MONUM

PARALOID B-72

Solid Grade Thermoplastic Acrylic Resin
Manufacturing Source: DOW CHEMICAL Rohm & Haas
General purpose resin, capable of forming soft films.
Compatible with vinyls, cellulosics, chlorinated rubbers and silicones.
High tolerance for ethanol allows its use in applications not tolerant to strong solvents.
Alcohol dispersions may be cloudy or milky, but they form clear and coherent films.
Suitable for white and metallic aerosols, clear coatings for wood, nitrocellulose modified coatings for general product finishing, pigment dispersion, flexographic inks and gravure.
B-72 has low reactivity with sensitive phosphorescent and luminescent pigments, to produce stable, durable and non-yellowing coatings.

Physical Properties
Appearance: water white to pale yellow pellet
Chemical Composition: EMA copolymer
Bulk Density: 1.15 g/cm^3 @ 25ºC
Ultimate Film Hardness: 10-11 KHN
The resin in solvent has neutral pH
Solubility Parameter: 9.3
Tg: 40ºC

Solubility
Rohm & Haas brochure 82A1 07ER
Soluble in alcohol, acetone, amyl acetate, toluene, mixtures toluene/ethanol, MEK, xylene, diacetone, dimethylformamide and dichloromethane.
Insoluble in isopropanol, mineral thiners and water
Paraloid thermoplastics solution/solid grades acrylic resins, solvent selection chart

Paraloid B-72 is worldwide specified for general use in conservation.

Use	Function	Concentration
pottery, ceramic, glass, wood, metal, ivory, porous materials except rubber	adhesive	+50%/acetone
grounds: old, chalk mineral and lime paints, stucco and gypsum	consolidant sealant	10%/toluene +isopropanol
plaster on ceilings	consolidant	15%/2 coats 25%/1 coat
wall paintings	consolidant	1-5%
ground/pigment layers on oil paintings	consolidant	5-10%/toluene or isopropanol
polychrome sculpture	consolidant	5-20%
fragile wood	consolidant	5-20%
worm holes in wood	filler w/microbaloons	30%/acetone
artefacts	varnish	20%/acetone
marking	fixative coating	20%/acetone

Durable, it does not turn yellow, being compatible with other materials that form films, such as vinyls derivatives of cellulose, chlorinated rubbers and silicas, able to be combined to produce covering films with wide variety and transparency.
Forms clear films, sufficiently flexible, not subject to fragility under low humidity.
It has very low reactivity with sensible pigments.
B-72 has the advantage to seem fosca when used in little amount and low percentage.
It is not subject to the attack of microorganisms.
Dispersions in alcohol can be milky or muddy, forming exactly clear films..
B-72 can be used as consolidant for certain types of gouache or crayons that suffer from a condition of insufficiency or deterioration of the agglutinants, being especially adjusted when the agglutinant will be sensible to the water.
Also it serves to lower thick and heavy scales of painting when applied in solution with brush and as protective coating/consolidant of the painting layer.

Bibliography

INVESTIGATIONS OF STONE CONSOLIDANTS BY NEUTRON IMAGING
F. Hameed, B. Schillinger, A. Rohatsch, M. Zawisky and H. Rauch
Comparative non-destructive testing by neutron radiography and tomography of TEOS Wacker OH 100 and EMA Paraloid B 72 solution.
Study of chemical preservation and structural reintegration of natural stones applied in historical buildings is carried out with different stone samples, mostly porous natural building stones, limestones and sandstones.
Main interest in restoration process is the development of suitable stone consolidant, investigating the penetration depth and distribution of different stone consolidants.
PDF available at www.sciencedirect.com

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J.M. Cronyn, Wendy S. Robinson
Pages 89, 91, 301, 323
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CONSERVATION OF BUILDING AND DECORATIVE STONE
John Ashurst, Francis G. Dimes
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STUDY OF RESINS FOR CONSOLIDATION OF WOOD
S.M. Nakhla