



TOPSHIELD® EST/EST (CAL)/EST (SC)

A Single Component, Polyester, High Performance, Aliphatic Topcoat

1.01 DESCRIPTION

Topshield® EST is a single-component, liquid-applied, moisture-cured, polyester, aliphatic, surface topcoat for waterproofing membrane systems. Topshield® EST is 340 VOC, Topshield® EST (CAL) is 250 VOC. Topshield® EST(SC) is 100 VOC. Be sure to use the right product grade that complies with VOC regulations as per federal, state, statutory bodies, county and city regulations/codes at the place of installation of product.

1.02 FEATURES

- Very Durable
- Excellent Weatherability
- Seamless Waterproofing Membrane
- UV Resistant for Superior Gloss Retention

1.03 TYPICAL USES

- Concrete Decks
- Plywood Decks
- Pedestrian Decks
- Balcony / Plaza
- Vehicular Decks

1.04 COLORS

- For Topshield® EST (340 VOC): Clear and tan
- For Topshield® EST (CAL) (250 VOC): Medium gray, tan, brick red and white. Tint-white with color packs are available in light gray, dark gray, tan, dark tan, and chocolate.
- For Topshield® EST(SC) (100 VOC): Tint- white with color packs are available in light gray, medium gray, dark gray, tan, dark tan, brick, chocolate, and white.
- Custom colors are also available. Minimum order of 250 gallons (945 liters). For larger projects, standard pre-blended colors will be available.

1.05 PACKAGING

1 gallon (3.78 liter) can
5 gallon (18.9 liter) pail
55 gallon drum, net fill 50 gallons (189 liters)

1.06 SURFACE PREPARATION

Refer to General and Safety Guidelines for complete information. Install a 100-200 sqft (9.3-18.6 sqm) mock up of the system to be installed and approve for aesthetics, color, slip resistance, actual coverage rates and functionality before proceeding.

1.07 MIXING

Before application, mix Topshield® EST using a mechanical mixer (Jiffy Mixer) at slow speeds until a homogeneous mixture and color is obtained. Topshield® EST may also be mixed by hand for at least five minutes. Use caution not to whip too much air into the material

as this may result in pinhole blisters or shortened pot life. When using a color pack system, "boxing" from one mixed pail to the next is recommended. Always save 1 gallon (3.78 liters) or more and mix into the next pail to prevent color variation. Likewise, with pre-tinted topcoats, mix the last gallon or two from the previous batch into the new batch number.

APPLICATION

2.01 APPLICATION BASICS

Apply Topshield® EST evenly over the entire deck. For best results, an airless sprayer or phenolic-resin-core roller may be used but extra care should be taken not to cause air bubbles.

Topshield® EST may require more than one coat depending on the job specifications and requirements. When estimating material requirements, coverage rates tend to increase for subsequent coats of material. To obtain proper adhesion between coats it is imperative that recoating be done within 48 hours.

Refer to individual Systems Description under System Specifications Section of the Poly-Tuff Systems International (PSI) catalog or web site for specific coverage rates.

Coverage rates and cure times will vary depending on temperature, relative humidity, surface roughness and porosity, aggregate selection, embedment, and application technique. Coverage rates provided are optimal and are not guaranteed.

2.02 CURING

At 75°F (24°C) and 50% relative humidity, allow each coat to cure a minimum of 16 hours between each coat. Cure time will vary depending on temperature and humidity.

Allow 24 hours before permitting light pedestrian traffic and at least 72 hours before permitting heavy pedestrian or auto traffic on to the finished surface. If more than 48 hours passes between coats, reprime the surface with recommended PSI Primer before proceeding.

Uncured Topshield® EST is very sensitive to heat and moisture. Higher temperatures and/or high humidity will accelerate the cure time. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time. To accelerate cure, topcoat Accelerator may be used.

2.03 EQUIPMENT CLEANUP

Equipment should be cleaned with an environmentally safe solvent, as permitted under local regulations, immediately after use.

2.04 STORAGE

Topshield® EST has a shelf life of twelve (12) months from date of manufacture when stored indoors at a temperature between 60°F to 95°F (15-35°C) in original, factory-sealed containers.

2.05 LIMITATIONS

- Surfaces must be dry, clean and free of foreign matter.

- Clear coating may turn opaque and cloudy due to moisture penetration, especially in exterior applications.
- Containers that have been opened must be used as soon as possible.
- Do not dilute under any circumstance.
- The following conditions must not be coated with PSI deck coating systems: On grade or below grade slabs, split slabs with buried membrane, sandwich slabs with insulation, slabs over unvented metal pans, suspended pool decks, swimming pools, magnesite, light weight concrete, asphalt surfaces and asphalt overlays.

WARNING: This product contains isocyanates and solvent.

Topshield® EST Clear is considered Dangerous Goods. DOT regulations classify it as: **UN 1263, PAINT, Class 3, PG III, FLAMMABLE LIQUID.**

TECHNICAL DATA

Topshield EST, Pigmented <small>340 VOC. Based on draw down films.</small>		Topshield EST (CAL), Pigmented <small>250 VOC. Based on draw down films.</small>		Topshield EST(SC), Pigmented <small>100 VOC. Based on draw down films.</small>	
Coverage Rate	See individual Guide Specs	Coverage Rate	See individual Guide Spec	Coverage Rate	See individual Guide Spec
Dry Film Thickness, Exclusive of Aggregate, Per Coat @ 1 gallon/100 sqft	10 ± 2 mils 254 ± 50 microns	Dry Film Thickness, Exclusive of Aggregate, Per Coat @ 1 gallon/100 sqft	10 ± 2 mils 254 ± 50 microns	Dry Film Thickness, Exclusive of Aggregate, Per Coat @ 1 gallon/100 sqft	12 ± 2 mils 305 ± 50 microns
Hardness, ASTM D-2240	95 ± 5 Shore A	Hardness, ASTM D-2240	95 ± 5 Shore A	Hardness, ASTM D-2240	95 ± 5 Shore A
Tear Resistance, Die C, ASTM D-624	500 ± 50 pli 87.6 ± 10 kN/m	Tear Resistance, Die C, ASTM D-624	450 ± 50 pli 78.8 ± 10 kN/m	Tear Resistance, Die C, ASTM D-624	500 ± 50 pli 87.6 ± 10 kN/m
Tensile Strength, ASTM D-412	3800 ± 300 psi 26.2 ± 2 MPa	Tensile Strength, ASTM D-412	4000 ± 300 psi 27.6 ± 2.7 MPa	Tensile Strength, ASTM D-412	4000 ± 400 psi 27.6 ± 2.7 MPa
Ultimate Elongation, ASTM D-412	250 ± 25%	Ultimate Elongation, ASTM D-412	200 ± 25%	Ultimate Elongation, ASTM D-412	200 ± 25%
Specific Gravity	1.14 ± 0.1	Specific Gravity	1.25 ± 0.1	Specific Gravity	1.31 ± 0.1
Total Solids by Weight, ASTM D-2369	73 ± 2%	Total Solids by Weight, ASTM D-2369	74 ± 2%	Total Solids by Weight, ASTM D-2369	75.6 ± 2%
Total Solids by Volume, ASTM D-2697	64 ± 2%	Total Solids by Volume, ASTM D-2697	67 ± 2%	Total Solids by Volume, ASTM D-2697	73.4 ± 2%
Viscosity at 75°F (24°C)	1200 ± 600 cps	Viscosity at 75°F (24°C)	1500 ± 500 cps	Viscosity at 75°F (24°C)	2000 ± 500 cps
Volatil Organic Compounds, ASTM D-2369-81	2.79lbs/gal 334 gm/liter	Volatil Organic Compounds, ASTM D-2369-81	2.09lbs/gal 250 gm/liter	Volatil Organic Compounds, ASTM D-2369-81	0.82lbs/gal (with exempt Solvent) 98 gm/liter

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical properties. PSI warrants that its products, when properly installed by a state licensed waterproofing contractor according to PSI guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of 12 months. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the users responsibility to satisfy himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.