

Synthetic Resin EP-1201 TF

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General description

Synthetic Resin EP-1201 TF is a non tin based hydroxy functional polyurethane resin. The hard resin is stable against saponification. It is used in conjunction with other film forming binders for the production of quickdrying paints and printing inks. It has very good lightfastness, heat resistance and an unusually high softening point.

Specification

Property	Value	Unit	Test method
Nonvolatile matter ¹⁾	48 - 50	% by wt.	DIN EN ISO 3251 (30 minutes at 180 °C)
Melting point ²⁾	155 - 170	°C	DIN 53 181
Colour (Gardner)	0 - 2	-	DIN EN ISO 4630

Typical data

Density at 20 °C ¹⁾	approx. 1.04	g/cm ³	DIN 51 757 ISO 758
Viscosity ¹⁾	approx. 2000	mPa s	DIN EN ISO 3219
Flashpoint	approx. - 4	°C	DIN EN ISO 1523
Acid number	≤ 1	mg KOH/g	DIN EN ISO 2114
Hydroxyl number	approx. 200 ²⁾	mg KOH/g	DIN 53 240 modified* ASTM E 222 modified*
Tg	approx. 130	°C	DIN 53 765

¹⁾ Supply form

²⁾ solid resin

* Fresenius, Z. Anal. Chem. (1985) 320, 683

Chemical Classification

Polyurethane polyol resin

Supply Form

49 % solution in ethyl acetate

Packaging

Bung drum, enamelled, contents: 50 kg.

Storage Stability

When protected against light and humidity and at storage temperatures of less than 25 °C, Synthetic Resin EP-1201 TF can be stored for at least 1 year.

Compatibility

In order to test the compatibility of Synthetic Resin EP-1201 TF with binders, corresponding solutions were mixed in such a way that 20 and 40 % of synthetic resin, based on the respective binder, were added. After application to glass and drying, the dry films were assessed for appearance. Individual data are shown in the following table.

Binders	Compatibility with Synthetic Resin EP-1201 TF	Binders	Compatibility with Synthetic Resin EP-1201 TF
Acetyl cellulose	±	Melamine resins	+
Benzyl cellulose	±	Resole, non plasticized	+
Cellulose nitrate	+	Saturated polyesters	+
Acrylic resins	±	Zinc resins	±
Urethane acrylic resins	+	Aldehyde resins	+
Maleic resins	+	Polyvinyl acetate	±
Alkyd resins short-oil	+	Phthalate	+
Alkyd resins medium-oil	-	Vinyl chloride copolymers	-
Alkyd resins long-oil	-	Hydrocarbon resins	-
Alkyd resins styrenated	±	Calcium resins	-
Urea resins, non plasticized	+		

+ = compatible

± = limited compatibility, in some cases slight film haze

- = incompatible

Solubility

Synthetic Resin EP-1201 TF is dilutable in all solvents commonly used in the paint industry with the exception of aliphatic hydrocarbons.

Applications

Characteristic features of Synthetic Resin EP-1201 TF are the high softening point of the resin, coupled with good solubility in the usual paint solvents and the ability of coatings based on it to dry very rapidly, both as regards initial and through-drying. The resin is, therefore, particularly suitable for the production of printing inks (mainly flexographic and gravure printing inks), but also for overprint varnishes or laminates. Synthetic Resin EP-1201 TF gives a good blocking resistance even after rapid through-drying, a low solvent retention, an excellent adhesion on aluminium and a variety of plastic films and a good bond strength in laminates.

Furthermore, in numerous binder combinations for paints and coatings, Synthetic Resin EP-1201 TF produces very good adhesion, even on critical substrates (aluminium, plastics).

Owing to its high degree of compatibility with nitrocellulose and short-oil alkyd resins, its properties of good adhesion, rapid drying and increased blocking resistance are also effective in other fields, e.g. furniture lacquers.

Synthetic Resin EP-1201 TF exhibits very good wetting properties, even in combination with problematic organic pigments. Synthetic Resin EP-1201 TF is therefore used as a gloss-promoting supplementary resin in paste binders.

Safety and Handling

Please refer to our Safety Data Sheet.

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