

WB UV POLYURETHANE ACRYLATE DISPERSION FOR INDUSTRIAL WOOD AND FURNITURE

INTRODUCTION

UCECOAT® 7510 is a Sn-free, VOC free, aliphatic polyurethane acrylate dispersion. It is a robust and versatile resin ideally suited for energy curable industrial coatings applied by spray, curtain or roller coating. UCECOAT® 7510 can be used as the sole formulation resin or in combination with other water-borne resins.

PERFORMANCE HIGHLIGHTS

UCECOAT® 7510 is characterized by:

- Low yellowing on cure
 - Excellent cost/performance balance
 - Excellent cold check resistance
- UV/EB cured properties based on UCECOAT® 7510 are characterized by the following performance properties:
- Excellent drying properties
 - Nearly tack free after physical drying
 - Outstanding hardness, high reactivity
 - Good chemical and stain resistance

The actual properties of UV/EB cured products also depend on the selection of other formulation components such as reactive diluents, additives and photo initiators.

STARTING POINT FORMULATION

High Gloss Coating for Spray Application

Ingredients	Function	Part by weights
UCECOAT® 7510	Resin	100.0
Photo initiator ⁽¹⁾	Photo initiator	2.0
Deionized water	Dilution	5.0
ADDITOL® VXW 4926 ⁽²⁾	Air release agent	0.3
ADDITOL® VXW 6386 ⁽²⁾	Defoamer	0.3
TEGO® Glide 110 ⁽³⁾	Flow-levelling	1.0

⁽¹⁾ 50/50 liquid mixture of 1-hydroxy-cyclohexylphenyl-ketone and benzophenone

⁽²⁾ Product of allnex

⁽³⁾ Product of Evonik Industries

UCECOAT® 7510 can be diluted further with deionized water if needed to achieve the desired viscosity. It is recommended to stir the product prior to use.

TYPICAL PHYSICAL PROPERTIES

Appearance	White translucent liquid
Density, g/cm ³ at 25°C	~1.1
Particle size, nm	< 175
pH	6.5 - 8.0
Solid content by weight, %	~40
Viscosity at 25°C, mPa.s	< 200

TYPICAL CURED PROPERTIES

Tensile strength, MPa (psi)	7.1 (1030)
Elongation at break, %	0.5
Young's modulus, MPa (psi)	1450 (210305)
Koenig hardness (on glass), s	175

STORAGE AND HANDLING

Before using UCECOAT® 7510, consult the Safety Data Sheet for additional information on hazards, handling procedures, and recommended protective equipment.

Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers.

The recommended storage temperature range for UCECOAT® 7510 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. UCECOAT® 7510 should not be stored for more than 1 year.

PRECAUTIONS

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

STATUTORY LABELING

Please refer to Safety Data Sheet