

PARALOID™ A-21 100% Solid Grade Thermoplastic Acrylic Resin

Description

PARALOID A-21 solid-grade acrylic resin imparts excellent intercoat adhesion, hardness, and outdoor durability. It has the same composition and characteristics as the solution grade, while providing wider formulating latitude.

This durable resin is similar to PARALOID A-10S and PARALOID A-11 acrylic resins but has better adhesion characteristics.

Solubility

Information about the solvent compatibility of PARALOID A-21 acrylic resin can be found in Rohm and Haas brochure 82A114--*Paraloid Solid Grade Resins, Solvent Selection Chart*.

Typical Properties

These properties are typical but do not constitute specifications.

Physical Form	Powder
Chemical Composition	MMA Polymer
Tg, °C	105
Bulk Density, 25°C, lb./gal.	9.8
Solubility Parameter	9.4
Ultimate Hardness of Clear Films, KHN	21 to 22

Properties in White Lacquers¹

Tukon Hardness		Whiteness (K color low numbers best)		Cross Hatch ³	
30 min. at 180°F	18.2	30 min. at 300°F	8.9	30 min. at 180°F	1
30 min. at 300°F	31.0	16 hrs. at 350°F	8.9	30 min. at 300°F	1
Pencil Hardness		Flexibility ² , 1/8, 1/4, 1/2 inch mandrels		Mustard Staining (30 minute exposure)	
30 min. at 180°F	3H	30 min. at 180°F	5, 4, 2	30 min. at 180°F	None
30 min. at 300°F	8H	30 min. at 300°F	5, 4, 2	30 min. at 300°F	None
Gloss, 20°		Printing, 2 psi for 1 hour at 140°F		Gasoline Resistance (15 minute exposure)	
30 min. at 180°F	26	30 min. at 180°F	None	30 min. at 180°F	Slight–Dull
30 min. at 300°F	33	30 min. at 300°F	None	30 min. at 300°F	Slight–Dull
Gloss, 60°		Knife Adhesion		Spray Conditions	
30 min. at 180°F	71	30 min. at 180°F	Fair	Viscosity, No. 4 Ford Cup, sec.	11
30 min. at 300°F	77	30 min. at 300°F	Fair–Good	Solids Content, %	20.5

Note: Drying the coatings at 300°F for 30 minutes simulates final properties of the resin.

¹The white lacquers were formulated at a titanium dioxide/binder ratio (solids basis) of 30/70. The properties were determined after coatings were sprayed on Bonderite 1000.

²The degree of cracking at the bend over each mandrel is rated on a 0 (no failure) to 10 (complete flaking) scale.

³The degree of flaking at the scribed cross hatch is rated on a 0 (no failure) to 5 (complete lift off) scale.

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