



PolyGreen Solutions

POLYMER SOLUTIONS FOR SUSTAINABILITY

GREENSHIELD™

URETHANE 123

DESCRIPTION:

GreenShield 123 is a high solids, single component, elastomeric, urethane coating for roofing or industrial use. It can be used as a standalone product or in conjunction with an appropriate primer (consult your PolyGreen representative on primer selection) or with GreeTech 253-303 roofing foam as a system. GS-123 contains no restricted VOCs and is resistant to chemical attack, and abrasion. GS-123 is designed to seal and waterproof vertical and horizontal construction components. GS-123 can be applied in a wide range of ambient temperatures and humidity levels.

Physical Property	Test	Result
Tear Resistance (pli) Die C:	ASTM D-1004	150 \pm 50
Permeability @ 20 mils	ASTM E-96	0.01
Tensile Strength (psi)	ASTM D-412	600 \pm 50
Elongation (%)	ASTM D-412	125 \pm 10
Hardness – Shore A	ASTM D-2240	60 \pm 5
Weathering/ UV Resistance (700 hours)	ASTM D-822	Slight Chalk
Reflectivity		76%
Emissivity		0.25
SRI Value		77

Chemical Properties

Solids by Volume	ASTM D-2697	70% \pm 2
Solids by Weight	ASTM D-1644	75% \pm 2
Aluminum Content/Volume	ASTM D-2697	28.73%
Volatile Organic Compounds (g/l)	EPA Method 24	< 200

Typical Uses

- Waterproofing and roofing.
- Maintenance repair and recovery of single ply membranes and BUR.
- Metal roof restoration and repair.
- Pedestrian and vehicular bearing decks.
- Concrete and CMU blocks.
- Storage tanks and silos.

Reactivity Profile

- Dry to touch @77°F - 1 to 3 hours
- Tack Free @77°F - 3 to 5 hours
- Light Foot Traffic - 7 to 9 hours
- Recoat Time - 5 to 22 hours
- Cure Time - 22 to 26 hours

Process Guidelines

- *Condition material to 65°F
- Ambient Temp range 50-100°F
- Substrate Temp range 50° – 135° F
- Humidity level <90% RH, temp not within 5% of dewpoint within 24 hrs.
- Singel component can be applied by spray, roll, brush or squeegee.
- High pressure airless sprayer with high pressure hose and rated 2500-3000 psi.
- Equipment output of 2 gal. per minute.
- GS-123 is flammable; use only in a well ventilated area, away from open flame, heat, sparks and lighted cigarettes.
- Flash point is >100°F
- Shelf Life unopened is 12 months.

Theoretical Coverage**	DFT	WFT	Application Rate	Coverage Rate
	12 mil	17.1 mil	1.07 gal/sq	94 sqft/gal
	18 mil	24.7 mi	1.6 gal/sq	62 sqft/gal
	24 mil	34.3 mil	2.14 gal/sq	47 sqft/gal
	36 mil	51.4 mil	3.21 gal/sq	31 sqft/gal
	48 mil	68.6 mil	4.28 gal/sq	23 sqft/gal

PREPARATION: GreenShiled 123 when stored for extended periods of time, may develop a skin on top of the coating, which must be removed prior to use. Thinning is not recommended.

Any physical damage to the roof must be repaired prior to coating application. Roof surface must be clean, dry and free of any mildew, oil, grease, dirt, loosely adhered roofing materials, or other foreign contaminants that would prevent proper adhesion. Any such contaminants must be removed from the application surface via power washer, and/or broom using the appropriate detergents and/or bleach and then roof surface rinsed with clean water. After contaminants are removed, and roof surface has been rinsed, application surfaces must be checked for compatibility. Always perform a coating adhesion test before doing the entire roof. Depending on the roof surface type and condition a primer may be required to ensure proper adhesion.

Precautions must be taken when applying GS-123 to occupied buildings to ensure that air conditioners and ventilation units are turned off and covered to prevent solvent vapors from entering the building. Windows should be closed during application. Signs should be posted around application area to restrict entrance into application area and to warn building occupants or passerby of the respiratory risk.

APPLICATION INSTRUCTIONS: The successful installation of GS-123 will depend on the equipment capabilities and settings, the temperature of the coating in the container, ambient temperature and relative humidity, substrate temperature and moisture content, substrate type and condition. It is the responsibility of the applicator to take these factors into consideration prior to installation. If the material appears thickened due to storage at cold temperatures; store material for a sufficient length of time in a warm area prior to application to bring material temperature to 70°F. Thinning is not recommended. GS-123 is a moisture cure product and must be applied in ambient conditions that enable evaporation in order to cure properly.

Polyurethane foam should be coated within 24 hours after foam has been sprayed and additional coats should be applied as soon as previous coat is dry and cured to ensure full, uniform adhesion.

It is recommended that GS-123 be applied in two or more separate coats to ensure proper coverage, cure rate, and to provide a continuous, durable film without pinholes. Individual coats of GS-123 should be applied in perpendicular direction to the previous coat. It is recommended that the edges, joints, and seams, in the roof be pre-coated. GS-123 can be reinforced with glass fiber matt or nylon mesh, particularly over seams and joints, to increase tensile strength and improve the consistency of the application surface. Be advised that while this will increase tensile strength, it will reduce elongation. For application in high humidity or low temperature environments, apply product in thin passes to promote proper drying and curing.

SUBSTRATES: GS-123 is compatible with all common building and roofing materials including electrical wiring, wood, metal, concrete, plastic (PVC), copper, vinyl, glass, asphalt, EPDM rubber, TPO, aggregate, spray foam, and others.

STORAGE: GS-123 should be stored between 35 and 90°F out of direct sunlight. GS-123 is affected by moisture and must be protected from moisture contamination.

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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