

UCECOAT® 7891

Acrylated Polyurethane Dispersion

INTRODUCTION

UCECOAT 7891 is a high performance acrylated polyurethane dispersion specifically developed for UV curable field applied **matte** wood and VCT (vinyl composition tile) floor coatings. UCECOAT 7891 allows for the development of low gloss formulations without the use of silicas or other particles. This results in formulations with better shelf life, since the settling of particles is no longer a concern. If very low gloss formulations are desired, silica can be used at very low levels to achieve this. The very low level of silica also translates into better formulation stability. Floor coatings based on UCECOAT 7891 exhibit a good balance of flexibility and hardness, thus providing good adhesion and coin scuff. Excellent solvent and chemical resistance are also provided through use of UCECOAT 7891.

PERFORMANCE HIGHLIGHTS

- Excellent appearance in matte coatings
- Superior stability of matte formulations
- Excellent solvent and chemical resistance
- Tack-free after water evaporation

The actual properties of UV cured products also depend on the selection of the other formulation components, such as additives and photoinitiators.

SUGGESTED APPLICATIONS

UCECOAT 7891 is recommended for use in UV curable field applied floor coatings.

STARTING POINT FORMULATIONS (WOOD OR VCT)

PRODUCT	%		
	15-35	8-15	3-5
UCECOAT 7891	85-88	77-81	76
Water (deionized)	7-9	13-16	17
Wetting agents	1	1	0.9
Defoamers	0.5-1.0	0.5-1.0	0.6
Flow/leveling agents	0.5	0.5	0.1
Aquamatt® waxes ⁽¹⁾	2-4	2-4	2
Acematt® silicas ⁽²⁾	--	0.5-1.5	2.4
Photoinitiator	1-2	1-2	1-2
Solid Content (%)	30-31	29-30	29-30
Viscosity	See Featured Product Sheets for Wood and VCT		

- Coat at 75-150 microns (3-6 mils) with a T-bar or roller applicator on wood or VCT; allow to dry
- Cure at 425-600 mJ/cm²

TYPICAL PROPERTIES

	VALUE
Appearance	opaque liquid
Density, g/ml at 25°C	1.1
MFFT, °C	~0
Particle size, nm	<125
pH	6.0-8.5
Solids content, % by weight	~32
Viscosity, 25°C, cP/mPa·s	<200

PROPERTIES OF STARTING POINT FORMULATION

PROPERTY	THREE COATS ON OAK/BEECH		
	15-35	8-15	3-5
COATING GLOSS (60°)			
Crosscut Adhesion (610 tape)	5B	5B	5B
Hamberger Planer (automated coin test; Newtons)	20	15	15
Pencil Hardness (Erichsen; Newtons)	12	6	6
MEK Double Rubs	200+	200+	200+
Chemical resistance (24 hour spot test, with cottonball, covered)			
Mustard			No stain or distortion
Eosine (red dye) 2%			No stain or distortion
Red Wine			No stain or distortion
Coffee			No stain or distortion
Ammonia 1%			No stain or distortion
Ammonia 10%			No stain or distortion
Water			No stain or distortion
Ethanol 50%			No stain or distortion

WOOD COATING CONSTRUCTION

1. Sand the wood panel with P240 sandpaper.
2. Apply first coat at 90 microns (3.6 mils) wet, and air dry to < 6% moisture content.
3. Apply second coat at 55 microns (2.2 mils) wet, air dry to < 6% moisture content, and cure at 25 fpm (400-500 mJ/cm²) with an HID Bulldog 15-3000.
4. Sand the wood panel with P240 sand paper
5. Apply third coat at 50 microns (2.2 mils) wet, air dry to < 6% moisture content, and cure at 20 fpm (500-600 mJ/cm²) with an HID Bulldog 15-3000.

(1) Product of BYK Additives and Instruments

(2) Product of Evonik Industries

STORAGE AND HANDLING

Before using UCECOAT 7891, consult the **Safety Data Sheet** for additional information on hazards, handling procedures, and recommended protective equipment.

The recommended storage temperature range for UCECOAT 7891 is $\geq 4^{\circ}\text{C}$ (39°F) to $\leq 40^{\circ}\text{C}$ (104°F). Protect the product from freezing. Avoid conditions that may expose the material to high temperatures. Protect from direct sunlight. Use with adequate ventilation. Keep container closed. After prolonged storage product can settle and may require agitation to re-disperse. This product is stable under normal conditions of handling and storage.

PRECAUTIONS

Avoid contact with skin and eyes and breathing vapors. Direct contact with this material may cause minimal eye and skin irritation. Wash thoroughly after handling.

Please refer to the **Guide to Safety, Health and Handling of Acrylate Oligomers and Monomers** for additional information on the safe handling of acrylates.

• Worldwide Contact Info: www.allnex.com •

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