



Technical Data Sheet

CrystalCoat® UV AS-NT1

DESCRIPTION

CrystalCoat® UV AS-NT1 is a UV curable hard coat for ophthalmic lenses or other plastic parts.

FEATURES

- 100% Solids (Solvent-Free)
- Abrasion and Chemical Resistant
- Designed for Polycarbonate, ADC (CR-39®, RAV 7™), Trivex®, Mid-Index Acrylic, 1.60 (MR-8™), 1.67 (M-R7™, MR-10™), and 1.74 (MR-174™)
- A/R (Anti-Reflective) Coating Compatible
- Non-Tintable
- Spin or Spray Application

STORAGE AND USE

Store UV AS-NT1 in closed, properly labeled 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 and 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 AS-NT1 within 12 months from date of manufacture.

UV-Cure Spin Coating

SOLUTION PROPERTIES

| PROPERTY | TYPICAL VALUES |
|------------------|----------------|
| % Solids | 100% |
| Viscosity @ 25°C | 15– 18 cP |

CURED COATING PROPERTIES

| PROPERTY | TYPICAL VALUES |
|---------------------------------|------------------|
| Coating Thickness | 4.5 - 5.5 µm |
| Steel Wool Hardness | 6-7 (0-10 scale) |
| Bayer Ratio | 2.0—2.3 |
| Adhesion (30 Min Boiling Water) | 100% |

RECOMMENDED OPERATING GUIDELINES

| PROCESS | TYPICAL VALUES |
|-------------------------|--|
| Wash | Soap and water. No etching required. |
| Application Spin Speed* | 800 rpm for 6 seconds |
| Spin Out Speed | 1900 rpm for 7 seconds |
| Cure | ~2.5 joules/cm ² with medium pressure mercury arc lamp or Fusion system |
| Coating Filtration | 5.0 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 AS-NT1 can also be spray applied at thicknesses of approximately 12 microns.



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UV-Cure Spin Coating

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CrystalCoat® is a registered trademark of SDC Technologies, Inc.

CR-39® and Trivex® are registered trademarks of PPG.

MR-Series: MR-8™, MR-7™, MR-10™ & MR-174™ and RAV 7™ are trademarks of Mitsui Chemicals, Inc.

Teflon® is a registered trademark of The Chemours Company FC, LLC.

EQUIPMENT PREPARATION

Equipment Cleaning: Coating equipment should be cleaned prior to use of UV AS-NT1 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 AS-NT1. It is important to be sure all solvent has been completely removed/dried from coating bowl, tubing, and pump before adding coating.

Equipment Materials: All equipment surfaces that are exposed to UV AS-NT1 should be constructed of stainless steel, polypropylene or Teflon®. Other materials should be tested for compatibility with UV AS-NT1 prior to use. Materials made with polyvinyl chloride (PVC) should not be used under any circumstances.

APPLICATION ENVIRONMENT

UV AS-NT1 should be applied in a clean temperature and humidity controlled environment. Recommended conditions for application are 20 – 25°C (68 - 77°F) and 30 – 50% 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 potential contamination sources.

LENS CLEANING

Lenses to be coated with UV AS-NT1 should first be cleaned with isopropanol, then cleaned by inline cleaning system in the coating machine being used. Lenses should be clean and dry before application of UV AS-NT1.

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 AS-NT1 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 AS-NT1 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.

ISO 9001:2015 and ISO 14001:2015 Certified

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