnate the wood saturation and cover with a sheet of Melinex (Hostaphan) until superficially dry. Repeat this process until the desired

effect appears. In extreme cases, this treatment has to be repeated after a few days. Let the wood dry well. Depending on the desired degree of consolidation, the solid matter of the resin solution can be increased for subsequent impregnations. If the effect is too strong (so that the wood becomes concave), a part of the resin can be washed out from the reverse side.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Cans in 1l

Acrylic Glaze

Base

Solvent-containing acrylic copolymer of butyl methacrylate and methyl methacrylate with 3% BBP Available:

Gloss: 39% solution in thinner X - xylene

Matt: 35% solution in thinner X - contains pure pyrogenic silicic acid

Properties

- Thermoplastic acrylic resin
- High transparency, good lightfastness, block- and weather resistance, resistant to chemicals.

Solubility

Permanently soluble in esters, ketones, aromatic compounds, glycol ethers, glycol ether acetates, chlorinated hydrocarbons, as well as in commercially available synthetic resin and nitro thinners. Insoluble, but can be mixed with benzene hydrocarbons and alcohols.

Applications

For colourless, lightfast, weather and age resistant non-saponifying protective coatings on virtually any surface such as stone, sandstone, plaster, concrete, wood, aluminium, copper, brass, chrome, etc. For sealing murals, panel paintings, sculptures, etc., as a final varnish on acrylic, tempera, mineral paints, frescoes, as well as on completely dry oil paintings, and as a fixative for delicate charcoal, pastel and pencil drawings. Also suitable for use as a deep sealer to consolidate old paint layers, for restoration and conservation work, for gluing and as a binder for benzene-resistant retouching work.

Use

a) Coating and varnish:

Like all synthetic resins, Acrylic Glaze can only be applied with a low solids content. As the dry layer is dissolved by the next coat, the varnish should be brushed onto small works; as a rule, it is advisable to use a spray gun. This applies particularly to varnishes on acrylic paintings, which may be dissolved by the solvents in the glaze. The glaze should therefore not be sprayed on too wet, to avoid lifting the acrylic colours. Dilute the glaze with Shellsol A in a ratio of 1:1 to 1:3 for brush application, and with xylene 1:3 to 1:5 for spraying. Acrylic Glaze 1 gloss and 2 matt can be mixed according to the degree of gloss required. The glaze can be repeated when the previous coat is dry, i.e. in 10 to 30 minutes according to the ambient temperature, until the required satination level or other desired effects are achieved. For ceramic glaze type effects, Acrylic Glaze 1 gloss can also be used undiluted on paintings and objects or poured onto lying objects and dispersed quickly with a spatula or brush. The application can be repeated at approximately hourly intervals in as many layers as required. When using the product on mounted canvas, it should be noted that elasticity and flexibility are reduced at lower temperatures and that stress cracks can occur. As a result, this technique yields best results on fairly large works with rigid supports such as paintings on fibreboard or chipboard.

b) Restoration work:

To consolidate old paintings like murals and frescoes, Acrylic Glaze should be diluted to a non-solid content of not more than 5%, i.e. 7 parts thinner to 1 part Acrylic Glaze. Shellsol A (boiling point 160–190 °C = 320–374 °F) is recommended as a slow thinner, and xylene or a mixture of the two at low temperatures. For impregnations, make sure that the absorbent surfaces are thoroughly saturated wet into wet in order to avoid premature closure of the surface. Especially at low temperatures, the full effect is only achieved when the solvent is completely evaporated. This applies particularly to old porous plaster surfaces. As a rule, xylene is used. Any resin residues can be removed with thinner when drying is complete.

For gluing, reducing surfaces irregularities, etc. the strong bonding power of Acrylic Glaze as well as its thermoplasticity (when used with a hot-air gun, for example) are highly advantageous.

When consolidation and retouching work is complete (Lascaux acrylic paints are particularly suitable for retouching murals and frescoes) the entire surface can be sprayed with Acrylic Glaze 2 matt or semi gloss in the standard dilution until a uniform satination is obtained.

c) Fixing:

Acrylic Glaze 1 gloss and 2 matt are ideal fixatives for delicate charcoal, pastel and pencil drawings. For use as a fixative, dilute Acryl Glaze until the non-solid component is about 2-4%. As a thinner, use with a 1:1 mix of xylene and isopropanol (isopropyl alcohol); dilute Acrylic Glaze in a ratio of 1:10 to 1:15 with this mixture and spray on – not too wet – with an extremely fine nozzle as required. The optimal binder concentration must be established by experimentation. Glaze 1 gloss often produces better results than Glaze 2 matt. When using Acrylic Glaze 2 matt bear in mind that the matting agent has a tendency to settle, particularly when strongly diluted. The solutions must therefore always be stirred thoroughly.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Cans in 1l

Acrylic Resin Paraloid B 72

Base

Copolymer of methyl acrylate and ethyl methacrylate.

Available:

Granules

50% gloss, solids in toluene

48% matt, solids in toluene

40% gloss, solids in acetone

10% gloss, solids 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 xoluene (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. 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 observe safety information on the safety data sheet.

Storage

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

Sizes

Granules: Bucket of 1 kg
50% gloss, solution in toluene: Cans of 1 l
48% matt, solution in toluene: Cans of 1 l
40% gloss, solution in acetone: Bottles of 200ml and cans of 1 l
10% gloss, solution in toluene/isopropanol: Cans of 1 l and 5 l
UV Protect 1 gloss, UV Protect 2 matt, UV Protect 3 semi matt: Cans of 400ml

Fixativ liquid: Cans of 500ml and 1 l and 5 l,
Fixativ Spray: Cans of 300ml

Acrylic Resin Paraloid B 48S

Base

Methyl methacrylate copolymer
45% solution in toluene

Properties

- Thermoplastic pure acrylic
- lightproof and age resistant, lucent film
- Glass transition temperature (T_g): 50 °C
- hard and flexible
- very good outdoor resistance
- excellent adhesion on metal
- very good blocking resistance
- solvent evaporates quickly

Solubility

Dilutable with aromatic, ester, ketone, insoluble with aliphatic hydrocarbon.

Use

As bonding agent and finishing varnish for aluminium and non-ferrous metals such as copper, brass, zinc, iron (not for outdoor use).

For wood, synthetics and textiles.

For good blocking resistance on flexible and non flexible materials.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Cans in 1 l

Acrylic Resin Paraloid B 67

Base

Isobutyl methacrylate polymer
Granules

Properties

- thermoplastic pure acrylic
- lightproof and age resistant
- glass transition temperature (T_g): 50 °C
- hard and not flexible
- excellent water resistance
- especially compatible with alkyds, drying oils and oleoresinous varnishes; better retention of gloss result, improves hardness and faster drying speed

Solubility

Soluble and dilutable with water.

Uses

As penetrating primer and varnish with excellent water resistance.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Buckets in 1 kg

Mowilith 30[®], Mowilith 50[®], Mowilith 60[®]

Base

Polyvinyl acetate (PVAC), granules

Properties

- thermoplastic
- excellent lightfastness, high transparency
- the degree of polymerisation increases with increasing numerical value, as does the viscosity of the solution as well as the hardness and the tear resistance of the film.

Mowilith 30[®]:

- Viscosity (20% in EE) at 20°C: 22-30 mPas
- Glass transition temperature (T_g): 30-40°C
- Softening point: 105-125°C

Mowilith 50[®]:

- Viscosity (20% in EE) at 20°C: 100 – 160 mPas
- Glass transition temperature (T_g): 35-45°C

- Softening point: 140 - 160°C

Mowilith 60[®]:

- Viscosity (20% in EE) at 20°C: 180 - 250 mPas
- Glass transition temperature (T_g): 35-45°C
- Softening point: 160 – 180 °C

Solubility

Soluble in: ethanol +5% water, ethyl acetate, butyl acetate, acetone, methyl ethyl ketone, methyl isobutyl ketone, toluene. Limited solubility in waterfree ethanol, xylene. Insoluble in: Cyclohexane, special boiling point gasoline (80/110), diethyl ether, water.

Applications

Mowilith 30[®]: if a thick film but with a low working viscosity are wanted. Mowilith 50[®] and 60[®]: if a thin film but with a high working viscosity are wanted.

Use

The granules can be dissolved by stirring them in a suitable solution.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Buckets in 1 kg

Mowilith[®] is a registered trade mark of Celanese Emulsions GmbH.

Medium for Retouching (Mowilith 20[®])

Base

Polyvinyl acetate
50% solution in ethanol/acetone 7:3.

Properties

- thermoplastic
- flexible film
- excellent lightfastness, high transparency

Mowilith 20[®]:

- Viscosity (20% in EE) at 20°C: 4-8 mPas
- Glass transition temperature (T_g): 30 – 40 °C
- Softening point: 80 - 100°C

Solubility

Soluble in ethanol + 5% water, acetone, toluene. Insol-

uble in aliphatic hydrocarbones such as White Spirit.

Use

Retouching medium for powder pigments.

Application

Lascaux Medium for Retouching can be mixed with appropriate powder pigments directly on the palette. Since every pigment has a different demand for binder, experience is required to achieve the right balance between binder and pigments, i.e. the required degree of saturation (matt, semi matt or gloss).

To dilute the Lascaux Medium for Retouching, it is recommended to use a mixture of Ethanol and 10-30% Methoxypropanol PM or diacetone alcohol, in order to adapt the drying time of the Medium to the retouching requirements.

Safety

Please observe safety information on the safety data sheet.

Storage

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

Size

Cans in 1 kg

Storage

Keep containers closed, when not using the product. Store at constant temperature between 5°C and 25°C.

Size

Bottles in 1l

Mowiol 3-83

Base

Polyvinyl acetate
25% aqueous solution

Properties

- hydrolysed polyvinyl acetate with an acetyl residual content of 15%.
- Mowiol possesses a high binding power, displays excellent film forming properties and produces a water soluble film.

Solubility

Soluble and dilutable with water.

Use

As an adhesive for consolidating primers and paint layers.

Safety

Please observe safety information on the safety data sheet.

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.