

## Visgard® Ultra

### Abrasion Resistant Anti-Fog Coating

#### DESCRIPTION

Visgard® Ultra is a polysiloxane based thermal cure coating. It combines water sheeting Anti-Fog performance with abrasion and chemical resistance. It can be applied via dip coating and has been specifically developed for use with polycarbonate substrates.

#### FEATURES

- Wipeable and Water sheeting Anti-Fog Properties
- Primer-Free Adhesion on Polycarbonate
- Optical Clarity
- Excellent Chemical and Abrasion Resistance
- Compatible with Mirror Coating
- Plastic Bag Compatibility (LDPE, HDPE, polypropylene)
- Passes EN-166:2001 for UV Resistance
- Passes ISO 16321-1:2021(E)-Resistance to Surface Damage
- REACH & RoHS compliant
- PFAS-Free

#### STORAGE AND USE

The recommended storage temperature for Visgard Ultra is 4°C (40°F). When stored at this temperature in the original closed container it is recommended to start use of the product within three months from the date received.

#### SOLUTION PROPERTIES

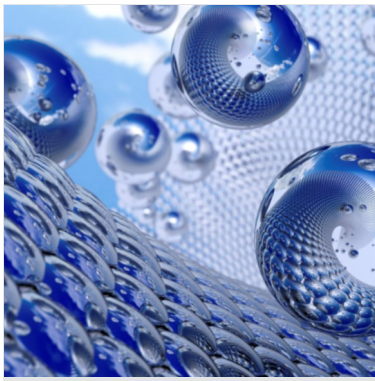
PROPERTY	TYPICAL VALUES
% Solids	15 - 21%
Viscosity @ 25°C	80 - 120 cP
Density @ 25°C	0.96 - 1.10 g/ml
Solvents: Water, Methanol, Ethanol, PM Glycol Ether.	

#### CURED COATING PROPERTIES

PROPERTY	TYPICAL VALUES
Coating Thickness	4.0 - 6.0 µm
Refractive Index	1.48
1hr DI Boiling Water Adhesion	100%
80°C Anti-Fog Performance TM-103C	>5 min
Haze	<0.5 %

#### RECOMMENDED OPERATING GUIDELINES

PROPERTY	TYPICAL VALUES
Environmental Conditions	20 - 25°C, 35 - 65 % RH (Class 100)
Air Flow	Filtered, Laminar
Coating Temperature	15 - 25°C
Coating Filtration	5.0 µm absolute
Extraction Speed	0.4 - 0.9 mm/s
Dry Time/Temperature	1 - 1.5 mins @ 20 - 25°C
Pre-Cure Conditions	10 mins @ 90°C
Cure Conditions (PC)	2 hrs. @ 120°C



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## CONTACT INFORMATION

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## EQUIPMENT PREPARATION

**Equipment Cleaning:** Coating equipment should be cleaned prior to using Visgard Ultra to avoid any possible contamination. Coating contamination can result in problems with adhesion, poor Anti-Fog performance or general appearance. The cleaning process should include multiple solvent rinses (utilizing a solvent compatible with the material in prior use with the equipment) followed by a thorough PM glycol rinse. PM glycol ether should also be used for cleaning equipment after the use of Visgard Ultra.

**Equipment Materials:** Visgard Ultra is incompatible with silicone-based surfactants, contact with these materials will impair anti-fog performance even at low concentrations. Be sure all equipment is thoroughly clean and free from other coating residues before evaluating Visgard Ultra in production systems. A peristaltic pump is recommended for initial tests because there is no actual contact of Visgard Ultra with the pump chamber or mechanical parts. Visgard Ultra is incompatible with PVC tubing due to plasticizer extraction. Use only LDPE, PTFE, PU or stainless-steel tubing. Circulating PM glycol ether through the pump, hoses and filter for 8 - 12 hours is recommended for removing possible contaminants before start-up or change over.

## PRETREATMENT AND CLEANING OF SUBSTRATE

Parts to be coated with Visgard Ultra should be clean and free of any surface residues. Injection molded polycarbonate parts should be cleaned with a neutral detergent solution to remove any residues left on the parts from the molding process, and then rinsed thoroughly with de-ionized water.

## SOLUTION MANAGEMENT

For optimum performance, Visgard Ultra should be maintained at a range of 80-120 cps. Higher or lower viscosity (cps) can cause appearance problems or lead to a coating deposition that is either too thick or thin. The viscosity (cps) should be measured on a regular basis and adjusted as needed by the addition of PM glycol ether or alternatively a 5/5/90 mix of Ethanol, Methanol and PM glycol ether.

## HEALTH AND SAFETY INFORMATION

Before using this product, read and understand the Safety Data Sheet (SDS) which provides information on health, physical, and environmental hazards, handling precautions and first aid recommendations. For a copy of an SDS, contact a sales or customer service representative.

## WARRANTY AND LIABILITY LIMITATIONS

Information contained herein is accurate to the best of our knowledge. The coating solution properties and cured coating properties listed herein represent typical values for Visgard Ultra and are not meant as specifications. FSICT insists that users conduct their own tests for applicability and fitness for any purpose. Statements concerning use of products or formulations described herein shall not be construed as a warranty or license to infringe any patent or trademark, and no liability for infringement arising out of such use is assumed. Please refer to FSICT Standard Terms and Conditions or to your Purchase Agreement with FSICT for the warranty coverage of FSICT's product.

## PRODUCT SHIPPING AND AVAILABILITY

Typical lead-time for shipment of Visgard Ultra is four (4) weeks from confirmation of a purchase order. FSICT provides several shipping options. Please contact an FSICT representative to determine which option best fits your needs.

