



# Technical Data Sheet

## CrystalCoat® PF-4200

### Abrasion Resistant Coating, Primer-Free on Polycarbonate

#### DESCRIPTION

CrystalCoat® PF-4200 is a polysiloxane based thermal cure coating with primer-free adhesion to polycarbonate.

#### FEATURES

- Abrasion Resistance
- Chemical Resistance
- Optical Clarity
- Primer-free Adhesion to Polycarbonate
- Compatible with Anti-reflective and metalizing treatments

#### STORAGE AND USE

The recommended storage temperature for PF-4200 is 4°C (40°F). When stored at this temperature in the original closed container, it is recommended to start use of PF-4200 within 3 months of the date received.

For extended periods of storage (3 - 6 months), PF-4200 should be stored in a freezer at -18°C (0°F).

#### SOLUTION PROPERTIES

PROPERTY	TYPICAL VALUES
Solids	22 - 25 %
Viscosity @ 25°C	≤ 11.0 cP
Density @ 25°C	0.90 - 1.00 g/ml
Solvents: Water, Methanol, Ethanol, EB Glycol Ether, Diacetone Alcohol	

#### CURED COATING PROPERTIES

PROPERTY	TYPICAL VALUES
Coating Thickness	3.0 - 5.0 µm
Refractive Index	1.49
Bayer Ratio	2.5 - 3.5
Adhesion	100 %

#### RECOMMENDED OPERATING GUIDELINES

PROPERTY	TYPICAL VALUES
Environmental Conditions	20 - 25 °C, 30 - 45 % RH
Air Flow	Filtered, Laminar
Coating Temperature	16 - 18 °C
Coating Filtration	5 - 10 µm absolute
Extraction Speed	5.1 mm/s (12 in/min)
Dry Time/Temperature	5 - 10 mins IR heater 20 - 30 min @ 20 - 25 °C
Cure Conditions (Polycarbonate)	3hrs @ 129 °C



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## SDC TECHNOLOGIES CONTACT INFORMATION

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## EQUIPMENT PREPARATION

**Equipment Cleaning:** Coating equipment should be cleaned prior to use of PF-4200 in order to avoid any possible contamination problems. Coating contamination can result in adhesion problems or general appearance 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 ethanol rinse. Ethanol should also be used for cleaning equipment after the use of PF-4200.

**Equipment Materials:** All equipment surfaces that are exposed to PF-4200 should be constructed of stainless steel, polyethylene, polypropylene or Teflon®. Other materials should be tested for compatibility with PF-4200 prior to use. Materials made with polyvinyl chloride (PVC) should not be used under any circumstances with PF-4200 or other primers or coatings that contain glycol ethers.

## PRETREATMENT AND CLEANING OF SUBSTRATE

Prior to coating with PF-4200, parts should be clean and free of any surface residues. Parts to be coated with PF-4200 should be clean and free of any possible surface residues. Injection molded polycarbonate parts should be cleaned with a neutral or slightly alkaline pH 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, PF-4200 should be maintained in a % solids range of 22 - 25%. Higher or lower solids can cause appearance problems or lead to a coating deposition that is either too thick or too thin, respectively. The % solids should be measured on a regular basis and adjusted as needed by the addition of SM-1207 a 90/10 mixture of denatured ethanol and EB glycol ether. Denatured ethanol formulations that contain methanol, isopropanol and <1% water can be used.

## 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 PF-4200 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 AND AVAILABILITY

Typical lead-time for shipment of PF-4200 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 F.O.B. Additional shipment charges including customs clearance and fees (if applicable) are the responsibility of the customer.

ISO 9001:2015 and ISO 14001:2015 Certified