

## Vistex<sup>®</sup> 111-50

### Chemical Resistant Anti-Fog Coating

#### DESCRIPTION

Vistex<sup>®</sup> 111-50 is a urethane based thermal cure coating. It combines permanent anti-Fog performance and chemical resistance. It can be applied via dip, flow, spray or spin coating techniques.

#### FEATURES

- Primer-free adhesion to Poly-carbonate
- Chemical Resistance
- Permanent Anti-Fog Properties
- Optical Clarity
- One-part system, does not require premixing
- Formable

#### STORAGE AND USE

The recommended storage temperature for Vistex 111-50 is 20-25°C (68-77°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.

Any mixture that has become milky or contains white insoluble precipitate must be discarded.

#### PACKAGING

Coated parts should not be packaged until the coating has been removed from the oven and cooled for 12 to 24 hrs.

For individual coated parts it is recommended to use high density polyethylene (HDPE) bags (>2 mil). The bags should be sealed to exclude moisture. Do not package in an area where humidity is > 70%.

Parts coated with Vistex 111-50 should be stored in a cool, dry place. In a humid environment the coating may develop a wipeable haze which can be removed by wiping with a soft dry cloth.

#### SOLUTION PROPERTIES

PROPERTY	TYPICAL VALUES
% Solids	9.5 - 10.5 %
Viscosity @ 25°C	40 - 80 cP
Density @ 25°C	0.9 - 1.0 g/ml
Solvents: Water, Isopropanol, N-methyl-2-pyrrolidone	

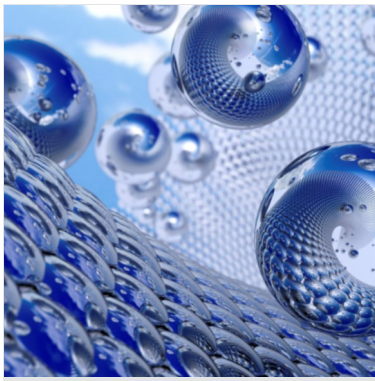
#### CURED COATING PROPERTIES

PROPERTY	TYPICAL VALUES
Coating Thickness	3.0 - 6.0 µm
Refractive Index	1.52
Adhesion	100%
Anti-Fog Performance TM-153	Pass

#### RECOMMENDED OPERATING GUIDELINES

PROPERTY	TYPICAL VALUES
Environmental Conditions	20 - 25°C, 35 - 65 % RH (Class 100)
Air Flow	Filtered, Laminar
Coating Temperature	20 - 25°C
Coating Filtration	5 µm
Extraction Speed	1.0 - 2.0 mm/s
Dry Time/Temperature	<5 mins @ 20 - 25°C
Pre-Cure Conditions	10 min @ 100 - 110°C
Cure Conditions (PC)*	1 hr @ 129°C (264°F)

\* A minimum temperature of 120°C (248°F) is required for full cure.



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## EQUIPMENT PREPARATION

**Equipment Cleaning:** Coating equipment should be cleaned prior to using Vistex 111-50 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 Isopropanol rinse. Diacetone Alcohol may be used for cleaning equipment of dried Vistex 111-50. Fully cured material may only be removed by mechanical abrasion.

**Equipment Materials:** Silicone hard coatings are incompatible with Vistex 111-50 and will impair anti-fog performance even at low concentrations. Be sure all equipment is thoroughly clean and free from other coating residues before evaluating Vistex 111-50 in production systems. A peristaltic pump is recommended for initial tests because there is no actual contact of Vistex 111-50 with the pump chamber or mechanical parts. Vistex 111-50 is incompatible with PVC tubing due to plasticizer extraction. Use only PTFE, LDPE, PU or stainless-steel tubing. Circulating Isopropanol 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 Vistex 111-50 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, Vistex 111-50 should be maintained at a range of 9.5 - 10.5% solids (unless diluted). Higher or lower % solids can cause appearance problems or lead to a coating deposition that is either too thick or thin. The % solids should be measured on a regular basis and adjusted as needed by the addition of a 67/33 Isopropanol/DI water mix.

## 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 Vistex 111-50 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 Vistex 111-50 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.

