

UNITHANE® 644 WD 55

ARCHITECTURAL COATINGS / PROTECTIVE & MARINE COATINGS

ARKEMA COATING RESINS

Product Application details

UNITHANE® 644 WD 55 is an urethane alkyd based on aliphatic isocyanate and was designed particularly with colour retention in mind.

The resin can be used in clear and pigmented finishes and is often used in combination with colour retentive long oil alkyds.

The excellent colour and gloss retention of UNITHANE® 644 WD 55, especially when exposed to ultra violet light, makes it an ideal choice for use in exterior applications, including garden furniture and marine finishing. In clear varnishes UNITHANE® 644 WD 55 can be used as the sole medium. For decorative gloss or eggshell finishes, between 20-50% of the urethane resin should be used, the balance being a colour retentive long oil alkyd.

The resin is supplied in low aromatic white spirit to enable the formulation of coatings that do not require adverse environmental labelling.

Performance Benefits

- Rapid drying
- Good abrasion resistance
- Good chemical and stain resistance

Polymer Type

- Solventborne Urethane Alkyd

Sales Specifications

Solid Content at 125°C, % (ISO 3251)	54 - 56
Viscosity at 25°C, mPa.s (ISO 3219)	4500 - 6000
Colour, Gardner scale (ISO 4630)	8 max
Acid value, mg KOH/g (ISO 2114)	5 max

Other Characteristics¹

Volatile	Low aromatic white spirit
Flash point, °C (ISO 3679)	40
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	0.906
Type of fatty acid	Linoleic rich
Fatty Acid content, %	54

Note: Acid value and/or Hydroxyl value quoted relative to solid resin

¹ The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

Formulation Guidelines

DRIERS

A suitable combination of driers for use with UNITHANE® 644 WD 55 based coatings is 0.05% cobalt, 0.15% zirconium and 0.2% calcium, calculated as metals on total solid resin. Depending on the formulation (clear, pigmented, thixotropic, etc...) and on the application, the loading of each drier may be increased or reduced in order to achieve the appropriate drying/hardness profile.

The use of antiskinning agent is essential to prevent in-can skinning of the finished product.

SOLUBILITY

UNITHANE® 644 WD 55 is completely soluble in aliphatic and aromatic hydrocarbons, ketones and esters.

COMPATIBILITY

UNITHANE® 644 WD 55 is compatible with most long oil alkyds, some medium oil alkyds and most thixotropic alkyds.

OTHER ADDITIVES

To impart some thixotropy to coatings, especially varnishes it is recommended that 10–50% of a thixotropic alkyd is used. GELKYD® or SUPER GELKYD® supplied in low aromatic white spirit are especially recommended for this purpose.

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

UNITHANE® 644 WD 55 should be stored indoors in the original, unopened and undamaged container, in a dry place at a temperature not exceeding 30°C. Exposure to direct sunlight should be avoided.

In the above mentioned storage conditions the shelf life of the resin will be 6 months from the shipping date

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