

INTRODUCTION

UCECOAT 7788 is a tin-free, VOC-free, aliphatic polyurethane acrylate dispersion in water. It is a robust and versatile resin ideally suited for UV/EB energy curable industrial coatings applied by spray, curtain or roll coating. UCECOAT 7788 can be used as the sole formulation resin or in combination with other water-borne resins.

PERFORMANCE HIGHLIGHTS

UCECOAT 7788 is characterized by:

- Best in class cost/performance balance
- Excellent dispersion stability
- Versatility in use

UV/EB cured properties based on UCECOAT 7788 are characterized by the following performance properties:

- Nearly tack free after physical drying
- Excellent drying properties
- Good chemical resistance
- Balanced elasticity, hardness and toughness providing very good mechanical properties
- 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 photoinitiators.

STARTING POINT FORMULATION

High Gloss Coating for Spray Application

Ingredients	Function	Parts by weight
UCECOAT 7788	Resin	100.0
Esacure® HB ⁽¹⁾	Photoinitiator	2.0
Deionized water	Dilution	10.0
ADDITOL® VXW 4926 ⁽²⁾	Air release agent	0.3
ADDITOL VXW 6386 ⁽²⁾	Defoamer	0.3
TEGO® Glide 110 ⁽³⁾	Flow, leveling	1.0

UCECOAT 7788 can be diluted further with deionized water if needed to achieve the desired viscosity. It is recommended to stir the product prior to use.

(1) Product of Lamberti

(2) Product of allnex

(3) Product of Evonik Industries

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SPECIFICATIONS

	VALUE
Appearance	Emulsion
Non-volatile matter, %	38.5-41.5
pH	6.5-8.5
Viscosity at 25°C, cP/mPa·s	<500

TYPICAL PROPERTIES

Density, g/ml at 25°C	1.15
Particle size, nm	<150
OH value, mg KOH/g (calculated)	14

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	4901 (33.8)
Elongation at break, %	7.2
Young's modulus, psi (MPa)	163850 (1130)
Glass transition temperature, °C	104

PRECAUTIONS

Before using UCECOAT 7788, see the Safety Data Sheet for information on the identified hazards of the material and the recommended personal protective equipment and procedures.

STORAGE AND HANDLING

Protect the product from freezing. Care should be taken not to expose the product to high temperature conditions or direct sunlight. Containers should be kept closed and away from materials that react with water. Bacteriological contamination can occur if the product is stored for an extended period in a container which is not sufficiently sealed or clean. Storage and handling should be in stainless steel, amber glass, or amber polyethylene containers. After prolonged storage product can settle and may require agitation to re-disperse. This product is stable under normal conditions of handling and storage. Do not store this material under an oxygen free atmosphere. Wash thoroughly after handling. Use with adequate ventilation.

See the SDS for the recommended storage temperature range for UCECOAT 7788.

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