

UNITHANE® 645 WD 57

ARCHITECTURAL COATINGS

ARKEMA COATING RESINS

Product
Application details

UNITHANE® 645 WD 57 is an urethane alkyd designed for use in clear and pigmented finishes. It can be used as the sole medium or in combination with long oil alkyds. UNITHANE® 645 WD 57 can be used in pigmented decorative gloss or eggshell finishes and should comprise between 20-50% of the media, the balance being a suitable long oil alkyd. UNITHANE® 645 WD 57 increases both hardness and abrasion resistance while maintaining excellent gloss retention. In thixotropic decorative gloss and eggshell finishes, similar percentages can be used. Abrasion resistant and rapid drying finishes are obtained, with the durability, pigment wetting and non-chalking characteristics of the alkyd resin being retained. For interior floor varnishes and related finishes, it is recommended that UNITHANE® 645 WD 57 be used as the sole binder. The low aromatic solvent in UNITHANE® 645 WD 57 allows coatings to be formulated which are exempt from European environmental labelling requirements.

Performance
Benefits

- Rapid drying
- High gloss
- Good abrasion resistance
- Good chemical resistance

Polymer
Type

- Solventborne Urethane Alkyd

Sales
Specifications

Solid Content at 125°C, % (ISO 3251)	56.5 - 58.5
Viscosity at 23°C, mPa.s (ISO 3219)	2400 - 3000
Colour, Gardner scale (ISO 4630)	6 max
Acid value, mg KOH/g (ISO 2114)	3 max

Other
Characteristics¹

Volatile	Low aromatic white spirit D40 / D60
Flash point, °C (ISO 3679)	46
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	0.92
Type of fatty acid	Linoleic rich
Fatty Acid content, %	60

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® 645 WD 57 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® 645 WD 57 is completely soluble in aliphatic and aromatic hydrocarbons, ketones and esters.

COMPATIBILITY
UNITHANE® 645 WD 57 is compatible with both long and medium oil length alkyds and in combination with such binders can be used to give fast dry tough transport finishes.

OTHER ADDITIVES

To impart some thixotropy to coatings, especially varnishes it is recommended that 10–50% of a thixotropic alkyd is used.

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

UNITHANE® 645 WD 57 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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The logo for Arkema, featuring the word "ARKEMA" in a bold, sans-serif font. The letters "ARKE" are in dark blue, and the letters "MA" are in a lighter blue color.