

## TECHNICAL DATA SHEET

# UNITHANE® 645 WD 57

Solventborne Urethane Alkyd

### 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.

### SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (125°C)	56.5 - 58.5 %	ISO 3251
Viscosity (23°C)	2400 - 3000 mPa.s	ISO 3219
Color	6 max Gardner	ISO 4630
Acid value	3 max mg KOH/g	ISO 2114

### OTHER CHARACTERISTICS<sup>1</sup>

	CHARACTERISTICS	METHODS
Solvent	Low aromatic white spirit D40 / D60	
Flash point	46 °C	ISO 3679
Density (20°C)	0.92 g/ml	ISO 2811
Fatty acid type	Linoleic rich	
Fatty acid content	60 %	
Modification	Urethane	

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

### MARKETS & APPLICATIONS

#### Coatings & Inks

- Architectural Coating
  - Interior Wall
  - Specialty Coatings
  - Stains
  - Trim
- Flooring
  - Floor Polish & Floor Coatings

### PERFORMANCE BENEFITS

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

# UNITHANE® 645 WD 57

## 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 AND 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 from the shipping date.

Shelf Life (Months): 6

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