



PolyGreen Solutions

POLYMER SOLUTIONS FOR SUSTAINABILITY

GREENSHIELD™ OPTISHIELD (S)

DESCRIPTION:

OptiShield (S) is an extremely tough, optically clear, weather resistant, 2 component polyurea formulation. The sprayable material comes in 2 primary versions with a range of properties shown below.

OptiShield (S) is a 100% solids aliphatic coating used primarily in exterior, high-wear environments. **OptiShield (S)** may be applied over diverse types of substrates such as; metals, woods, foams, engineering polymers, composites, brick and concrete. A primer may be required depending on the specific substrate, consult your PolyGreen representative. It meets FDA regulations for indirect food contact (CFR 21, Sec. 175-300)

Physical Property	Test	Result
Optical Clarity	Visual	Clear
Flex Modulus (psi)	ASTM D-790	100k Flex; 250k Hard
Tensile Strength (psi)	ASTM D-412	3500 Flex; 4200 Hard
Elongation (%)	ASTM D-2256	100 Flex; 200 Hard
Hardness – Shore D	ASTM D-785	50 Flex; 75 Hard
Abrasion – Taber CS17	ASTM D-4060	50mg/ 1k cycles
Tear Strength	ASTM D-624	200 lbs./ linear in.
Adhesion Results Elcometer		
Concrete - Primed	D-4541	>300 psi
Steel - Primed	D-4541	>1000 psi
Wood - Primed	D-4541	>250 psi
Gel Time		5-15 sec.

Typical Uses

- Commercial, Industrial; Power plants, boat building, marine environments, industrial outdoor heavy equipment, commercial flooring, decorative concrete, steel infrastructure, etc.
- Optically Clear, may be tinted including luminescent pigments.

Features and Benefits

- UV Resistant, Clear High Gloss as a stand- alone coating or as a topcoat over other coatings.
- Aliphatic 100% Solids with no VOCs.
- Custom formulation offering a range of elongation and hardness combination to fit several specific application requirements.
- High Dielectric Insulator Capacity
- Hydrophobic Properties.

Process Guidelines

- *Condition material to 75°-85° F prior to application. Material that is cold or too hot may result in off ratio mixing.
- Equipment Temperatures for hose and preheaters set; 140°-150° F.
- Equipment Pressure; 2000-2200 psi.
- Substrate/ Ambient; 40° – 110° F
- Installed Service Temp; -40° - 150° F
- Substrate Moisture; < 15%
- Mix Ratio; 1 part A to 1 part B
- Coverage @16 mils is 100 sq.ft. per mixed gallon of material.

PREPARATION: **OptiShield (S)** B-side resin requires mixing prior to use. Mixing should be done with a variable speed drill Jiffy Mixer or drum mount air mixer.

APPLICATION INSTRUCTIONS: Substrates must be fully cured and cleaned prior to any coating operation. The cleaning operation must not leave any residual detergents, acids or alkali cleaners. Concrete flooring should be prepared with shot blasting (SPCC min. 2), diamond grinding and/or machine sanding depending on severity of concrete surface condition. When using **OptiShield (S)** for coating steel, the substrate should be shot blasted to a SSPC 4-6 mils profile. After shot blasting, the substrate should be clean and dry. There should be no visible rust prior to coating. An adequate proportioner and transfer pumps must be used to maintain the required processing temperatures and pressures specified under working load.

SUBSTRATES: **OptiShield (S)** is compatible with most common construction materials including those listed in the Description section. It is the responsibility of the contractor to check substrate compatibility prior to starting of the job.

HOW SUPPLIED: Net weight per drum set is 950 lbs. A drum set of **OptiShield (S)** consists of one (1) 52 gallon / 500 lb. drum of 'A' component and one (1) 52 gallon/ 450 lb. drum of 'B' component. Pail sets come in one (1) 5 gallon/ 50 lb. pail of 'A' Component and one (1) 5 gallon/ 40 lb. pail of 'B' Component.

STORAGE: **OptiShield (S)** should be stored between 60° – 80° F out of direct sunlight. Do not allow material to freeze. Shelf Life for unopened containers is 6 months when stored properly.

SAFETY PRECAUTIONS: Health Considerations

This chemical system requires the use of proper safety equipment and procedures. Please follow the PolyGreen Solutions product SDS and Safety Manual for detailed information and handling guidelines.



- Consult the PolyGreen Solutions Safety Data Sheets (SDS)

For Your Protection: The information and recommendations in this publication are, to the best of our knowledge, reliable. Suggestions made concerning the products and their uses, applications, storage and handling are only the opinion of PolyGreen Solutions. Users should conduct their own tests to determine the suitability of these products for their own particular purposes and of the storage and handling methods herein suggested. The toxicity and risk characteristics of products made by PolyGreen Solutions will necessarily differ from the toxicity and risk characteristics developed when such products are used with other materials during a manufacturing process. The resulting risk characteristics should be determined and made known to ultimate end-users and processors.

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