SPI SPECIALTY PRODUCTS, INC.
SEAMLESS SOLUTIONS FOR OVER 40 YEARS

ELASTAFLEX™ HP UB

ELASTOMERIC POLYUREA

PRELIMINARY

DESCRIPTION

ELASTAFLEX™ HP UB is a unique blend of aliphatic and aromatic polymer chemistry with greater color/gloss retention and is more UV resistant than aromatic polyureas*. ELASTAFLEX™ HP UB is a very economical 100% pure polyurea which exhibits very high tensile strength and elongation. ELASTAFLEX™ HP UB was stretched to twice the samples original length at 30 times per minute, more than 530,000 times before breaking. ELASTAFLEX™ HP UB is formulated with SPI's cutting-edge ULTRA BOND™ technology. SPI's advanced ULTRA BOND™ chemistry is coined "the duct tape molecule". ULTRA BOND™ has the unique advantage of adhering to most properly prepared organic and inorganic (new and aged) surfaces without requiring a primer. Like duct tape, ELASTAFLEX™ HP UB with Ultra Bond™ gains adhesion over time.

FEATURES

- **ELASTAFLEX™ HP UB is available with SPI's cutting-edge Ultra Bond™ technology. SPI's advanced Ultra Bond™ chemistry is coined "the duct tape molecule". Ultra Bond™ has the unique advantage of adhering to most properly prepared organic and inorganic (new and aged) surfaces without requiring a primer. Like duct tape, ELASTAFLEX™ HP UB with Ultra Bond™ gains adhesion over time.**
- **As with most coatings, there is a re-coat window that presents a lack of inter-coat adhesion. The UB™ molecule mitigates this risk during installation.**
- Manufactured with high pigment loading for enhanced color stability and gloss retention.
- Extended gel time for better flow-out providing a smooth, more uniform finish and better substrate penetration.
- Forms a monolithic membrane that can be handled and walked on within minutes from the time it's sprayed.
- Compliant with FDA/USDA for incidental food contact.
- ELASTAFLEX™ HP UB liner is very supple with minimal shrinkage.
- Class 1 Fire Rating: ASTM E84-97a complies with NFPA and UBC.
- 100% solids, no solvents, and zero VOCs.

RECOMMENDED USES

- Liner for concrete tanks, ponds, lagoons, reservoirs, dikes, tunnels, barges, etc.
- Roof coating used over metal, polyurethane foam, concrete, and certain single ply membranes.
- Coating for steel or other substrates exposed to corrosion.
- Encapsulation for EPS or other types of flotation materials.
- Replace or repair failed existing sheet membrane liners, steel tanks, silos, and pipes.
- In between slab waterproofing.
- Encapsulation of asbestos, lead paint, or other dry hazardous materials (Consult SPI).
- Earthen containment used with geotextile membranes.

DRY PROPERTIES*

Tensile Strength ASTM D638	± 3,150 psi (22 mpa)
Elongation ASTM D638	± 630%
Hardness (Shore A) ASTM D2240-81	80 ± 5
Hardness (Shore D) ASTM D2240-81	33 ± 5
100% Modulus ASTM D412	572 psi (4 mpa) ± 10
300% Modulus ASTM D412	1,071 psi (7 mpa) ± 10
Tear Resistance ASTM D624	314 PLi (55.00 KN/m) ± 50
Exposure Temperature**	-60° - 300°F (-50° - 148°C)

CURING SCHEDULE

Gel	± 10 sec
Tack Free	± 30 sec
Post Cure***	24 hour
Recoat	0 - 12 hours

* All cured film properties are approximate since processing parameters, ad-mixture types, and quantities change physical properties of the cured elastomer. Elevated temperatures will accelerate the curing process and shorten the re-coat window.

** Test performed in a dry, static environment.

*** Complete polymerization to achieve final strength can take up to several days or weeks, depending on a variety of conditions or product type. All samples for above tests were force cured 48 hours or aged for more than three weeks. It is recommended that the user perform their own independent testing.

The samples for tests were sprayed with Graco HXP3 at 45 mils (1.1 mm), 2900 psi (20 mpa) dynamic pressure at gun. Graco MP Fusion gun with 29/29 mixing module and .040 ceramtip. Primaries/Hose Heat 170°F (77°C).

WET PROPERTIES

Solids by Volume	100%
Solids by Weight	100%
Volatile Organic Compounds	0 lbs/gal (0 g/l)
Theoretical Coverage DFT	100 sq. ft. @ 16 mils/gal
Weight per gallon (approx)	8.75 lbs. (3.98 kg)
Number of coats	1 - 2
Mix Ratio	1 "A" : 1 "B"
Viscosity (cps)	A: 525 ± 50 mPa.s B: 450 ± 50 mPa.s
Shelf Life Unopened Containers @ 60 - 90°F (15 - 32°C)	6 Months

Minimum/maximum material/container temperature is 70°F (21°C)

PACKAGING

This product sold in standard 110 gallon drum and 550 gallon tote sets. Available in other container sizes, contact sales representative for further information. Non-standard containers may require a longer lead time.

COLORS

ELASTAFLEX™ HP UB is available in standard colors (*Manila, and Light Grey) Sand, Medium Grey, and Black. Custom colors available upon request. Aluminized ELASTAFLEX™ HP UB is also available under the name ELASTAFLEX ARC™. Note: ELASTAFLEX™ HP UB in continuous full-light exposure, white or very light colors will change over a period of time. Aliphatic urethane and other suitable topcoats can be used where long-term aesthetics are of critical importance.

TEST INFORMATION

FLAME SPREAD ASTM E84 @ 40 mils	Class I Passed 15	
SMOKE DENSITY ASTM E84 @ 40 mils	Class 1 Passed 30	
ABRASION RESISTANCE ASTM D4060 1000 g - 1000 cycles	H-18 wheel	110 mg loss
WEATHERABILITY (black) 3000 hours (QUV)	no evidence of failure	
MANDREL BEND ASTM D522-13	1/4" at -60°F Passed	

GENERAL APPLICATION INSTRUCTIONS

Apply ELASTAFLEX™ HP UB only to clean, dry, sound surfaces free of loose particles or other foreign matter. ELASTAFLEX™ HP UB can be sprayed over a broad range of ambient and substrate temperatures. It is recommended that ELASTAFLEX™ HP UB be sprayed in multi-directional (north/south-east-west) passes to ensure uniform thickness.

Contact SPI technical service personnel for specific surface preparation for your application.

COMMON SUBSTRATES:

STEEL: 2-5 mil anchor profile is best for maximum adhesion and varies per application and conditions; adhere to proper SSPC standards.

WOOD: Clean, dry and sanded (to remove burs, splinters, loose debris) for a smooth surface in which to apply polyurea onto. (It is recommended to prime wood and other porous surfaces before application of heated, fast-set polyureas to reduce pin holing)

CONCRETE: Prepare concrete in accordance with SPI Concrete Prep Guide and SSPC/NACE Standards.

PREVIOUSLY APPLIED COATINGS: SPI recommends UB™ (ULTRA BOND™) products over existing coatings that are past the recoat window and/or application over other coatings. Contact SPI for additional information.

NOTE: It is recommended that existing surfaces be power washed with 2500—3500 psi water pressure to enhance adhesion of ELASTAFLEX™ HP UB. If there is a possibility of surface contamination, scrub with a solution of 1/4 tsp Dawn detergent and 1 tbsp of vinegar, per 1 gallon of warm water. Follow with a thorough water rinse. If there is oxidation on the surface of the existing substrate; it must be removed prior to application of ELASTAFLEX™ HP UB. Removal of oxidation can be done via mechanical methods to insure the ELASTAFLEX™ HP UB has a sound substrate to adhere to. The use of SPI Prep Wipe™ solution will tack up the existing polyurea coating and help promote bonding of the ELASTAFLEX™ HP UB.

On all above listed substrates and others, please contact SPI Sales or Technical Support for more information specific to your application, including industry standards such as SSPC and NACE. Adhesion tests are always recommended prior to application.

PROCESSING EQUIPMENT & SETTINGS

MACHINES:		
GRACO (Gusmer, Glass-craft)	• A-25* • A-XP1 • E-10 HP • E-20* • E-30* • E-XP1 • E-XP2 • H-20/35 Pro • H-25* • H3500 • H-40*	• H-50* • HV-20/35 • H-XP2 • H-XP3 • Reactor2 E-XP2 • Reactor2 H-XP2 • Reactor2 H-XP3 • Reactor2 E-30* • Reactor2 H-30* • Reactor2 H-40* • Reactor2 H-50*
PMC	• GH-25* • GH-40* • PA-25* • PAX-25 • PH-2* • PH-25*	• PH-40* • PHX-2 • PHX-25 • PHX-40 • PMCA-20
SPRAY FOAM EQUIP & MFG	• 5/12K* • 6/6K*	• 6/12K
*2,000 psi machines		

GUNS:		
GRACO	• Fusion MP • GAP Pro • GX7-DI • GX-8 Pro	• P2 • P2 Elite • P2 Elite “C” • D7
GLASS CRAFT		
SFE		

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 1500 psi (10 mpa) dynamic pressure with heating capabilities to 175°F (79°C) will adequately spray ElastaFLEX™ HP UB.
- Pre-heater temperature 160-170°F (71-77°C).
- Machines capable of producing a higher dynamic psi may be required depending on the service environment the ELASTAFLEX™ HP UB will be exposed to. Consult with SPI technical service personnel for additional information.
- Primary heater temperature 160-170°F (71-77°C).
- Hose temperature 160-170°F (71-77°C). A hose thermometer inserted under the insulation near the gun should read a minimum of 145-155°F (63-68°C).
- Physical properties will be enhanced when sprayed at higher pressure (3000 psi or more), utilizing an impingement mix gun such as MP Fusion or GX7-DI gun.
- Do not use mixing chambers with output greater than 1.5 gallons per minute. Consult SPI technical service personnel for additional information.

If you own a machine that is not listed above please contact your SPI representative for information and instructions.

MIXING & THINNING

Thoroughly agitate the “B” components of this product prior to application. Use a SPI folding blade mixer or equivalent equipment approved by SPI. Install mixer through the extra air specific 2” bung hole provided on all “B” drums. Care must be taken not to cross contaminate the individual components with the mixing equipment; for best mixing results, supply the SPI mixer with 25 cfm of air at 100 psi. Thinning is not required. Using any thinner may adversely affect product performance.

LIMITATIONS

ELASTAFLEX™ HP UB is for professional use only.

ELASTAFLEX™ HP UB must be stored at temperatures between 60—90°F (15—32°C).

Liquid temperature in containers/drums during application 70—100°F (21—38°C).

Apply ELASTAFLEX™ HP UB when surface and air temperatures are above 40°F (5°C) and the surface temperature is at least 5°F (3°C) above dew point and rising.

Minimum material/container temperature for spray application is 70°F (21°C).

Avoid moisture contamination in containers. Containers should not be released if contamination is suspected. CO_2 created pressure can develop. Do not attempt to use contaminated material.

Undried air exposed to liquid components will reduce physical properties of the cured coating.

Note: The material supplied is a two component system (Component “A”/Component “B”) which is used to formulate this product. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components.

For the most up to date technical data sheet and/or safety data sheet visit our website at www.specialty-products.com.

GENERAL SAFETY, TOXICITY & HEALTH

Safety Data Sheets are available for this coating material. Any individual who may come in contact with these products should read and understand the S.D.S. **CHEMTREC EMERGENCY NUMBER 1-800-424-9300**
WARNING: Contact with skin or inhalation of vapors may cause an allergic reaction. Avoid eye contact with the liquid or spray mist. Hypersensitive persons should wear protective clothes, gloves and use protective cream on face, hands and other exposed areas.
CLEAN UP: Use DPM, or NMP.
EYE PROTECTION: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mist or dusts. If contact is possible, the following protection shall be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazard exist, a full-face respirator may be required.

SKIN PROTECTION: Personal protective equipment for the body should be selected based on the task being performed; the risks involved, and should be approved by an industrial hygiene specialist before handling this product. Chemical resistant gloves complying with applicable health and safety standards shall be worn when handling this product. Cover as much of the exposed skin area as possible with appropriate clothing. Refer to safety data sheet (SDS).

RESPIRATORY PROTECTION: Harmful if inhaled and may cause allergy or asthma symptoms. Ensure adequate ventilation. If the respirator is the sole means of protection, use a full-face supplied respirator. Use respirators and components tested and approved under appropriate government standards such as OSHA 29CFR 1910.134, NIOSH (US), or CEN (EU). Consider the application and environmental concentrations when deciding if additional protective measures are necessary.

INGESTION: Do not take internally. It is believed that ingestion of polymeric isocyanates would not be fatal to humans, but may cause inflammation of mouth and stomach tissue.

SPECIALTY PRODUCTS, INC.

SEAMLESS SOLUTIONS FOR OVER 40 YEARS

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Product & Equipment Technical Assistance
24 hours - 7 days a week 800 627 0773

SPI Website

CONTACT US

2410 104th St. Ct. S. Ste D, Lakewood, WA 98499
SPECIALTY-PRODUCTS.COM
1 800 627 0773 **FAX** 253 588 7196
info@specialty-products.com

SPI Media

SSPC The Society For Protective Coatings

PDA

PMC POLYMAC-USA POLYURETHANE MACHINERY CORPORATION

GRACO

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