



ULTRA BOND-HT-FC™

HIGH STRENGTH, SUPERIOR ADHESION, SPRAY APPLIED POLYUREA
FDA COMPLIANT

PRELIMINARY
Revised 03-03-14

DESCRIPTION

ULTRA BOND-HT-FC™ is a high tensile, high elongation, high build, fast set, elastomer, that is compliant with FDA 21 CFR 175.300 (c)(d) high temperature heat-sterilize, non-acid aqueous food contact, specifically formulated to provide a tenacious bond to certain thermoset plastic surfaces. Unlike most spray applied Polyureas ULTRA BOND-HT-FC™ has the unique advantage of adhering to many polymeric substrates, both new and aged, typically without the use of primers or extensive surface preparation.

FEATURES

In house testing has shown excellent adhesion to certain clean, dry surfaces including:

• Primers Past the Recoat Window	• SBR Rubber
• Latex Rubber	• Aged Polyureas
• Crumb Rubber Surfaces	• Automotive Finishes
• Melamine	• Roofing
• Firestone SBS Roofing Membrane	• Glass
• Epoxy	• Sarnafil Vinyl Roofing Membrane
	• Line-X Bed liner

*It is recommended that oxidized surfaces be power washed with 2500 – 3500 psi water pressure to achieve maximum adhesion of ULTRA BOND-HT-FC™. If there is a possibility of surface contamination, scrub with a solution of ¼ tsp Dawn detergent plus 1 tbsp of Vinegar, per 1 gallon of warm water, followed by a thorough water rinse.

SPI Prep Wipe™ applied prior to application of ULTRA BOND-HT-FC™ generally increases adhesion to certain finishes.

RECOMMENDED USES

- Coating over organic primers that are past their recoat window. These include SPI POLYPRIME-100™ and EP-100™
- Repair of Polyurea liners
- For texturing aged Polyurea
- Top coat compatible existing membrane liners
- Recoat urethane liners
- Recoat over other polymer based substrates used for flooring, wall covering, and infrastructure protection

COLOR

ULTRA BOND-HT-FC™ is available in several standard colors (Sand, Medium Gray and Black). Custom colors will be quoted upon request.

It should be noted that ULTRA BOND-HT-FC™ is an aromatic Polyurea; therefore, as with all aromatics, color change and superficial oxidation will occur.

Aliphatic urethane, polyurea, and other suitable topcoats can be used where long-term color stability and increased longevity in full sun exposure are of critical importance.

WET PROPERTIES @ 77°F (25°C)

Solids by Volume	100%
Solids by Weight	100%
Volatile Organic Compounds	0 lbs/gal (0g/l)

Theoretical Coverage DFT	100 sq. ft. @ 16 mils/gal
Weight per gallon (approx.)	8.6 lbs. (3.87 kg)
Number of Coats	1-2
Mix Ratio	1 "A": 1 "B"
Viscosity (cps) @ 77° F (25 °C)	A: 370 approx. B: 700 approx.
Shelf Life Unopened Containers @ 60-90°F (15-32°C)	Six months

DRY PROPERTIES @ 34 mils (0.8 mm)**

Tensile Strength ASTM D 412	>4200 psi (29.19 mpa)
Elongation @77°F (25°C)	>380%
Stress Hardness (Shore A)	95 - 100
Stress Hardness (Shore D)	50 - 55
100% Modulus ASTM D 412	>1500 psi (10.43 mpa)
300% Modulus ASTM D 412	>3000 psi (20.85 mpa)
Tear Resistance ASTM D 624	500 PLI (87.55 KN/m) ± 50
Service Temperature	-50°F - +200°F (-45°C - +93.3°C)

CURING SCHEDULE

Gel	± 8 sec.
Tack Free	± 12 sec.
Post Cure***	24 hours
Recoat	0-12 hours

**All cured film properties are approximate since processing parameters, ad-mixture types, and quantities will change physical properties of cured elastomer. All samples for above tests were force cured or aged for more than three weeks. It is recommended that the user perform their own independent testing.

***Complete polymerization to achieve final strength and adhesion can take up to several days or weeks depending on a variety of conditions or product type.

NOTE! Polymer formulations vary. It is recommended that adhesion tests be performed before commencing any project using ULTRA BOND-HT-FC™. For adhesion verification SPI encourages you to submit your (substrate) sample to SPI to be sprayed and tested.

The samples for tests were sprayed with Graco HXP3 @ 2500 psi dynamic (172 bar). Primaries/Hose Heat 170°F (77°C) MP Fusion gun with 2929 mixing module.

GENERAL APPLICATION INSTRUCTIONS

Apply ULTRA BOND-HT-FC™ only to clean, dry, sound surfaces free of loose particles or other foreign matter. A primer may be required depending on type and/or condition of the substrate. Consult technical service personnel for specific primer recommendations and substrate preparation procedures.

ULTRA BOND-HT-FC™ can be sprayed over a broad range of ambient and substrate temperatures. Contact technical service

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personnel for specific recommendations, pricing, and availability of spray and auxiliary equipment.

It is recommended that ULTRA BOND-HT-FC™ be sprayed in multi-directional (North-South/East-West) passes to ensure uniform thickness.

The polyol "B" component must be thoroughly power mixed each day, prior to use. Contact a SPI technician regarding proper mixing equipment.

Follow the instructions attached to "A" and "B" containers.

RECOMMENDED EQUIPMENT AND SETTINGS

- Standard 1:1 ratio, heated, plural-component equipment developing a minimum of 2000 psi (10.4 mpa) dynamic pressure with heating capabilities to 175° F (79 °C) will adequately spray ULTRA BOND-HT-FC™. These include Graco 20/35, 20/35 Pro, H-3500, HV-20/35, Reactor E-XP1, E-XP2, H-XP2, H-XP3, PMC GH-25, GH-40, PHX-25, and PHX-40. Gun models include Fusion MP, Gap Pro, GX7-DI, and GX-8 Pro.
- Pre-heater temperature should be at 160-170°F (71-76 °C).
- Hose temperature should be at 160 -170° F (71-76°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) (20.8mpa), utilizing an impingement mix gun such as the MP Fusion and GX7-DI gun.
- Other application equipment may be acceptable depending on product and application. Contact SPI technical service for specifics.

MIXING AND THINNING

The polyol "B" component must be thoroughly power mixed each day, prior to use. Contact a SPI technician regarding proper mixing equipment.

Thinning is not required. Using any thinner may adversely affect product performance.

GENERAL SAFETY, TOXICITY & HEALTH DATA

Safety Data Sheets are available for this coating material. Any individual who may come in contact with these products should read and understand the M.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 clothing, gloves and use protective cream on face, hands and exposed areas.

CLEAN UP: Use DPM, NMP, and Polyclean.

EYE PROTECTION: Safety glasses, goggles, or a face shield are recommended.

SKIN PROTECTION: Chemical resistant gloves are recommended. Cover as much of the exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION: Use a respirator approved for isocyanates and organic vapors. If you are not sure or not able to monitor levels, or if you are spraying in an enclosed/indoor area, use MSHA/NIOSH approved supplied air respirator. Consider the application and environmental concentrations in 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.

LIMITATIONS

- This product is for professional use only.
- This product must be stored at temperatures between 60° F to 90° F (15 °C to 30 °C).
- Minimum material/container temperature for spray application is 70°F (21 °C).
- Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected, CO₂ created pressure can develop. Do not attempt to use contaminated material.
- Liquid components exposed to undried air will result in reduced physical properties of the cured coating.

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

WARRANTY & DISCLAIMER

Specialty Products, Inc. has no role in the manufacture of the finished polymer other than to supply its two components. It is vital that the person applying this product understands the product, and is fully trained and certified in the use of plural-component equipment.

Specialty Products, Inc., an Alaska corporation, warrants only that the two components of this product shall conform to the technical specifications published in the product literature.

The quality and fitness of the product are dependent upon the proper mixture and application of the components by the applicator. There are no warranties that extend beyond the description on the face of this instrument.

Failure to apply the product within the parameters stated on this document shall void the warranty.

SPECIALTY PRODUCTS, INC. MAKES NO WARRANTY OF MERCHANTABILITY OF THE PRODUCT OR OF FITNESS OF THE PRODUCT FOR ANY PARTICULAR PURPOSE.

Specialty Products, Inc. makes no warranty as to the quality of any product modified, supplemented, tinted, or altered in any way after it leaves the manufacturing plant.

Specialty Products, Inc. does not warrant that this product is suitable for use as a liner for potable water containers. Use of this product in a potable water container could be hazardous to health if it is improperly processed or applied.

The liability of Specialty Products, Inc. for any nonconformity of the product to its technical specifications shall be limited to replacement of the product.

The sole exclusive remedy of buyer, which is to have Specialty Products, Inc. replace any nonconforming product at no cost to buyer, is conditioned upon buyer notifying Specialty Products, Inc. or its distributor in writing of such defect within thirty days of the discovery of such defect.

Specialty Products, Inc. shall not be liable for any direct, incidental, or consequential damages resulting from any breach of warranty.

The data presented herein is intended for professional applicators or those persons who purchase or utilize this product in the normal course of their business.

The potential user must perform any pertinent tests in order to determine the product's performance and suitability in the intended application, since final determination of fitness of the product for any particular use is the responsibility of the buyer.

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