



Technical Data Sheet

CrystalCoat™ UV HT-450

UV-Cure Tintable Spin Coating

DESCRIPTION

CrystalCoat™ UV HT-450 is a tintable UV curable, hardcoat for ophthalmic lenses or other plastic parts.

FEATURES

- Solvent-Based Formulation (Glass primer)
- Abrasion & Chemical Resistant
- Designed for Polycarbonate Substrates
- A/R Compatible
- Tintable
- Spin Coating Application

STORAGE AND HANDLING

UV HT-450 is flammable and should be stored away from potential ignition sources. Store in closed, properly labels containers. Do not store in colorless glass containers or other containers that transmit UV light. Do not pad containers or pressurized vessels using nitrogen. Use of nitrogen may cause premature gelling. Avoid sunlight or other sources of UV light. Store at ambient temperatures less than 75°F/ 24°C. When stored at this temperature in the original closed container, it is recommended to use UV HT-450 within 12 months from date of manufacture.

SOLUTION PROPERTIES

PROPERTY	TYPICAL VALUES
% Solids	45-47
Viscosity @ 25°C	8.3– 8.6 cP

CURED COATING PROPERTIES

PROPERTY	TYPICAL VALUES
Coating Thickness	3.0 - 3.5 μm
Steel Wool Hardness	4.5 (0-10 scale)
Bayer Ratio	1.10
Adhesion (30 Min. Boiling Water)	100%
Tint—% Light Transmission (15 min BPI Black at 96°C / 205°F)	15-20%
Post Tint adhesion	100%

RECOMMENDED OPERATING GUIDELINES

PROCESS	TYPICAL VALUES
Wash	Soap and water. No etching required
Application Spin Speed*	600 rpm for 5 seconds
Spin Out Speed	800 rpm for 40 seconds
Cure	18 seconds with 300 watts/inch medium pressure mercury arc lamp and elliptical reflector (~1.0 j/cm ²)
Coating Filtration	1.2 μm absolute

* Spin speeds and times can vary depending on equipment utilized. UV-cure energy of lamp systems may vary. These parameters are meant as a guideline. UV HT-450 was designed for use in the SDC Clean 'n Coat system, but will work in other systems following these guidelines.



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EQUIPMENT PREPARATION

Equipment Cleaning: Coating equipment should be cleaned prior to use of UV HT-450 in order to avoid any possible contamination problems. 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 rinse with acetone or 1-Methoxy-2-propanol (PM). Acetone or PM should also be used for cleaning equipment after the use of UV HT-450. It is important to be sure all solvent has been completely removed/dried from coating bowl, tubing, and pump before adding coating. (Same as UV ASNT-1)

Equipment Materials: All equipment surfaces that are exposed to UV HT-450 should be constructed of stainless steel, polypropylene or Teflon®. Other materials should be tested for compatibility with UV HT-450 prior to use. Materials made with polyvinyl chloride (PVC) should not be used under any circumstances.

APPLICATION ENVIRONMENT

UV HT-450 should be applied in a clean temperature and humidity controlled environment. Recommended conditions for application are 20 – 25°C (68 - 77°F) and 30 – 60% relative humidity. Coating machine should be equipped with hepa air filter. It is recommended to place coating machine in a clean environment and in separate area from edging or polishing equipment. (same as UV AS nT-1)

LENS CLEANING

Lenses to be coated with UV HT-450 should first be cleaned isopropanol, then cleaned by inline cleaning system in the coating machine being used. Lenses should be clean and dry before application of UV HT-450. (same as UV ASNT-1)

HEALTH & 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 & 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 UV HT-450 and are not meant as specifications. SDC Technologies, Inc. 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 SDC Technologies Standard Terms and Conditions or to your Purchase Agreement with SDC for the warranty coverage of SDC's product.

PRODUCT SHIPPING & AVAILABILITY

Typical lead-time for shipment of UV HT-450 is four (4) weeks from confirmation of a purchase order. SDC provides several shipping options. Please contact an SDC representative to determine which option best fits your needs. All orders are shipped ex works/F.O.B. Additional shipment charges including customs clearance and fees (if applicable) are the responsibility of the customer.

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