

# S-500 Hardcoat

## PRODUCT TYPE

S-500 is a 1.48 index Solvent Based Hardcoat that provides a UV-absorbing, abrasion-resistant surface on polycarbonate substrates.

## PROPERTIES

- Exterior-grade
- Resistant to abrasion and chemicals in combination with SP-1 Primer
- Transparent, high-gloss finish
- Thermal Curing

## SAFETY AND EXPOSURE

All users must read and understand the Safety Data Sheet prior to using this product.

## LIQUID PROPERTIES at 25°C

PROPERTY	RANGE
Viscosity	15 – 25 centipoise (cP)
Specific Gravity	0.94 to 0.95
Solids, % by weight	25 – 30
pH	Slightly acidic
Compatible Solvents	Isobutanol or n-butanol
Maximum Dilution	70% Coating : 30% Solvent

## CURED COATING CHARACTERISTICS

Polycarbonate substrate, 3.5 microns

PROPERTY	RANGE
Light Transmittance	≥ 88% (polycarbonate); ≥ 99% (glass)
Haze	< 1.0%
Adhesion	100% (5B)
Thickness, microns	2.0 – 6.0 (3.5)
Chemical Resistance	
Pass	Alcohols (ethanol/isopropanol), aliphatic (diesel/gasoline/heptane/cyclohexane), Esters (ethyl acetate), Ketones (acetone, 2-heptanone;2-butanone), Dilute alkali, Concentrated/Dilute acids (except hydrofluoric), Methyl Salicylate. <i>SP-1 Primer is required for all uses.</i>
Fail	Concentrated alkali, Hydrofluoric Acid, Dichloromethane

## WARRANTY LIMITATIONS

The physical and performance properties cited herein represent typical values for S-500 Hardcoat, and are not meant as exact specifications. Customers must conduct their own validation testing to determine the appropriate use of this product for any purpose. This information is not to be considered a warranty or license to infringe upon any patented process or product; no liability for infringement arising out of such a use is assumed.

## DELIVERY OPTIONS

The S-500 Hardcoat solution is available for shipment within four weeks of order confirmation, and is available in quart, gallon, five-gallon pail, and 55-gallon drum containers. Contact Exxene to select the best payment option and the optimum shipping method according to your preference and region. All charges, duties, and fees associated with the shipment and its contents are the responsibility of the customer.

## APPLICATION PARAMETERS

PROPERTY	RANGE
Application Method	
Dip	1.5 – 3.5 mm /second withdrawal rate
Spray	20 – 45 psi HVLP; fine tip
Flow Coat	As appropriate to flow system
Suggested Primers	SP-1 Primer on polycarbonate
Environment	
Temperature/Humidity	16 – 27°C / 20 – 45 % RH
Dew point	Dew point must be at least 15° lower than room temperature.
Air quality	Laminar, top-down flow < 5 cfm Particle count as appropriate ( ≤ Class 10,000 )
Coating Temperature	Within 2° of Ambient temperature
Coating Filtration	Polyethylene or polypropylene; nominal media rated at 0.5 to 1.0 microns as a pre-filter; absolute media rated at 5.0 to 10.0 microns. <i>Filter before every use.</i>
Cure Conditions	1 – 3 hours at 90°C 40 – 60 minutes at 120°C

## EQUIPMENT PREPARATION

**Compatible Materials:** All equipment surfaces must be constructed of stainless steel, polyethylene, polypropylene or similar, chemical resistance substances. Mild steel, brass, copper, and polyvinyl chloride (PVC) or plasticizer-containing materials cannot be allowed to contact the coating solution.

**Cleaning:** All coating equipment must be thoroughly cleaned with a compatible solvent to remove all traces of other coatings, solvents, or old batches of the same product. After all residues have been removed from the equipment, multiple rinses of butanol are used to prepare the system for the introduction of filtered S-500 Hardcoat solution. Dried Hardcoat residue may be removed with an aqueous 25 – 40% solution of sodium or potassium hydroxide.

**STORAGE** S-500 solution is stored at refrigerated temperatures below 10 °C. When stored in the original, sealed container, the solution should be used within three months.

**SUPPORT** Contact Us via telephone at +1(361) 991-8391, email Info@Exxene.com, or fax to +1(361) 991-9057. We are located at 5939 Holly Road, Corpus Christi, TX 78414.