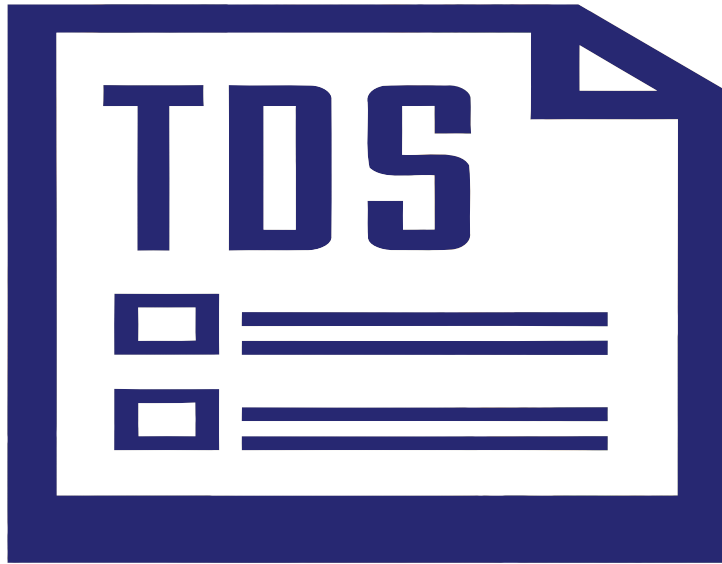


GENERAL COATINGS



1220 E. North Avenue • Fresno, CA. 93725
Tel: (559) 495-4004 • Toll Free: (855) 495-GCMC • Fax: (559) 495-4009
www.generalcoatings.net



POLYCOAT PRODUCTS

A Division of American Polymers Corp.

CONSTRUCT WITH CHEMISTRY



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PENEFIL 250, 375, 375-H**PRODUCT DESCRIPTION**

PENEFIL 250, 375, and 375-H are a two-component, closed cell, rigid, slab jacking foam designed to augment the lifting force underneath a foundation or substrate providing a workable solution for settling problems with foundations, roadways, sidewalks and slabs.

PENEFIL 250, 375, and 375-H have reaction profiles that flow and penetrate voids that cause foundations and slabs to settle as they age. Once inside the void, the foam is designed to set up quickly and generate a stability and lift for the foundation or slab.

PENEFIL 375-H is specifically formulated as Hydrophobic for applications where injection sites have standing water. The unique characteristics of *PENEFIL 375-H* allow it to withstand the watery environment with minimal effect on foam cell structure.

RECOMMENDED USES

- Filling voids
- Undersealing concrete slabs and foundations
- Concrete slab lifting and stabilizing
- Compaction of grouting soil

SYSTEM PROPERTIES

A Side Viscosity, cps	150 - 250
B Side Viscosity, cps	500 - 800
Specific Gravity:	A: 1.22
	B: 1.18

PHYSICAL PROPERTIES (FREE RISE @ 75°F):

	250	375	375-H
Core Density (lb/ft ³)	2.55-2.65	3.75-4.0	4.0
Compressive Str (psi)	25-35	65-75	55-65
Cream Time (sec)	5-7	5-7	5-7
Gel Time (sec)	14-17	14-17	14-17
Tack Free Time (sec)	18-21	18-21	18-21

STORAGE & SHELF LIFE

Storage temperatures 65-85°F (18-29°C)
Shelf life from date of manufacture (unopened containers):

A-Side: 12 months B-Side: 6 months

Keep Container tightly sealed.
Store out of direct sunlight in a cool dry place, avoid freezing.

RECOMMENDED EQUIPMENT SETTINGS

Varies by work environment:

Static Pressure (A&B): 1000-1400 psi
Dynamic Pressure (A&B): 1000 psi minimum
Primary Heaters (A&B): 100-130°F
Hose Heaters: 100-130°F
Dispensing Ratio 1:1 by volume

APPLICATION

When changing between different resin systems, flush adequate amount of material through the gun to clear hose lines of previous material. Application of slab-jacking foam requires specialized gun adapter parts.

HEALTH & SAFETY

GCMC is committed to the health and safety of our customers. GCMC products shall only be installed by certified contractors. Applicators are required to follow all proper handling, safety and installation procedures. For more information, consult the product MSDS, contact the SPFA www.sprayfoam.org or the ACC www.spraypolyurethane.org.

ACRYLIC EMULSION PRIMER

DESCRIPTION

ULTRA-BOND 10 is a waterborne modified acrylic neoprene asphalt primer specifically designed to provide maximum adhesion of polyurethane foam and coatings to various construction surfaces. ULTRA-BOND 10 when directly applied to polyurethane foam provides short-term protection from the elements and an excellent surface for bonding of additional urethane foam or coatings. ULTRA-BOND 10 may be applied to BUR roofing, concrete, plywood and some metallic surfaces. Substrates to receive primer should be clean, dry and free of any foreign material such as grease, oil, water, dirt, etc. ULTRA-BOND 10 is fast-drying and has little or no smell associated with its application.

APPLICATION

ULTRA-BOND 10 should be applied at a rate of 1/4 gallon per 100 square feet. NOTE: Application rates will vary depending on substrates. ULTRA-BOND 10 can be applied with airless spray equipment such as Graco 30:1. The primer must be thoroughly mixed prior to application. Cleanup can be accomplished with either water or mineral spirits.

FEATURES

Odorless
 Nonflammable
 Nonhazardous
 Minimum Overspray
 Optimum Adhesion Characteristics
 (if used as directed)

PHYSICAL PROPERTIES

Solids by Weight (Mixed): 65%
 Solids by Volume (Mixed): 56%
 Elongation: Over 100%
 Service Temperature: 200 deg F

TECHNICAL SPECIFICATIONS

Theoretical Coverage: 900 mil ft.²/gal.
 Recommended Thickness: 1/4 gal. per 100 sq. ft.
 Number of Coats: One
 Color: Black

APPLICATION INFORMATION

Method:	Ultra-bond 10 primer is designed for Airless or conventional spray equipment
Minimum temperature:	38°f
Thinning:	None normally required
Dry time:	*30 minutes @ 77° - 50% r.h., 2 mil thickness
Recoat time:	*1 hour @ 77° - 50% r.h., 2 mil thickness
Clean-up solvent:	Water or mineral spirits

Note: The primer should be thoroughly mixed just before application, and applied to a clean, dry surface.

* Dry time and recoat time will vary depending on temperature and relative humidity.

COMPATIBILITY

ULTRA-BOND 10 primer is compatible with General Coatings Manufacturing Corp. foam and most coatings. For information regarding coatings that are not specified in this data sheet, please contact General Coatings Manufacturing Corp.

ORDERING INFORMATION

Approximate Shipping Weight: 10 lbs./gal.

Container Size: 5 gal. pails & 55 gal. drums

Freight Classification: Paint, non-hazardous

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties, and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedure shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

RINSEABLE EPDM PRIMER

DESCRIPTION

ULTRA-BOND 12 is a low viscosity sprayable liquid used to pre-treat black EPDM rubber roof membrane prior to power washing and application of the roof coating. ULTRA-BOND 12 is designed for use with Ultra-Flex 1600 applications.

APPLICATION

ULTRA-BOND 12 should be applied the following way: 1. Apply ULTRA-BOND 12 via a sprayer (Hudson-type agricultural, conventional pressure, or airless) at an application rate of 500 square feet/gallon. 2. Use a 3-4 foot arc pattern. 3. Allow ULTRA-BOND 12 to stand for a minimum of 15 minutes. 4. Clean EPDM with a commercial power washer (between 2000-3500 psi). When Cleaning the EPDM, it should be done slowly and close to surface in order to remove mica and inorganic release agents. 5. Rinse thoroughly with power washer. The rinse step may be done at a faster pace than the cleaning step. The final rinse water should be clear with no bubbles present. 6. The EPDM will range from muddy brown to black after washing with ULTRA-BOND 12. 7. When the surface is dry, coating can begin.

FEATURES

Nonflammable
 Nonhazardous
 Minimum Overspray
 Optimum Adhesion Characteristics
 (if used as directed)
 Improves coating adhesion to black EPDM rubber membrane
 Natural pH

PHYSICAL PROPERTIES

Appearance: Clear liquid
 Color: Pink to purple
 Odor: Mild
 pH: 6-7
 Specific Gravity (g/cc): 1.01
 Density, wet (lbs/gal): 8.46

TECHNICAL SPECIFICATIONS

Theoretical Coverage: 500 sq. ft./gal.
 Number of Coats: One

APPLICATION INFORMATION

Note: The primer should be thoroughly mixed just before application, and applied to a clean, dry surface.

* Dry time and recoat time will vary depending on temperature and relative humidity.

SAFETY AND HANDLING

1. Thoroughly read MSDS for product - It is important to note that Section 13 of the MSDS titled "Disposal Considerations" discusses spills of undiluted **ULTRA-BOND 12**. These undiluted spills are different from the rinsate referred to below in the technical notes. The rinsate is defined in these notes as the roof washings composed of diluted **ULTRA-BOND 12** that result from the proper use of the product according to the application guidelines. In general, during the pressure washing of a roof, one part of **ULTRA-BOND 12** is diluted with 300 parts of water.

2. Ensure proper drainage:

The General Coatings Manufacturing Corp. advocates the use of prudent judgment regarding the release of roof rinsate containing EPDM roof primer **ULTRA-BOND 12** into the environment. Based on aquatic toxicity data, **ULTRA-BOND 12** is classified as of LOW CONCERN to aquatic invertebrates and fish, according to the USEPA TSCA classification criteria, i.e., the LC/EC50 > 100 mg/L. Specific for **ULTRA-BOND 12**, the results indicate that the lethal or effective (functional) concentration affecting 50% of the tested population is greater than 220 mg/L of **ULTRA-BOND 12** for fish, and aquatic invertebrates. **ULTRA-BOND 12** is classified as of moderate concern to algae according to USEPA TSCA classification criteria, i.e. the LC/EC50 is between 1 mg/L and 100 mg/L. Dilution of the primer with rinsate and subsequent added dilutionary capacity of receiving streams, rivers or ponds would likely buffer any potential for adverse effects.

Because of the low toxicity of the formulation to fish, aquatic invertebrates and algae it is unlikely that releases of the diluted **ULTRA-BOND 12** material into a storm sewer will cause adverse impact to exposed organisms. The numbers and diversity of organisms in these non-natural systems are anticipated to be low. Increased dilutionary capacity of any receiving water body will serve to further mitigate any potential for adverse effects. Without detailed plans regarding the receiving water course at the site in question, caution should be exercised. Release of rinsate into pristine or near pristine water courses should be avoided.

COMPATIBILITY

ULTRA-BOND 12 primer is compatible with General Coatings Manufacturing Corp. foam and most coatings. For information regarding coatings that are not specified in this data sheet, please contact General Coatings Manufacturing Corp.

ORDERING INFORMATION

Approximate Shipping Weight: 8.46 lbs./gal.

Container Size: 5 gal. pails & 55 gal. drums

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties, and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedure shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

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TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-BOND 13 is a two component, liquid applied, water-based epoxy primer with unique penetrating characteristics and rust inhibiting properties.

FEATURES:

- Substrate Penetrating
- Low Viscosity
- Quick Cure / Re-coat Time
- Rust Inhibitor

TYPICAL USES:

- Wood
- Metal
- Polyurethane Elastomeric Surfaces
- Masonry
- Polymers

APPLICATION

MIXING:

ULTRA-BOND 13 should not be diluted under any circumstances. Volume-mixing Ratio: 4 units part-A yellow liquid to 1 part-B off-white liquid. ULTRA-BOND 13's part-A and part-B should be thoroughly mixed prior to combining to ensure a homogeneous material. The combined components should be thoroughly blended using a mechanical mixer at slow speed for < 3 minutes or for at least 5 minutes if mixed by hand.

APPLICATION:

Remove all contaminants, oil and grease from substrate. ULTRA-BOND 13 should be applied at the rate of 1 gallon (3.78L) (mixture of part-A & part-B) / 200 – 300 ft² (18.58 – 27.87 m²) depending on substrate. It can be applied using an airless sprayer, brush, or phenolic resin core roller. Allow ULTRA-BOND 13 to become tack free before applying the coating. Recommended surface temperature should be greater than 50°F (10°C). ULTRA-BOND 13 is sensitive to heat and moisture. Higher temperatures will significantly accelerate the cure time and decrease pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity will extend the cure time.

TECHNICAL DATA

Packaging	1 gal kit (3.79L) 5 gal kit (18.93L)
Coverage Rate	1 gal / Average 250 ft ² (3.79L / 27.87m ²)
Color	Part-A Yellow Part-B Off White
Shelf Life	1 Year (unopened container)
Dry Film Thickness (1 gal / 300 ft ²)	3 ± 1 mils (76.2µ)
Mixing Ratio by Volume	4A : 1B
Pot Life @ 75°F (24°C), 50% R.H.	30 - 45 minutes
Specific Gravity / Part-A, Part-B	1.13 (A), 1.07
Total Solids by Weight, ASTM D-2369	45 ± 2%
Total Solids by Volume, ASTM D-2697	39 ± 2%
Viscosity at 75°F (24°C), Part-A & Part-B Combined	1,500 ± 300 cps
Volatile Organic Compound, ASTM D-2369-81	43g / L

LIMITATIONS:

This information is to be used as a general guideline only. Consult the project specification and your General Coatings Manufacturing Corp. representative for specific installation procedures. ULTRA-BOND 13 is not UV stable and cannot withstand direct wear or abrasion. ULTRA-BOND 13 is difficult to clean up after it has cured.

STORAGE & HANDLING:

Keep containers closed and store in a dry, cool place away from direct sunlight, heat, sparks, open flame, and moisture. Keep material stored above 65°F (18°C). Open containers should be blanketed with dry nitrogen before resealing. Shelf life: 12 months.

SAFETY:

Review the Material Safety Data Sheet (MSDS) and container labels for detailed health and safety information. This product is intended for industrial use by properly trained professional applicators only.

DISCLAIMER

Please read all information in the general guidelines, technical data sheets, application guide and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

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 user's responsibility to satisfy himself, by his own information and tests, 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 own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests accurately represent all environments..

Rev. 2/13/15



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POLYAMIDE EPOXY PRIMER

VEHICLE TYPE	Epoxy resins and polyamide curing agents.
PIGMENT TYPE	Chemically resistant pigments.
SOLVENT TYPE	Aliphatic and aromatic hydrocarbons, alcohol, glycol ether
FLASHPOINT, MINIMUM	99°F. PMCC
SOLIDS BY VOLUME	59%
RECOMMENDED DRY FILM (per coat)	Primers - 3.0-4.0 mils; Topcoats - 2.0-3.0 mils
COVERAGE (THEORETICAL)	940 square feet per gallon @ 1 dry mil. The actual coverage will be less, depending on application technique, job conditions and type of surface to be coated.
VISCOSITY AT 75°F.	Primers - 75-85 Krebs Units; Topcoats - 67-77 Krebs Units
AVERAGE DRY TIME AT 75°F	To touch - 6 hours. Recoat - 16 HOURS.
RECOMMENDED THINNER	N-Butyl Alcohol
VOC (Volatile Organic Compounds)	345 grams/liter as mixed
RESISTANCE TO	Heat - to 200°F sustained, 250°F. Intermittent. With light colors some change of color is to be expected with elevated temperature exposure. Weather - Excellent, Alkali - Very Good Moisture - Excellent, Adhesion to steel - Excellent Acid - Good
APPLICATION	May be applied with airless spray equipment, brush, or roller. Care should be taken to achieve required film build. CONVENTIONAL SPRAY: DeVilbiss MBC-510 Spray Gun, "E" Fluid Tip, #704, #765 or #78 Air Cap, Binks #18 Spray Gun, 66 Tip, 66 PE or 63 PB Nozzle. AIRLESS SPRAY: Use of spray tips with .015" to .021" orifice is suggested, depending on available pressure and job conditions, with a minimum of 2800 psi tip pressure.

POTLIFE	4 hours at 75°F.
CAUTION	For best results apply when surface temperature is above 50°F. , and a minimum of 5°F. above the dewpoint, and relative humidity is no greater than 85%.
PACKAGE	A two-component material with base and curing agent supplied in separate packages. Mix ratio is equal volumes.

GENERAL:

These products have been formulated to meet the specific composition and performance requirements of Federal Specifications MIL-P24441. Applied directly to bare, properly prepared steel, usually in a three-coat primer/topcoat system. Also use over zinc-rich primers, either as finish coats, or as a barrier coat for conventional finishes. Used for severe service and marine exposures, also for sustained immersion.

PREPARATION:

All surfaces to be coated must be dry, and cleaned free of rust, oils, dirt, soil, and other contaminants. For general use steel should be blast cleaned to a minimum of "Commercial Grade, SSPC SP-6". For severe service and sustained immersion, "Near-White" SSPC SP-10 is recommended. Galvanized metals should be abraded after normal cleaning and preparation to provide a surface profile.

SAFETY:

Improper handling and use may be hazardous. Recommended safety precautions for storage, handling, and application must be observed.

NOTICE:

This product is for industrial use only and is not intended or suitable for use in or around a household or dwelling.

SAFETY INFORMATION

DANGER: Causes eye burns and skin irritation. Flammable. Vapor harmful. May cause allergic skin reaction. Contains amine compound, epoxy resin and organic solvent. Do not get in eyes, on skin or clothing. Wear eye and skin protective equipment when handling. Keep away from heat, sparks, and flame. Avoid breathing vapor or mist. Wash thoroughly after handling. Wear appropriate, properly fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates that vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Keep container closed. Where products contain lead, do not use in dwellings or on surfaces accessible to children. Keep out of reach of children. **FIRST AID:** In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. For skin contact, flush with water and wash with soap and water. Remove contaminated clothing and launder before reuse. Discard shoes if material has penetrated to inside surface. If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth, and call a physician. **NOTICE:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

NOTE: Some slight change in product constants and characteristics may occur as solvent content is adjusted to conform with current Architectural Air Pollution Regulations. If thinning product for application, it must comply with applicable VOC regulations after thinning. The furnishing of the information contained herein does not constitute a representation by *General Coatings Manufacturing Corp.* that any product or process is free from patent infringement claims of any third party nor does it constitute the granting of a license under any patent of *General Coatings Manufacturing Corp.* or any third party. *General Coatings Manufacturing Corp.* assumes no liability for any infringement which may arise out of the use of the product. *General Coatings Manufacturing Corp.* warrants that its products meet the specifications which it sets for them. *General Coatings Manufacturing Corp.* **DISCLAIMS ALL OTHER WARRANTIES** relating to the products, and **DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION**, express or implied, **INCLUDING** but not limited to warranties of **MERCHANTABILITY** and **FITNESS** for particular purpose. Receipt of products from *General Coatings Manufacturing Corp.* constitutes acceptance of the terms of this Warranty, contrary provisions of purchase orders notwithstanding. In the event that *General Coatings Manufacturing Corp.* finds that products delivered are off specification, *General Coatings Manufacturing Corp.* will, at its sole discretion, either replace the products or refund the purchase price thereof, and *General Coatings Manufacturing Corp.* will under no circumstances be liable for consequential damages, except insofar as liability is mandated by law. *General Coatings Manufacturing Corp.* will deliver products at agreed times insofar as it is reasonably able to do so, but *General Coatings Manufacturing Corp.* shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.

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CLEAR ACRYLIC PRIMER

DESCRIPTION

ULTRA-BOND 16 is a waterborne modified acrylic primer specifically designed to provide maximum adhesion of polyurethane foam and coatings to various construction surfaces. ULTRA-BOND 16, when directly applied to polyurethane foam, provides short-term protection from the elements and an excellent surface for bonding of an additional urethane foam or coatings. ULTRA-BOND 16 may be applied to BUR roofing, concrete, plywood and some metallic surfaces. Substrates to receive primer should be clean, dry and free of any foreign material such as grease, oil, water, dirt, etc. ULTRA-BOND 16 is fast-drying and has little or no smell associated with its application.

APPLICATION

ULTRA-BOND 16 should be applied at a rate of 1/4 gallon per 100 square feet. NOTE: Application rates will vary depending on substrates. ULTRA-BOND 16 can be applied with airless spray equipment such as Graco 30:1. The primer must be thoroughly mixed prior to application. Cleanup can be accomplished with either water or mineral spirits.

FEATURES

Odorless
Nonflammable
Nonhazardous
Minimum overspray
Optimum Adhesion Characteristics
(if used as directed)

PHYSICAL PROPERTIES

Solids by Weight (Mixed): 39%
Solids by Volume (Mixed): 39%
Elongation: Over 100%
Service Temperature: 200 deg F

TECHNICAL SPECIFICATIONS

Theoretical Coverage: 900 mil ft.²/gal.
Recommended Thickness: 1/4 gal. per 100 sq. ft.
Number of Coats: One
Color: Clear

APPLICATION INFORMATION

Method:	ULTRA-BOND 16 primer is designed for airless or conventional spray equipment
Minimum Temperature:	38°F
Thinning:	None normally required
Dry Time:	*30 minutes @ 77° - 50% R.H., 2 mil thickness
Recoat Time:	1 hour @ 77° - 50% R.H., 2 mil thickness
Clean-up Solvent:	Water or mineral spirits

NOTE: THE PRIMER SHOULD BE THOROUGHLY MIXED JUST BEFORE APPLICATION, AND APPLIED TO A CLEAN, DRY SURFACE.

COMPATIBILITY

ULTRA-BOND 16 primer is compatible with General Coatings Manufacturing Corp.'s foam and most coatings. For information regarding coatings that are not specified in this data sheet, please contact General Coatings Manufacturing Corp.

ORDERING INFORMATION

Approximate Shipping Weight: 8 lbs./gal.

Container Size: 5 gal. pails & 55 gal. drums

Freight Classification: Paint, non-hazardous

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VINYL WASH PRIMER

DESCRIPTION

ULTRA-BOND 20 is a fast drying, 2 component metal etching pretreatment primer.

ADVANTAGES

ULTRA-BOND 20 promotes excellent adhesion and serves as a tie coat over ferrous and non-ferrous metals. ULTRA-BOND 20 provides excellent adhesion of polyurethane foam to stainless and galvanized steel.

ULTRA-BOND 20 is an excellent primer for many topcoats.

CHARACTERISTICS

Gloss:	Semi	Drying Time:	at 77°F, 45% RH
Volume Solids:	10.1 ± 1%	To Touch:	3 - 10 minutes
Viscosity:	Zahn #2 16-18 seconds when mixed with catalyst.	Tack Free:	10 - 15 minutes
Spreading Rate:	433 sq. ft./gal. at 0.3 mils dry, no spray loss.	Topcoat:	10 - 60 minutes
Package Life:	3 years	Topcoat:	(Force Dry: @ 130°F) 5 - 10 minutes
		Flash Point:	67°F Pensky-Martens Closed Cup
		Pot Life:	8 hours after mixing catalyst and resin
		Color:	Pale Green

Product Limitations:

- * Ultra-Bond 20 must be used within 8 hours of mixing the catalyst and resin together.
- * Zinc coated or galvanized steel comes in many forms, therefore, the coating system should be thoroughly checked before final recommendation.
- * Do not apply Ultra-Bond 20 over sand blasted metal. Ultra-Bond 20 does not have enough solids to cover the blast profile and to provide suitable protection.
- * Ultra-Bond 20 should be recoated ASAP to avoid contamination with foreign materials and to promote optimum adhesion and performance.
- * Sanding or light mechanical abrading of hard, smooth metallic surfaces such as stainless or chrome improves adhesion.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

SAFETY CAUTIONS

DANGER! FLAMMABLE

HIGH CONCENTRATION OF VAPOR MAY BE HARMFUL IF INHALED. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM, CAUSING DIZZINESS, HEADACHE, OR NAUSEA. IRRITATES EYES, SKIN, AND RESPIRATORY TRACT. Contents are FLAMMABLE. Vapors may cause flash fires. Keep away from heat, sparks, and open flame. During use and until all vapors are gone: Keep area ventilated--Do not smoke--Extinguish all flames, pilot lights, and heaters--Turn off stoves, electric tools and appliances, and any other sources of ignition.

CONTAINS KETONES, ALCOHOLS, AND ZINC CHROMATE

VAPOR HARMFUL. Use only with adequate ventilation. Wear an appropriate properly fitted vapor/particulate respirator (NIOSH/MSHA approved) during and after application, unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

FIRST AID:

IF INHALED: If affected, remove from exposure. Get medical attention.

IF ON SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing. Launder before re-use.

IF IN EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

IF SWALLOWED: Get medical attention immediately.

SPILL AND WASTE:

Remove all sources of ignition. Ventilate and remove with inert absorbent. Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State, and Local regulation regarding pollution.

DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE: Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Contains Zinc Chromate which can cause cancer.

DO NOT TAKE INTERNALLY

KEEP OUT OF THE REACH OF CHILDREN

FOR INDUSTRIAL USE ONLY

NOTE:

The information, rating and opinions stated above pertain to the material currently offered and represent the results of tests believed to be reliable. However, due to variations in customer handling and methods of application which are not known or under our control, General Coatings Manufacturing Corp. cannot make any warranties or guarantees as to the end result.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

MODIFIED ALKYD METAL PRIMER

PRODUCT DESCRIPTION

ULTRA-BOND 55 is a high-solids red oxide alkyd metal primer for steel surfaces which is fast drying, low VOC (less than 340 gms./ltr.), rust inhibitive, and is free of heavy metal hazards. It is easy to apply by brush, spray or roller. Has good resistance to general atmospheric weathering. It can be topcoated with alkyd and latex coatings or urethane foam or coatings.

USES

For industrial and commercial application to steel to protect against atmospheric corrosion.

- Interior and exterior use
- Fast drying maintenance primer
- Lead, chromate and barium free pigmentation

PERFORMANCE INFORMATION

- High build to protect abrasive blasted steel.
- Good corrosion and rust undercutting protection
- Abrasion resistant
- Primer for use under a variety of latex, alkyd and urethane topcoats.

LIMITATIONS

Not recommended for immersion service or exposure to acid, alkalis or strong solvents.

SURFACE PREPARATION

Surface must be dry and in sound condition. Remove oil, dust, dirt, mill scale, rust, and other contaminants to ensure good adhesion.

For maximum performance, the surface must be abrasive blasted for proper adhesion. All blasted steel must be primed the same day.

Iron and Steel:

Remove all grease and oil from the surface by solvent cleaning per SSPC-SP1. Minimum surface preparation is Hand Tool Clean per SSPC-SP2, or Power Tool Clean per SSPC-SP3. For better performance, the surface should be blast cleaned to Commercial Blast per SSPC-SP6.

CHARACTERISTICS

Color/Finish: Reddish Brown
Curing Mechanism: Solvent Evaporation/Oxidation

Drying Schedule:
(temperature & humidity dependent)
@ 50% RH @ 5 mils wet:

	40°F	77°F	110°F
To Touch:	1 hr.	25 min.	15 min.
Tack Free	2 hrs.	45 min.	30 min.
To Recoat:	4 hrs.	1 hr.	1 hr.
To Stack:	4 hrs.	1.5 hrs.	1.5 hrs.

NOTE: Primer should be allowed to dry 48 - 96 hours before topcoat application to insure maximum adhesion of the topcoat.

Primer coats should not be left untopcoated in excess of six months. Double coat all edges, corners, welds and crevices.

Flash Point: 74°F (Pensky-Martens Closed Cup)

Recommended Spreading Rate:

Wet mils:	5.0 - 8.0
Dry mils:	3.0 - 5.0
Approx. sq.ft./gal.: 205-342	

NOTE: Brush application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Spreading Rate Coverage: 976 sq.ft./gal @ 1.0 mil dry (theoretical, no loss)

VOC: Package: 348 g/l, or 2.57 lbs./gal.

Volume Solids: 60% +/- 2%

Weight Solids: 81% +/- 2%

Weight/Gallon: 14.5 lbs./gal.

RECOMMENDED SYSTEMS

Steel (Alkyd Topcoat):

1 coat **ULTRA-BOND 55** Alkyd Metal Primer @ 3 mils DFT
1 or 2 coats Industrial Enamel @ 2 mils DFT/coat
Total DFT, mils: 5 - 7

Steel (Aluminum Finish):

1 coat **ULTRA-BOND 55** Alkyd Metal Primer @ 3 mils DFT
1 or 2 coats Industrial Aluminum @ 1 mil DFT/coat
Total DFT, mils: 4 - 5

Steel (Acrylic Topcoat):

1 coat **ULTRA-BOND 55** Alkyd Metal Primer @ 3 mils DFT
2 coats Acrylic Coating @ 5 mils DFT/coat
Total DFT, mils: 7

APPLICATION

Intimate contact of the steel surface and primer is necessary for adhesion and rust inhibition.

Application Conditions:

Temperature:

air, surface, material: 40°F - 120°F
(at least 5°F above the dew point)

Relative Humidity: 85% maximum

Methods: Brush, conventional spray and airless spray

Airless Spray:

Pressure: 1800 - 3000 psi pressure
Tip: .015" - .019"
Filter: 60 mesh
Hose: 1/4"

Brush: China bristle. Confined to small areas and touch-up.

Conventional Spray: 50 psi atomization pressure, 15-20 psi fluid pressure, Binks gun model 18, air nozzle 63PB, fluid nozzle 63C or equivalent equipment.

Mixing Instructions:

Mix paint thoroughly by boxing and stirring. Agitate for uniformity and consistency.

Reducer: MIAK/Xylene

Reduction:

Airless spray: None

Conventional spray: reduce up to 5% by volume as necessary to be compatible with the existing application and environmental conditions.

Clean-up:

Use Xylene, following manufacturer's safety cautions.

PRECAUTIONS

Contents are flammable. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air or wear respiratory protection 9NIOSH/MSHA TC23C or equivalent) or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. Do not transfer contents to other containers for storage.

READ AND FOLLOW WARNING ON LABEL

DO NOT TAKE INTERNALLY

KEEP OUT OF REACH OF CHILDREN

FOR PROFESSIONAL USE ONLY

The information, rating and opinions stated here pertain to the material currently offered and represent the results of tests believed to be reliable. Published technical data and instructions are subject to change. Consult with **General Coatings Manufacturing Corp.** representative for coating recommendations.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-BOND 80 is a two component, liquid applied, epoxy-polyamine primer with unique penetrating characteristics.

TECHNICAL DATA

Based on a draw down film

Coverage Rate	1 gal / 300 ft ² (0.14 L/m ²)
Dry Film Thickness (1 gal / 300 ft ²)	4.5 ± 1 mils 102 ± 25µ
Pot Life @ 75°F (24°C), 50% R.H.	60-90 minutes
Specific Gravity / Part-A, Part-B	1.27 (A), 1.85(B)
Total Solids by Weight, ASTM D-2369	90 ± 2%
Total Solids by Volume, ASTM D-2697	84 ± 2%
Viscosity at 75°F (24°C), Part-A & Part-B Combined	600 ± 200 cps
Volatile Organic Compound, ASTM D-2369-81	1.17 lb/gal 140 gms/liter

FEATURES:

- Seals Concrete
- Low Viscosity
- Excellent Adhesion

TYPICAL USES:

- Concrete
- Polyurethane Intercoat Primer
- Metal
- Plywood

COLORS:

Side-A: Black, Side-B: White

PACKAGING:

2 Quart kit: One 1 quart (0.946 liter) can of Side-A and One 1 quart (0.946 liter) can of Side-B.

2 gallon kit: One 1 gallon (3.78 liter) can of Side-A and One 1 gallon (3.78 liter) can of Side-B.

10 gallon kit: One 5 gallon (18.9 liter) pail of Side-A and One 5 gallon (18.9 liter) pail of Side-B.

APPLICATION**MIXING:**

The volume mixing ratio is 1 part Side-A Black liquid to 1 part side-B White liquid. Do not mix in an up and down motion.

Ultra-Bond 80 Side-A and Side-B should be thoroughly mixed individually prior to combining to ensure a homogeneous material.

Ultra-Bond 80 must always be mixed with one part Side-A and one part Side-B (Side-A: Side-B = 1:1). The combined components should be thoroughly mixed using a mechanical mixer at slow speed.

APPLICATION:

Ultra-Bond 80 should be applied at the rate of 1 gallon (mixture of Side-A & Side-B) /300 sq. ft. (0.14 liters/m²). Coverage rate will depend on surface roughness and porosity. It can be applied using an airless sprayer, brush, or phenolic resin core roller.

Allow Ultra-Bond 80 to become tack free before applying the coating. Approximate tack free time is 3-5 hours at 75°F (24°C) and 50% relative humidity. Recommended coating application window is 24-48 hours before needing to re-prime.

Recommended surface temperature should be greater than 50°F (10°C) and at least 5°F (3°C) above the dew point.

Ultra-Bond 80 is very sensitive to heat and moisture. Higher temperatures and/or high humidity will significantly accelerate the cure time and pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time.

Equipment Cleanup:

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

Storage:

Ultra-Bond 80 has a shelf life of one (1) year from date of manu-

facture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

LIMITATIONS:

Ultra-Bond 80 should be coated within 8-12 hours after it has become tack free. Not UV stable. Surfaces must be dry, clean and free of foreign matter. Containers that have been opened must be used as soon as possible. Ultra-Bond 80 is difficult to clean up after it has cured.

Do not dilute Ultra-Bond 80 . Mix no more material than can be used within 45 minutes.

WARNING:

This product contains Epoxy Resin and Curatives.

Ultra-Bond 80 Side-A and Side-B are considered Dangerous Goods. DOT regulations classify it as: **UN 1263, PAINT, Class 3, PG III, FLAMMABLE LIQUID.**

DISCLAIMER

Please read all information in the general guidelines, technical data sheets, application guide and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

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 user's responsibility to satisfy himself, by his own information and tests, 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 own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests accurately represent all environments..

Rev. 7/17/17



General Coatings Manufacturing Corp.
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TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-BOND 80 SC is a two component, liquid applied, epoxy-polyamine primer with unique penetrating characteristics. It is designed for use in Southern California to be in compliance with SCAQMD air quality standards.

TECHNICAL DATA

Based on a draw down film

Coverage Rate	1 gal / 300 ft ² (0.14 L/m ²)
Dry Film Thickness (1 gal / 300 ft ²)	4.5 ± 1 mils 102 ± 25µ
Pot Life @ 75°F (24°C), 50% R.H.	60-90 minutes
Specific Gravity / Part-A, Part-B	1.30 (A), 1.89(B)
Total Solids by Weight, ASTM D-2369	90 ± 2%
Total Solids by Volume, ASTM D-2697	84 ± 2%
Viscosity at 75°F (24°C), Part-A & Part-B Combined	1200 ± 200 cps
Volatile Organic Compound, ASTM D-2369-81	0.83 lb/gal 100 gms/liter

FEATURES:

- Seals Concrete
- Low Viscosity
- For SCAQMD Areas

TYPICAL USES:

- Concrete
- Polyurethane Intercoat Primer
- Metal
- Plywood

COLORS:

Side-A: Black, Side-B: White

PACKAGING:

2 Quart kit: One 1 quart (0.946 liter) can of Side-A and One 1 quart (0.946 liter) can of Side-B.

2 gallon kit: One 1 gallon (3.78 liter) can of Side-A and One 1 gallon (3.78 liter) can of Side-B.

10 gallon kit: One 5 gallon (18.9 liter) pail of Side-A and One 5 gallon (18.9 liter) pail of Side-B.

APPLICATION

MIXING:

The volume mixing ratio is 1 part Side-A Black Liquid to 1 part side-B White Liquid. Do not mix in an up and down motion.

Ultra-Bond 80 SC Side-A and Side-B should be thoroughly mixed individually prior to combining to ensure a homogeneous material.

Ultra-Bond 80 SC must always be mixed with one part Side-A and one part Side-B (Side-A: Side-B = 1:1). The combined components should be thoroughly mixed using a mechanical mixer at slow speed.

APPLICATION:

Ultra-Bond 80 SC should be applied at the rate of 1 gallon (mixture of Side-A & Side-B) /300 sq. ft. (0.14 liters/m²). Coverage rate will depend on surface roughness and porosity. It can be applied using an airless sprayer, brush, or phenolic resin core roller.

Allow Ultra-Bond 80 SC to become tack free before applying the coating. Approximate tack free time is 3-5 hours at 75°F (24°C) and 50% relative humidity. Recommended coating application window is 24-48 hours before needing to re-prime.

Recommended surface temperature should be greater than 50°F (10°C) and at least 5°F (3°C) above the dew point.

Ultra-Bond 80 SC is very sensitive to heat and moisture. Higher temperatures and/or high humidity will significantly accelerate the cure time and pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time.

Equipment Cleanup:

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

Storage:

Ultra-Bond 80 SC has a shelf life of one (1) year from date of

manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

LIMITATIONS:

Ultra-Bond 80 SC should be coated within 8-12 hours after it has become tack free. Not UV stable. Surfaces must be dry, clean and free of foreign matter. Containers that have been opened must be used as soon as possible. Ultra-Bond 80 SC is difficult to clean up after it has cured.

Do not dilute Ultra-Bond 80 SC . Mix no more material than can be used within 45 minutes.

WARNING:

This product contains Epoxy Resin and Curatives.

Ultra-Bond 80 SC Side-A and Side-B are considered Dangerous Goods. DOT regulations classify it as: **UN 1263, PAINT, Class 3, PG III, FLAMMABLE LIQUID.**

DISCLAIMER

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Rev. 7/17/17



General Coatings Manufacturing Corp.
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TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-BOND U is a two component, high solids, liquid applied primer with unique penetrating characteristics.

TECHNICAL DATA

Packaging	2 gal kit (7.57L) 5 gal kit (37.85L)
Coverage Rate	1 gal / 300 ft ² (0.14 L/m ²)
Color	Side-A: Black Side-B: White
Dry Film Thickness (1 gal / 300 ft²)	5 ± 1 mils (127µ)
Pot Life @ 75°F (24°C), 50% R.H.	60-90 minutes
Specific Gravity / Part-A, Part-B	1.22 (A), 0.98(B)
Total Solids by Weight, ASTM D-2369	97.8%
Total Solids by Volume, ASTM D-2697	97.7%
Viscosity at 75°F (24°C), Part-A & Part-B Combined	500 ± 100 cps
Volatile Organic Compound, ASTM D-2369-81	0.21 lb/gal 25gm/100 cps

FEATURES:

- High Solids
- Fast Re-Coat Time
- Low Odor
- Low Viscosity

TYPICAL USES:

- Intercoat adhesion and re-coat primer for existing urethane systems.

COLORS:

Side-A: Black, Side-B: White

PACKAGING:*2 gallon kit:*

One 1 gallon (3.78 liter) can of Side-A and One 1 gallon (3.78 liter) can of Side-B

10 gallon kit:

One 5 gallon (18.9 liter) pail of Side-A and One 5 gallon (18.9 liter) pail of Side-B

APPLICATION**MIXING:**

The volume mixing ratio is 1 part Side-A Black Liquid to 1 part Side-B White Liquid. Do not mix in an up and down motion.

Ultra-Bond U Side-A and Side-B should be thoroughly mixed individually prior to combining to ensure a homogeneous material. Ultra-Bond U must always be mixed with one part Side-A and one part Side-B (Side-A : Side-B = 1:1). The combined components should be thoroughly mixed using a mechanical mixer at slow speed.

APPLICATION:

Ultra-Bond U should be applied at the rate of 1 gallon (mixture of Side-A & Side-B) /300 sq. ft. (0.14 liters/m²). Coverage rate will depend on surface roughness and porosity. It can be applied using an airless sprayer, brush, or phenolic resin core roller. Do not allow the material to puddle.

Allow Ultra-Bond U to become tack free before applying the coating. Approximate tack free time is 2-4 hours at 75°F (24°C) and 50% relative humidity.

Recommended surface temperature should be greater than 50°F (10°C) and at least 5°F (3°C) above the dew point.

Ultra-Bond U is very sensitive to heat and moisture. Higher temperatures and/or high humidity will significantly accelerate the cure time and pot life. Use caution in batch sizes and thickness of application.

Low temperature and/or low humidity extend the cure time.

Equipment Cleanup:

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

Storage:

Ultra-Bond U has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

LIMITATIONS:

Ultra-Bond U should be coated within 12-16 hours after it has become tack free. Not UV stable. Surfaces must be dry, clean and free of foreign matter. Containers that have been opened must be used as soon as possible. Ultra-Bond U is difficult to clean up after it has cured. Do not dilute Ultra-Bond U. Mix no more material than can be used within 20 minutes.

WARNING:

This product contains Epoxy Resin and Curatives.

DISCLAIMER

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Rev. 6/29/17



General Coatings Manufacturing Corp.
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ULTRA-FLEX 1000

WATERBORNE ACRYLIC ELASTOMER

DESCRIPTION AND USE

ULTRA-FLEX 1000 is a high-solids, heat-resistant, single-component water-borne acrylic elastomeric coating. *ULTRA-FLEX 1000* is formulated to have excellent adhesion to polyurethane foam as well as other properly prepared construction surfaces. *ULTRA-FLEX 1000* features include:

1. Ease of application
2. Outstanding UV resistance
3. Excellent low temperature flexibility
4. Non-flammable; water clean-up
5. Excellent dirt pickup resistance
6. Excellent fungus & mildew growth resistant

COLORS

Standard colors are Dark Gray, Light Gray and White. Other colors are available on special order.

COVERAGE

ULTRA-FLEX 1000 has a theoretical dry film thickness of 8.6 mils when applied at 1 gallon per 100 square feet.

STORAGE STABILITY

ULTRA-FLEX 1000 has a minimum shelf life of one year when stored at temperatures between 40°F and 80°F. Caution should be exercised to prevent material from freezing.

THINNER

ULTRA-FLEX 1000 should be applied directly from the container without thinning.

PRIMER

Sprayed Foams: No primer necessary. Consult manufacturer for application to other surfaces.

APPLICATION INSTRUCTIONS

ULTRA-FLEX 1000 must be mixed thoroughly prior to application to assure uniformity. All special colors should be mixed prior to application to assure uniform dispersion of the pigments. *ULTRA-FLEX 1000* may be applied by brush or roller, and by either conventional or airless spray equipment. Surfaces to which *ULTRA-FLEX 1000* is to be applied shall be free of water, grease, oils, dirt, debris, and other foreign materials.

CREDENTIALS AND CERTIFICATIONS

ULTRA-FLEX 1000 is classified as Class A by Underwriters Laboratories in accordance with UL-790 and is an integral component of numerous roof deck assemblies under UL File #14330.

ULTRA-FLEX 1000 is evaluated by ICC-ES in ESR 3239.

ULTRA-FLEX 1000 is listed by the California State Fire Marshall

ULTRA-FLEX 1000 exceeds all the minimum requirements for ATSM D6083 and is Title 24 compliant.

CURE TIMES

ULTRA-FLEX 1000, when applied at 22 wet mils and at conditions of 75°F and 50% relative humidity, will dry to the touch in 4 hours, may be recoated in 12 hours, and will reach final cure in 30 days. Colder weather and/or higher humidity will retard curing, where as hotter weather and/or lower humidity will accelerate curing.

Note: A quick set version is available upon request

RECOMMENDED THICKNESS

ULTRA-FLEX 1000, when used as a protective membrane over polyurethane foam, should be applied to a minimum of 24 dry mils in two applications. Coarse or textured surfaces may require more coating to obtain the desired dry film thickness.



	Initial	Weathered
Solar Reflectance	84.4	67.0
Thermal Emittance	0.90	0.91
Rated Product ID	0684-0002	
Licensed Manufacturer ID	0684	
Classification	Acrylic Coating	

Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.

Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating procedures.

NOMINAL PROPERTIES ASTM D6083

PHYSICAL PROPERTY	TEST METHOD	REQUIREMENT	VALUE
Solids by Volume	ASTM D2697	> 50	54%(+/-2)
Solids by Weight	ASTM D1644	> 60	66%
Flash Point	ASTM D56	No Reference	>212°F
Initial Elongation (%)	ASTM D2370	100 Minimum	125 (+/-25)
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	310 (+/-50)
Dry Adhesion (pli)	ASTM C794, D903	No Reference	3.5
Wet Adhesion (pli)	ASTM C794, D903	2 Minimum	2.9
Tear Resistance (lbf / in)	ASTM D624	> 60	70
1000 hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	175 (+/-25)
Low Temperature Flexibility After Accelerated Weathering	ASTM D522	Pass 1/2" Mandrel @ - 15°F	Pass
Permeance (perms)	ASTM D1653	50 Maximum	6
Water Swelling (%)	ASTM D471	20 Maximum	10
Fungi Resistance (zero = No Growth)	ASTM G21	Zero Rating	Zero Rating
Impact Resistance	ASTM D2794	No Reference	>160
Tension Set @ 100%	ASTM D-412	No Reference	0%
Durometer hardness: Shore A	ASTM D-2240	No Reference	65-75

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

WEATHERING AND ULTRAVIOLET RESISTANCE

ULTRA-FLEX 1000 had excellent appearance with no significant discoloration, checking, cracking, delamination or loss of flexibility and only slight chalking after 8,000 hours QUV accelerated weathering.

SAFETY, HEALTH & TOXICITY DATA

ULTRA-FLEX 1000 is intended for application only by professional trained applicators. Avoid breathing of vapor or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. Ultra-flex 1000 should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

The information herein is believed to be reliable, but unknown risks may be present. **General Coatings Manufacturing Corp.** warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and **General Coatings Manufacturing Corp.** expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve **General Coatings Manufacturing Corp.** of all liability with respect to the materials or the use thereof.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.



1220 E. North Avenue, Fresno, CA 93725 Phone (559) 495-4004

REVISED: 03/15

WATERBORNE ACRYLIC ELASTOMER

DESCRIPTION AND USE

ULTRA-FLEX 1000 BUTTER GRADE is a high-solids, heat-resistant, single-component water-borne acrylic elastomeric coating ideal for 3 coursing and can be used with reinforcing fabrics.

ULTRA-FLEX 1000 BUTTER GRADE features include:

1. Exceptional adhesion
2. Outstanding UV resistance
3. Excellent low temperature flexibility & Elasticity
4. High tensile strength
5. Non-flammable; water clean-up
6. Excellent dirt pickup resistance
7. Excellent fungus & mildew growth resistant

COLORS

Standard colors are Light Gray and White.

COVERAGE

ULTRA-FLEX 1000 BUTTER GRADE approximate coverage is 25 square feet per gallon.

STORAGE STABILITY

ULTRA-FLEX 1000 has a minimum shelf life of one year when stored at temperatures between 40°F and 80°F. Caution should be exercised to prevent material from freezing.

THINNER

ULTRA-FLEX 1000 should be applied directly from the container without thinning.

PRIMER

Sprayed Foams: No primer necessary. Consult manufacturer for application to other surfaces.

APPLICATION INSTRUCTIONS

ULTRA-FLEX 1000 BUTTER GRADE application should be completed a minimum of 4 hours prior to sunset. Temperatures must be above 55°F (for 24 hours) and rising, but not above 110°F. **DO NOT** apply if heavy dew or rain is expected within 24-48 hours. Skins over in 4 hours and fully cures in 24-36 hours at 70°F & 50% relative humidity.

NOMINAL PROPERTIES ASTM D6083

PHYSICAL PROPERTY	TEST METHOD	REQUIREMENT	VALUE
Solids by Volume	ASTM D2697	> 50	54%(+/-2)
Solids by Weight	ASTM D1644	> 60	66%
Flash Point	ASTM D56	No Reference	>212°F
Initial Elongation (%)	ASTM D2370	100 Minimum	200 (+/-25)
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	310 (+/-50)
Dry Adhesion (pli)	ASTM C794, D903	No Reference	3.5
Wet Adhesion (pli)	ASTM C794, D903	2 Minimum	2
Tear Resistance (lbf / in)	ASTM D624	> 60	130
1000 hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	175 (+/-25)
Low Temperature Flexibility After Accelerated Weathering	ASTM D522	Pass 1/2" Mandrel @ - 15°F	Pass
Permeance (perms)	ASTM D1653	50 Maximum	47
Water Swelling (%)	ASTM D471	20 Maximum	8
Fungi Resistance (zero = No Growth)	ASTM G21	Zero Rating	Zero Rating
Impact Resistance	ASTM D2794	No Reference	>160
Tension Set @ 100%	ASTM D-412	No Reference	0%
Durometer hardness: Shore A	ASTM D-2240	No Reference	65-75

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

WEATHERING AND ULTRAVIOLET RESISTANCE

ULTRA-FLEX 1000 BUTTER GRADE had excellent appearance with no significant discoloration, checking, cracking, delamination or loss of flexibility and only slight chalking after 8,000 hours QUV accelerated weathering.

SAFETY, HEALTH & TOXICITY DATA

ULTRA-FLEX 1000 BUTTER GRADE is intended for application only by professional trained applicators. Avoid breathing of vapor or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. Ultra-flex 1000 TROWEL GRADE should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

The information herein is believed to be reliable, but unknown risks may be present. **General Coatings Manufacturing Corp.** warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and **General Coatings Manufacturing Corp.** expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve **General Coatings Manufacturing Corp.** of all liability with respect to the materials or the use thereof.

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1220 E. North Avenue, Fresno, CA 93725 Phone (559) 495-4004

REVISED: 02/13

ULTRA-FLEX 1000 HT HIGH TENSILE

WATERBORNE ACRYLIC ELASTOMER

DESCRIPTION AND USE

ULTRA-FLEX 1000 HT is a high-solids, heat-resistant, single-component water-borne acrylic elastomeric coating. *ULTRA-FLEX 1000 HT* is formulated to have excellent adhesion to polyurethane foam as well as other properly prepared construction surfaces. *ULTRA-FLEX 1000 HT* features include:

1. Ease of application
2. Outstanding UV resistance
3. Excellent low temperature flexibility
4. Non-flammable; water clean-up
5. Excellent dirt pickup resistance
6. Excellent fungus & mildew growth resistant

COLORS

Standard colors are Dark Gray, Light Gray and White. Other colors are available on special order.

COVERAGE

ULTRA-FLEX 1000 HT has a theoretical dry film thickness of 8.9 mils when applied at 1 gallon per 100 square feet.

STORAGE STABILITY

ULTRA-FLEX 1000 HT has a minimum shelf life of one year when stored at temperatures between 40°F and 80°F. Caution should be exercised to prevent material from freezing.

THINNER

ULTRA-FLEX 1000 HT should be applied directly from the container without thinning.

PRIMER

Sprayed Foams: No primer necessary. Consult manufacturer for application to other surfaces.



APPLICATION INSTRUCTIONS

ULTRA-FLEX 1000 HT must be mixed thoroughly prior to application to assure uniformity. All special colors should be mixed prior to application to assure uniform dispersion of the pigments. *ULTRA-FLEX 1000 HT* may be applied by brush or roller, and by either conventional or airless spray equipment. Surfaces to which *ULTRA-FLEX 1000 HT* is to be applied shall be free of water, grease, oils, dirt, debris, and other foreign materials.

CREDENTIALS AND CERTIFICATIONS.

ULTRA-FLEX 1000 HT exceeds all the minimum requirements for ATSM D6083.

ULTRA-FLEX 1000 HT is:


- Title 24 Compliant
- CRRC Listed
- Energy Star Rated

CURE TIMES

ULTRA-FLEX 1000 HT, when applied at 22 wet mils and at conditions of 75°F and 50% relative humidity, will dry to the touch in 2 hours, may be recoated in 8 hours, and will reach final cure in 24 hours. Colder weather and/or higher humidity will retard curing, whereas hotter weather and/or lower humidity will accelerate curing.

RECOMMENDED THICKNESS

ULTRA-FLEX 1000 HT, when used as a protective membrane over polyurethane foam, should be applied to a minimum of 24 dry mils in two applications. Coarse or textured surfaces may require more coating to obtain the desired dry film thickness.

	Initial	Weathered
		
Solar Reflectance	.89	.69
Thermal Emittance	.90	.88
Rated Product ID	0684-0004	
Licensed Manufacturer ID	0684	
Classification	Acrylic Coating	
<small>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</small>		
<small>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating procedures.</small>		

Nominal Liquid Properties

LIQUID PROPERTY	TEST METHOD	VALUE
Solids by Volume	ASTM D-2697	56%
Solids by Weight	ASTM D-2697	66%
Flash Point	ASTM D-56	212°F

Nominal Cured Properties

PHYSICAL PROPERTY	TEST METHOD	VALUE
Elongation	ASTM D-2370	500+/-50%
Tensile Strength	ASTM D-2370	500+/-50 psi
Permanent Set at Break	ASTM D-412	12%
Tear Resistance (Die C)	ASTM D-624	175 PLI
Water Absorption	ASTM D-471	3%
Tension Set @ 100%	ASTM D-412	0%
Durometer hardness: Shore A	ASTM D-2240	75
Permeability (U.S. perms)	ASTM D-1653	8
Severe Hail Test	FM 4470	Pass (28 Mils)
Adhesion to Foam	ASTM D-903	2.6 PLI Wet
Flexibility 1/8" Mandrel	ASTM D-522	Pass - 10°F
Fungi Resistance	ASTM G-21	Zero
Dry Adhesion	ASTM D-903	4.2
Accelerated Weathering Elongation	ASTM D-2370	480%
Water Swelling	ASTM C-471	2

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WEATHERING AND ULTRAVIOLET RESISTANCE

ULTRA-FLEX 1000 HT had excellent appearance with no significant discoloration, checking, cracking, delamination or loss of flexibility and only slight chalking after 6,000 hours QUV accelerated weathering according to ASTM G-53, and 8,000 hours Atlas xenon or carbon arc weatherometer exposure according to ASTM D-822 and ASTM G-26.

SAFETY, HEALTH & TOXICITY DATA

ULTRA-FLEX 1000 HT is intended for application only by professional trained applicators. Avoid breathing of vapor or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. ULTRA-FLEX 1000 HT should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

The information herein is believed to be reliable, but unknown risks may be present. **General Coatings Manufacturing Corp.** warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and **General Coatings Manufacturing Corp.** expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve **General Coatings Manufacturing Corp.** of all liability with respect to the materials or the use thereof.

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ULTRA-FLEX 1500 PRIMER BASE COAT

ELASTOMERIC ROOF COATING

MANUFACTURER

General Coatings Manufacturing Corp.

1220 E. North Avenue
Fresno, CA 93725
Phone: 559-495-4004
Fax: 559-495-4009
www.generalcoatingsmfg.com

DESCRIPTION AND USE

ULTRA-FLEX 1500 is a 100% acrylic elastomeric self-priming basecoat specially formulated for newly installed and existing asphalt roofing systems. It is intended for use in conjunction with *ULTRA-FLEX 1600* topcoat. However, numerous other topcoats are available. Check with a General Coatings Technical Consultant for your specific applicator. *ULTRA-FLEX 1500* exceeds several ASTM D6083 requirements for critical properties such as tensile strength, elongation, wet adhesion and weatherability.

BENEFITS:

1. Seamless Waterproofing
2. Fully-Adhered Installation
3. 100% Acrylic Durability
4. Prolonged Roof Life
5. Reduced Life Cycle Costs
6. Renewable
7. Environmentally Friendly

CREDENTIALS AND CERTIFICATIONS

ULTRA-FLEX 1500 is approved by the California State Fire Marshall

AVAILABILITY AND COST

ULTRA-FLEX 1500 is typically sold in 55 gallon drums, however, 5 gallon pails and 275 gallon totes are also available upon request. For more information on packaging, lead times, and pricing please call 559-495-4004.

WARRANTY

Various warranties are available for specific *ULTRA-FLEX 1500* Roofing Systems installed by approved applicators.

APPLICATION INSTRUCTIONS

ULTRA-FLEX 1500 may be applied by spray, brush, or roller. All surfaces must be clean, dry and free of dirt, grease, oil, or other contaminants that would interfere with proper adhesion. Apply *Ultra-Flex 1500* at temperatures above 50° F. Apply only when weather conditions will permit drying before rain, dew or freezing temperatures. Cool temperatures and high humidity may retard cure.

Apply *ULTRA-FLEX 1500* at a MAXIMUM of 1 1/4 gallons per 100 square feet. The coating shall be back rolled to insure uniform coverage and release air entrapment. If additional coating is required, the first coat must be FULLY cured to avoid blistering. Note: "Tac-free" or "dry to touch" does not necessarily indicate the coating is fully cured. When spray applying over mineral cap-sheet or porous surfaces, it is HIGHLY recommended that the first coat be back-rolled.

Do not install as top coating. Install as base coating with a minimum of 10 mils of recommended top coating to ensure optimum performance life. *ULTRA-FLEX 1500* should not be applied directly over polyurethane foam. Consult General Coatings Manufacturing Corp. for the proper coating systems for polyurethane roofing.

MAINTENANCE

Periodic maintenance of *ULTRA-FLEX 1500* Roofing Systems ensures extended performance and reduces life cycle costs.

TECHNICAL SERVICES

Additional information, product brochures, and guide specifications are available. Roof energy evaluations, life cycle cost analysis, and other roof management services are also available from a General Coatings Technical Consultant

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The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

ULTRA-FLEX 1500 BASE COAT

ASTM D6083 TECHNICAL DATA

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>REQUIREMENT</u>	<u>VALUE</u>
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	200
Initial Elongation (%)	ASTM D2370	100 Minimum	310
Wet Adhesion (pli)	ASTM C749, D903	2 Minimum	2
Tear Resistance (pli / in)	ASTM D624	> 60	90
Appearance After 1000 - Hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	175
Permeance (perms)	ASTM D1653	50 Maximum	20
Water Swelling (%)	ASTM D471	20 Maximum	8
Fungi Resistance (zero = no growth)	ASTM G21	Zero Rating	Zero Rating
Volume Solids (%)	ASTM D2697	> 50	56
Weight Solids (%)	ASTM D1644	> 60	70
Viscosity (KU)	ASTM D562	85 - 141	110

***Measured Over Aged PVC Substrate**

ULTRA-FLEX 1500 is for industrial/commercial applications only. These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

ULTRA-FLEX 1600 FINISH COAT

REFLECTIVE ELASTOMERIC ROOF COATING

MANUFACTURER

General Coatings Manufacturing Corp.
1220 E. North Avenue
Fresno, CA 93725
Phone: 559-495-4004
Fax: 559-495-4009
www.generalcoatingsmfg.com

DESCRIPTION AND USE

ULTRA-FLEX 1600 is a multi-purpose 100% acrylic elastomeric coating for use over a variety of substrates including asphalt, single-ply and metal roofing. *ULTRA-FLEX 1600* exceeds ASTM D6083 requirements for critical properties such as tensile strength, elongation, wet adhesion and weatherability.

BENEFITS:

1. Seamless Waterproofing
2. Fully-Adhered Installation
3. Asphalt Bleed Blocking
4. 100% Acrylic Durability
5. Energy Savings
6. Prolonged Roof Life
7. Reduced Life Cycle Costs
8. Renewable
9. Environmentally Friendly
10. High Solar Reflectivity
11. High Thermal Emittance

CREDENTIALS AND CERTIFICATIONS

ULTRA-FLEX 1600 is classified as Class A by Underwriters Laboratories in accordance with UL-790 and is approved by the California State Fire Marshall

ULTRA-FLEX 1600 is registered with the Cool Roof Rating Council and meets EPA Energy Star guidelines for energy efficiency.

ULTRA-FLEX 1600 exceeds all the minimum requirements for ATSM D6083 and is Title 24 compliant.

AVAILABILITY AND COST

ULTRA-FLEX 1600 is typically sold in 55 gallon drums, however, 5 gallon pails and 275 gallon totes are also available upon request. For more information on packaging, lead times, and pricing please call 559-495-4004.

WARRANTY

Various warranties are available for specific *ULTRA-FLEX 1600 Roofing Systems* installed by approved applicators.

APPLICATION INSTRUCTIONS

ULTRA-FLEX 1600 may be applied by spray, brush, or roller. All surfaces must be clean, dry and free of dirt, grease, oil, or other contaminants that would interfere with proper adhesion. Apply *Ultra-Flex 1600* at temperatures above 50° F. Apply only when weather conditions will permit drying before rain, dew or freezing temperatures. Cool temperatures and high humidity may retard cure.

Apply *Ultra-Flex 1600* at a MAXIMUM of 1 1/4 gallons per 100 square feet. Base and Intermediate coats shall be back rolled to provide uniform coverage. Back rolling of the finish coat shall be avoided unless the surfaces are unusually rough. If additional coating is required, apply in two or three coats. *Ultra-Flex 1600* should not be applied directly over mineral cap-sheet or to any surfaces where extra "bleed-blocking" resistance may be needed. In such situations, use *Ultra-Flex 1500* as a primer base coat.

MAINTENANCE


Periodic maintenance of *ULTRA-FLEX 1600 Roofing Systems* ensures extended performance and reduces life cycle costs.

TECHNICAL SERVICES

Additional information, such as brochures, technical assistance, roof energy evaluations, life cycle cost analysis, and other roof management services are also available from a General Coatings Manufacturing Corp. Technical Consultant



As an ENERGY STAR® Partner, General Coatings, Inc. has determined that this product, in white, meets the ENERGY STAR® guidelines for energy efficiency.

	<u>Initial</u>	<u>Weathered</u>
 Solar Reflectance	.83	.69
Thermal Emittance	.90	.91
Rated Product ID	0684-0006	
Licensed Manufacturer ID	0684	
Classification	Acrylic Coating	
<small>Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.</small>		
<small>Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating procedures.</small>		

ASTM D6083 TECHNICAL DATA

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>REQUIREMENT</u>	<u>VALUE</u>
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	200
Initial Elongation (%)	ASTM D2370	100 Minimum	310
Wet Adhesion (pli)	ASTM C749, D903	2 Minimum	2
Tear Resistance (pli / in)	ASTM D624	> 60	90
Appearance After 1000 - Hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	175
Low Temperature Flexibility After Accelerated Weathering	ASTM D522	Pass 1/2" Mandrel @ - 15° F	Pass
Permeance (perms)	ASTM D1653	50 Maximum	47
Water Swelling (%)	ASTM D471	20 Maximum	8
Fungi Resistance (zero = no growth)	ASTM G21	Zero Rating	Zero Rating
Volume Solids (%)	ASTM D2697	> 50	56
Weight Solids (%)	ASTM D1644	> 60	70
Viscosity (KU)	ASTM D562	85 - 141	110
Initial Solar Reflectance	ASTM C1549		83.0
3 Year Aged Solar Reflectance	ASTM C1549		69.0
Initial Thermal Emittance	ASTM C1371		0.90
3 Year Aged Solar Emittance	ASTM C1371		0.91

ULTRA-FLEX 1600 is intended for application only by professionally trained applicators. Avoid breathing of vapors or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. **ULTRA-FLEX 1600** should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

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MATERIAL SAFETY DATA SHEET

(PREPARED IN ACCORDANCE WITH 29 CFR 1910, 1200)

HMIS SYSTEM
HEALTH 1
FLAMMABILITY 1
REACTIVITY 0
PROTECTION B

SECTION I--PRODUCT AND COMPANY INFORMATION

DIVISION ADDRESS:
GENERAL COATINGS MANUFACTURING CORP.
1220 E. NORTH AVE.
FRESNO, CA 93725

TRADE NAME: *ULTRA-FLEX 1600*

CHEMICAL NAME: ACRYLIC COATING
CHEMICAL FAMILY: ACRYLIC EMULSION
FORMULA: COMPLEX MIXTURE

24-HR EMERGENCY NO. CHEMTREC: (800) 424-9300
CUSTOMER INFORMATION: (877) 233-6300

SECTION II--COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENT</u>	<u>CAS NUMBERS</u>	<u>CONCENTRATION</u>
ACRYLIC POLYMER	MIXTURE	40-45%
HYDRATED ALUMINA	21645-51-2	30.35%
TITANIUM DIOXIDE	13463-67-7	5-10%
ETHELENE GLYCOL	107-21-1	1-3%
WATER	7732-18-5	10-15%
OTHER COMPONENTS	TRADE SECRET	10-20%

SECTION III--PHYSICAL DATA

BOILING POINT: APPROX. 212°F
FREEZING POINT: APPROX. 32°F
VISCOSITY: 5800 CPS @ 77°F (30 RPM)
APPEARANCE: OFF-WHITE OR GRAY VISCOUS LIQUID
ODOR: MILD ACRYLIC ODOR
SOLUBILITY IN WATER: DILUTABLE
VAPOR PRESSURE (MMHG): 0.05 (WATER)

VAPOR DENSITY (AIR=1): LESS TAN 1 (WATER)
SPECIFIC GRAVITY (WATER=1): 1.38
PERCENT VOLATILITY: 40-44%
VOLATILE ORGANIC COMPOUNDS: 48 GRAMS/LITER
INITIAL SOLAR REFLECTANCE: 83.0%
INITIAL THERMAL EMMITTANCE: 0.90

SECTION IV--FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	> 450° F
FLAMMABLE LIMITS:	NOT DETERMINED
EXTINGUISHING MEDIA:	FOAM, DRY CHEMICAL, WATER.
SPECIAL FIRE FIGHTING PROCEDURES: BREATHING APPARATUS WITH FULL PROTECTIVE	WEAR A NIOSH/MSHA-APPROVED SELF-CONTAINED CLOTHING.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	THE EMULSION IS NOT FLAMMABLE, BUT MAY BOIL AND SPATTER WHEN HOT. THE DRY POLYMER IS FLAMMABLE, GIVING OFF TOXIC FUMES.

SECTION V--HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE:	NOT ESTABLISHED
EFFECTS OF OVEREXPOSURE:	CONTACT WITH EYES CAUSES IRRITATION. PROLONGED OR RE PEATED CONTACT WITH SKIN MAY CAUSE IRRITATION. BREATH ING CONCENTRATED VAPORS MAY BE HARMFUL.
CANCER INFORMATION:	NONE OF THE PRIMARY COMONENTS ARE REGULATED OSHA CAR CINOGENS OR LISTED BY NTP OR IARC.

SECTION VI--FIRST AID PROCEDURES

EYE CONTACT:	IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR 15 MINUTES, AND CONSULT A PHYSICIAN IF IRRITATION PERSISTS.
SKIN CONTACT:	WASH CONTAMINATED SKIN WITH PLENTY OF WATER. REMOVE ANY CONTAMINATED CLOTHING. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.
INHALATION:	MOVE PATIENT TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION AND SEEK MEDICAL ATTENTION.
INGESTION:	IF PATIENT IS CONSCIOUS, GIVE PLENTY OF WATER AND INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER.

SECTION VII--REACTIVITY DATA

STABILITY:	STABLE
INCOMPATIBILITY:	ACIDS CAUSE COAGULATION.
HAZARDOUS DECOMPOSITION PRODUCTS:	TOXIC MONOMER FUMES, HYDROGEN CYANIDE, CO, CO ₂ , NO _x , HCL AND SMOKE.
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR
CONDITIONS TO AVOID:	NONE KNOWN

SECTION IV--FIRE AND EXPLOSION HAZARD DATA

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE IGNITION SOURCES. CONTAIN AND COLLECT SPILLS OR ABSORB WITH SAWDUST OR OTHER SUITABLE ABSORBENT. DO NOT FLUSH LARGE AMOUNTS DOWN SEWERS OR INTO WATERWAYS. WASH THE SPILL AREA WITH WATER.

WASTE DISPOSAL METHOD: DISPOSAL MUST BE IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS. UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), IT IS THE RESPONSIBILITY OF THE USER OF THE PRODUCT TO DETERMINE AT THE TIME OF DISPOSAL, WHETHER THE PRODUCT MEETS RCRA CRITERIA FOR HAZARDOUS WASTE.

SECTION IX--PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: IN CONFINED AREAS, A NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR WITH ORGANIC VAPOR CARTRIDGES MAY BE REQUIRED. IN UNCONFINED AREAS, WITH GOOD VENTILATION, RESPIRATORY PROTECTION IS NOT NORMALLY REQUIRED.

SKIN PROTECTION: NEOPRENE GLOVES AND FABRIC OVERALLS SHOULD BE WORN WHEN HANDLING THIS PRODUCT.

EYE PROTECTION: SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL GOGGLES SHOULD BE WORN.

OTHER PROTECTIVE EQUIPMENT: AN EYEWASH STATION SHOULD BE AVAILABLE.

SECTION X--HANDLING AND STORAGE

STORAGE: PRODUCT SHOULD BE STORED IN ORIGINAL CONTAINERS. KEEP CONTAINERS CLOSED TIGHTLY TO AVOID CONTAMINATION. AVOID STORING CONTAINERS AT TEMPERATURES BELOW 40°F TO PREVENT PRODUCT FROM FREEZING.

OPENING CONTAINERS: CONTAINERS SHOULD BE OPENED SLOWLY TO RELEASE ANY PRESSURE THAT MAY HAVE BUILT UP. BE SURE TO SEAL TIGHTLY AFTER USE.

HANDLING: THE PROPER PERSONAL PROTECTION SHOULD BE TAKEN WHEN HANDLING THIS PRODUCT. SEE SECTION IX.

SECTION VIII--REGULATORY INFORMATION

US DOT REGULATIONS: NOT REGULATED.

WORK PLACE CLASSIFICATIONS: THIS PRODUCT IS CONSIDERED NON-HAZARDOUS UNDER THE OSHA HAZARD COMMUNICATIONS STANDARD (29CFR 1910.1200).

US TOXIC SUBSTANCES CONTROL ACT (TSCA): ALL COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE INVENTORY LISTING REQUIREMENTS OF THE U.S. TOXIC SUBSTANCES CONTROL ACT (TSCA) CHEMICAL SUBSTANCE INVENTORY.

CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS NO LEVELS OF LISTED SUBSTANCES, WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM, WHICH WOULD REQUIRE A WARNING UNDER THE STATUTE.

SARA TITLE III SECTION 311/312 (40CFR 370): THIS PRODUCT CONTAINS PROPYLENE GLYCOL WHICH HAS A DELAYED (CHRONIC) HAZARD CLASSIFICATION UNDER SARA TITLE III SECTION 311/312.

SARA TITLE III SECTION 313 (40CFR 372): THIS PRODUCT CONTAINS ZINC OXIDE. ZINC OXIDE IS NOT ESSENTIALLY A "HAZARDOUS SUBSTANCE" BUT ZINC COMPOUNDS ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ABOVE DE MINIMIS CONCENTRATIONS.

CERCLA INFORMATION (40CFR 302.4): THIS PRODUCT CONTAINS ZINC OXIDE WHICH IS SUBJECT TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) WITH AN ESTABLISHED REPORTABLE QUANTITY (RQ) OF 1000 LBS. SEE SECTION II FOR CONCENTRATIONS OF ZINC OXIDE IN THIS PRODUCT.

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DATE PREPARED: 11/01/00

DATE REVISED: 02/13



TECHNICAL DATA SHEET

ULTRA-FLEX 1700 PRIMER BASE COAT

ELASTOMERIC ROOF COATING

MANUFACTURER

General Coatings Manufacturing Corp.

1220 E. North Avenue
Fresno, CA 93725
Phone: 559-495-4004
Fax: 559-495-4009
www.generalcoatings.net

DESCRIPTION AND USE

ULTRA-FLEX 1700 is a 100% acrylic elastomeric self-priming basecoat specially formulated for newly installed and existing asphalt roofing systems. It is intended for use in conjunction with *ULTRA-FLEX 1800* topcoat. However, numerous other topcoats are available. Check with a General Coatings Technical Consultant for your specific application. *ULTRA-FLEX 1700* exceeds several ASTM D6083 requirements for critical properties such as tensile strength, elongation, wet adhesion and weatherability.

BENEFITS:

1. Seamless Waterproofing
2. Fully-Adhered Installation
3. Asphalt Bleed Blocking
4. 100% Acrylic Durability
5. Prolonged Roof Life
6. Reduced Life Cycle Costs
7. Renewable
8. Environmentally Friendly

CREDENTIALS AND CERTIFICATIONS

AVAILABILITY AND COST

ULTRA-FLEX 1700 is typically sold in 55 gallon drums, however, 5 gallon pails and 250 gallon totes are also available upon request. For more information on packaging, lead times, and pricing please call 559-495-4004.

WARRANTY

Various warranties are available for specific *ULTRA-FLEX 1700* Roofing Systems installed by approved applicators.

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

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APPLICATION INSTRUCTIONS

ULTRA-FLEX 1700 may be applied by spray, brush, or roller. All surfaces must be clean, dry and free of dirt, grease, oil, or other contaminants that would interfere with proper adhesion. Apply *Ultra-Flex 1700* at temperatures above 50° F. Apply only when weather conditions will permit drying before rain, dew or freezing temperatures. Cool temperatures and high humidity may retard cure.

Apply *ULTRA-FLEX 1700* at a MAXIMUM of 1 1/4 gallons per 100 square feet. The coating shall be back rolled to insure uniform coverage and release air entrapment. If additional coating is required, the first coat must be FULLY cured to avoid blistering. Note: "Tac-free" or "dry to touch" does not necessarily indicate the coating is fully cured. When spray applying over mineral cap-sheet or porous surfaces, it is HIGHLY recommended that the first coat be back-rolled.

Do not install as top coating. Install as base coating with a minimum of 10 mils of recommended top coating to ensure optimum performance life. *ULTRA-FLEX 1700* should not be applied directly over polyurethane foam. Consult General Coatings Manufacturing Corp. for the proper coating systems for polyurethane roofing.

MAINTENANCE

Periodic maintenance of *ULTRA-FLEX 1700* Roofing Systems ensures extended performance and reduces life cycle costs.

TECHNICAL SERVICES

Additional information, product brochures, and guide specifications are available. Roof energy evaluations, life cycle cost analysis, and other roof management services are also available from a General Coatings Technical Consultant

ULTRA-FLEX 1700 BASE COAT

ASTM D6083 TECHNICAL DATA

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>REQUIREMENT</u>	<u>VALUE</u>
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	150
Initial Elongation (%)	ASTM D2370	100 Minimum	350
Wet Adhesion (pli)	ASTM C749, D903	2 Minimum	2.1
Tear Resistance (lbf / in)	ASTM D624	> 60	105
Appearance After 1000 - Hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	450
Permeance (perms)	ASTM D1653	50 Maximum	4
Water Swelling (%)	ASTM D471	20 Maximum	16
Fungi Resistance (zero = no growth)	ASTM G21	Zero Rating	Zero Rating
Volume Solids (%)	ASTM D2697	> 50	52
Weight Solids (%)	ASTM D1644	> 60	67
Viscosity (KU)	ASTM D562	85 - 141	105

***Measured Over Aged PVC Substrate**

ULTRA-FLEX 1700 is for industrial/commercial applications only. These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.



ULTRA-FLEX 1800 FINISH COAT

REFLECTIVE ELASTOMERIC ROOF COATING

MANUFACTURER

General Coatings Manufacturing Corp.
1220 E. North Avenue
Fresno, CA 93725
Phone: 559-495-4004
Fax: 559-495-4009
www.generalcoatings.net

DESCRIPTION AND USE

ULTRA-FLEX 1800 is a multi-purpose 100% acrylic elastomeric coating for use over a variety of substrates including asphalt, single-ply and metal roofing. *ULTRA-FLEX 1800* exceeds ASTM D6083 requirements for critical properties such as tensile strength, elongation, wet adhesion and weatherability.

BENEFITS:

1. Seamless Waterproofing
2. Fully-Adhered Installation
3. 100% Acrylic Durability
4. Energy Savings
5. Prolonged Roof Life
6. Reduced Life Cycle Costs
7. Renewable
8. Environmentally Friendly
9. High Solar Reflectivity
10. High Thermal Emittance

CREDENTIALS AND CERTIFICATIONS

ULTRA-FLEX 1800 exceeds all the minimum requirements for ASTM D6083 and is Title 24 Compliant.

AVAILABILITY AND COST

ULTRA-FLEX 1800 is typically sold in 55 gallon drums, however, 5 gallon pails and 250 gallon totes are also available upon request. For more information on packaging, lead times, and pricing please call 559-495-4004.

WARRANTY

Various warranties are available for specific *ULTRA-FLEX 1800 Roofing Systems* installed by approved applicators.

APPLICATION INSTRUCTIONS

ULTRA-FLEX 1800 may be applied by spray, brush, or roller. All surfaces must be clean, dry and free of dirt, grease, oil, or other contaminants that would interfere with proper adhesion. Apply *Ultra-Flex 1800* at temperatures above 50° F. Apply only when weather conditions will permit drying before rain, dew or freezing temperatures. Cool temperatures and high humidity may retard cure.

Apply *Ultra-Flex 1800* at a MAXIMUM of 1 1/2 gallons per 100 square feet. Base and Intermediate coats shall be back rolled to provide uniform coverage. Back rolling of the finish coat shall be avoided unless the surfaces are unusually rough. If additional coating is required, apply in two or three coats. *Ultra-Flex 1800* should not be applied directly over mineral cap-sheet or to any surfaces where extra "bleed-blocking" resistance may be needed. In such situations, use *Ultra-Flex 1700* as a primer base coat.

MAINTENANCE

Periodic maintenance of *ULTRA-FLEX 1800 Roofing Systems* ensures extended performance and reduces life cycle costs.

TECHNICAL SERVICES

Additional information, such as brochures, technical assistance, roof energy evaluations, life cycle cost analysis, and other roof management services are also available from a General Coatings Manufacturing Corp. Technical Consultant

ASTM D6083 TECHNICAL DATA

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>REQUIREMENT</u>	<u>VALUE</u>
Initial Tensile Strength (psi)	ASTM D2370	200 Minimum	200
Initial Elongation (%)	ASTM D2370	100 Minimum	310
Wet Adhesion (pli)	ASTM C749, D903	2 Minimum	2
Tear Resistance (pli / in)	ASTM D624	> 60	90
Appearance After 1000 - Hr Accelerated Weathering	ASTM D4798	No Cracking or Checking	No Cracking or Checking
Elongation After Accelerated Weathering (%)	ASTM D2370	100 Minimum	175
Low Temperature Flexibility After Accelerated Weathering	ASTM D522	Pass 1/2" Mandrel @ - 15° F	Pass
Permeance (perms)	ASTM D1653	50 Maximum	6
Water Swelling (%)	ASTM D471	20 Maximum	10
Fungi Resistance (zero = no growth)	ASTM G21	Zero Rating	Zero Rating
Volume Solids (%)	ASTM D2697	> 50	54+/-2
Weight Solids (%)	ASTM D1644	> 60	69
Viscosity (KU)	ASTM D562	85 - 141	110

ULTRA-FLEX 1800 is intended for application only by professionally trained applicators. Avoid breathing of vapors or spray mist. Care should be taken to exclude all personnel not directly involved with the spray application. **ULTRA-FLEX 1800** should not be applied when the wind is of sufficient velocity to cause overspray of adjacent areas, buildings or people.

*The information herein is believed to be reliable, but unknown risks may be present. **General Coatings Manufacturing Corp.** warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and **General Coatings Manufacturing Corp.** expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve **General Coatings Manufacturing Corp.** of all liability with respect to the materials or the use thereof.*

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ELASTOMERIC SILICONE

DESCRIPTION

ULTRA-GUARD 5500 is a single-component silicone elastomer specifically designed to protect construction surfaces from the effects of weather and moisture. The outstanding features of ULTRA-GUARD 5500 are its high solids content, rapid cure and superior physical properties. ULTRA-GUARD 5500 is designed as a two-coat system consisting of a basecoat with a contrasting-colored topcoat.

USES

ULTRA-GUARD 5500 is designed to provide a durable elastomeric protective coating for sprayed polyurethane foam insulation. ULTRA-GUARD 5500 can be used by itself as the complete protective coating membrane. With the addition of ceramic roofing granules embedded into the coating surface, superior abrasion resistance is achieved.

BUILDING AND FIRE CODES

ULTRA-GUARD 5500 is listed and classified by Underwriters Laboratories Inc. UL 790 Class A as an integral component of numerous roof deck assemblies, File #14330.

ULTRA-GUARD 5500 is approved by the California State Fire Marshall

ADVANTAGES

ULTRA-GUARD 5500's dry time may be shortened with the addition of an accelerator package. ULTRA-GUARD 5500 exhibits excellent adhesion to sprayed-in-place polyurethane foam as well as other construction surfaces. ULTRA-GUARD 5500 retains its flexibility and membrane integrity from -80° F to +250° F.

WEATHERING AND RESISTANCE PROPERTIES

ULTRA-GUARD 5500 has excellent appearance and good flexibility with no checking, cracking or significant discoloration after 8,000 hours Accelerated Weathering exposure in an Atlas carbon arc weatherometer according to ASTM D-822. ULTRA-GUARD 5500 has excellent heat resistance to 250° F, good salt, acid and solvent resistance, and fair alkali resistance.

ADHESION

ULTRA-GUARD 5500 adheres well to most properly prepared construction surfaces, including spray-applied polyurethane or isocyanurate foam insulation. ULTRA-GUARD 5500 can be re-coated when cured enough to allow light foot traffic or as much as 7 to 10 days between coats.

APPLICATION

ULTRA-GUARD 5500 is designed to be applied through high pressure airless spray equipment. ULTRA-GUARD 5500's theoretical dry film thickness is 10.5 mils when applied at 1 gal. per 100 square feet. The minimum recommended thickness when used as a protective membrane over polyurethane foam is 24 dry mils. ULTRA-GUARD 5500 should only be applied by professional applicators.

Consult **General Coatings Manufacturing Corp.** for specific application requirements and end uses.

	Initial	Weathered
Solar Reflectance	.87	.63
Thermal Emittance	.89	.96
Rated Product ID	0684-0008	
Licensed Manufacturer ID	0684	
Classification	Silicone Coating	

Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.
Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating procedure.

Nominal Properties

PHYSICAL PROPERTY	TEST METHOD	VALUE
*Dry Time	75 F, 50% RH	>3
*Dry Time w/Accelerator Pkg.	75 F, 50% RH	<2
Weathering QUV 10,000 hours	ASTM D-822	No degradation
Elongation	ASTM D-412	225%(+/-15)
Tensile Strength (Die C)	ASTM D-412	500 psi(+/-25)
Permanent Set at Break	ASTM D-412	1.0%
Permanent Change - Heat Aged	ASTM D-412	0%
Tension Set @ 100%	ASTM D-412	0%
Water Absorption	ASTM D-570	0.2
Durometer hardness: Shore A	ASTM D-2240	45-55
Permeability (U.S. perms)	ASTM E-96	2.0
Tear Strength	ASTM D-624	45 lbs/in

LIQUID PROPERTY	TEST METHOD	VALUE
Solids by Volume	ASTM D-2697	66%
Solids by Weight	ASTM D-2697	78%
Flash Point	ASTM D-56	115 F

This information is intended only as a guide for design purposes. The values shown are the average values obtained from sprayed laboratory samples. The test methods were performed per the ASTM Book of Standards. Higher or lower temperature & humidity conditions will effect dry time.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Safety, Health & Toxicity Data

A Material Safety Data Sheet has been prepared on this coating. All personnel who will come in contact with the product should read and understand this MSDS.

PROTECTIVE EQUIPMENT

Since the coatings are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure.

VAPOR INHALATION

The best form of protection against organic solvents or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators is acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves.

EYE CONTACT

Wear a full-face mask or OSHA-approved protective goggles.

FLAMMABILITY

Flash point is 115° F. Avoid open flame or spark sources. Avoid excessive heat. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other ignition sources at locations distant from the material-handling point. Never use a welding or cutting torch on or near the drum. In case of fire, use CO₂, steam, dry chemicals or water fog.

SHELF LIFE

ULTRA-GUARD 5500 has a minimum shelf life of 6 months from the date of manufacture when stored in original unopened containers at temperature ranges between 32°F and 100°F.

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The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

PROTECTION OF THE WORKPLACE

Overspray of the coatings can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**

Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation.

If ingested and the victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately. Skin contact with liquid components can result in a rash or other irritation. Wash the affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

Eye Contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**



ULTRA-SAFE 7000**THERMAL BARRIER****PRODUCT DESCRIPTION**

ULTRA-SAFE 7000 is a cementitious fire protective coating specifically formulated for use over rigid polyurethane foam plastics. When spray applied to interior foam surfaces on walls and ceilings, it provides a hard, monolithic thermal barrier against heat and fire.

APPLICATION INSTRUCTIONS

ULTRA-SAFE 7000 is factory packaged in 40 pound bags requiring only the addition of water. Weigh or measure approximately 6 to 8 gallons⁽¹⁾ of potable water and place into a mixer with each bag of material; then mix the slurry for 2 to 3 minutes before dumping it into a spray hopper. **NOTE: OVER MIXING MAY DECREASE THE YIELD.** The slurry should be sprayed immediately and not allowed to set in the equipment as it is very difficult to remove once it has hardened. **ULTRA-SAFE 7000** should not be applied at more than 1/2" in one pass. If a greater thickness is desired, it will be necessary to make multiple passes. Theoretical yield should be approximately 50 square feet at 1/2" thickness. Do not apply **ULTRA-SAFE 7000** when ambient temperatures are below 40°F.

Once **ULTRA-SAFE 7000** has been applied and reaches its first set, the surface can be trowelled, floated or rolled to provide a variety of textured finishes. To seal the surface or modify the color, use a masonry paint or penetrating epoxy after the surface has fully cured. The ease of installation makes it a low cost way to protect foam plastics.

ULTRA-SAFE 7000 has exhibited excellent adhesion to polyurethane foam and to most construction surfaces. However, it is recommended that sufficient adhesion tests be conducted prior to application to determine if any special surface preparation is required. Consult with **General Coatings Manufacturing Corp.** technical personnel for project specific applications and limitations prior to use.

BENEFITS

ULTRA-SAFE 7000 has been successfully fire-tested by Underwriter's Laboratories, Inc., and is listed under File #R16061. It complies with Test Method 1715 and all known requirements for a 15 minute interior thermal barrier.

The product is humidity resistant and reduces sweating often experienced in storage areas. It is washable when trowelled and painted and dries to a hard, durable surface which resists damage. **ULTRA-SAFE 7000** has an insulating R value of 2.3 per inch.

Typical situations in which **ULTRA-SAFE 7000** may be utilized include:

Fruit & Vegetable Cold Storage	Breweries
Sports Arenas	Freezers
Fish Processing Plants	Boats & Ships
Seed Storage and Processing	Aircraft Hangers

DISCLAIMERS:

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(1)Actual amounts of water may vary based upon the length of hose through which it is to be pumped or with the hardness of the water used.

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HIGH SOLIDS ELASTOMERIC SILICONE

DESCRIPTION

ULTRA-GUARD 5700 is a single-component silicone elastomer specifically designed to protect construction surfaces from the effects of weather and moisture. The outstanding features of ULTRA-GUARD 5700 are its high solids content, rapid cure and superior physical properties. ULTRA-GUARD 5700 is designed as a two-coat system consisting of a basecoat with a contrasting-colored topcoat.

USES

ULTRA-GUARD 5700 is designed to provide a durable elastomeric protective coating for sprayed polyurethane foam insulation. ULTRA-GUARD 5700 can be used by itself as the complete protective coating membrane. With the addition of ceramic roofing granules embedded into the coating surface, superior abrasion resistance is achieved.

ADVANTAGES

ULTRA-GUARD 5700's dry time may be shortened with the addition of an accelerator package. ULTRA-GUARD 5700 exhibits excellent adhesion to sprayed-in-place polyurethane foam as well as other construction surfaces. ULTRA-GUARD 5700 retains its flexibility and membrane integrity from -80° F to +250° F.

WEATHERING AND RESISTANCE PROPERTIES

ULTRA-GUARD 5700 has excellent appearance and good flexibility with no checking, cracking or significant discoloration after 5,000 hours Accelerated Weathering exposure in an Atlas carbon arc weatherometer according to ASTM D-822. ULTRA-GUARD 5700 has excellent heat resistance to 250° F, good salt, acid and solvent resistance, and fair alkali resistance.

ADHESION

ULTRA-GUARD 5700 adheres well to most properly prepared construction surfaces, including spray-applied polyurethane or isocyanurate foam insulation. ULTRA-GUARD 5700 can be re-coated when cured enough to allow light foot traffic or as much as 7 to 10 days between coats.

APPLICATION

ULTRA-GUARD 5700 is designed to be applied through high pressure airless spray equipment. ULTRA-GUARD 5700's theoretical dry film thickness is 15 mils when applied at 1 gal. per 100 square feet. The minimum recommended thickness when used as a protective membrane over polyurethane foam is 35 dry mils. ULTRA-GUARD 5700 should only be applied by professional applicators. Consult **General Coatings Manufacturing Corp.** for specific application requirements and end uses.

APPLICATION EQUIPMENT

ULTRA-GUARD 5700 may be sprayed, brushed, or rolled. A high-pressure airless paint pump capable of producing a minimum of 4500 psi at the spray gun should be used. The pump should have a minimum of 3 gallons per minute output and be fed by a 5:1 transfer pump. Always use components rated for pump pressure. Hoses should have a maximum length of 200 feet, a minimum inside diameter of 1/2", a 3/8" whip may be used at the spray gun. The spray gun should be high pressure (5000 psi) with reverse-a-clean spray tip, having a minimum orifice of .019.

Nominal Properties

PHYSICAL PROPERTY	TEST METHOD	VALUE
*Dry Time	75 F, 50% RH	>3
*Dry Time w/Accelerator Pkg.	75 F, 50% RH	<2
Weathering QUV 5,000 hours	ASTM D-822	No degradation
Elongation	ASTM D-412	250%
Adhesion to SPF	ASTM C-794	2.3 pli
Tensile Strength (Die C)	ASTM D-412	300 psi
Durometer hardness: Shore A	ASTM D-2240	45-55
Permeability (U.S. perms)	ASTM E-96	7.9
Tear Strength	ASTM D-624	45 lbs/in
LIQUID PROPERTY	TEST METHOD	VALUE
Solids by Volume	ASTM D-2697	94% (+/- 2)
Solids by Weight	ASTM D-2697	94% (+/- 2)
Flash Point	ASTM D-56	142 F

This information is intended only as a guide for design purposes. The values shown are the average values obtained from sprayed laboratory samples. The test methods were performed per the ASTM Book of Standards. Higher or lower temperature & humidity conditions will effect dry time. The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Safety, Health & Toxicity Data

A Material Safety Data Sheet has been prepared on this coating. All personnel who will come in contact with the product should read and understand this MSDS.

PROTECTIVE EQUIPMENT

Since the coatings are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure.

VAPOR INHALATION

The best form of protection against organic solvents or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators is acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves.

EYE CONTACT

Wear a full-face mask or OSHA-approved protective goggles.

FLAMMABILITY

Flash point is 142° F. Avoid open flame or spark sources. Avoid excessive heat. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors or other ignition sources at locations distant from the material-handling point. Never use a welding or cutting torch on or near the drum. In case of fire, use CO₂, steam, dry chemicals or water fog.

SHELF LIFE

ULTRA-GUARD 5700 has a minimum shelf life of 6 months from the date of manufacture when stored in original unopened containers at temperature ranges between 32°F and 100°F.

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PROTECTION OF THE WORKPLACE

Overspray of the coatings can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**

Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation.

If ingested and the victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately. Skin contact with liquid components can result in a rash or other irritation. Wash the affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

Eye Contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY.**





TECHNICAL DATA SHEET

ULTRA-GUARD 5700 ACCELERATOR

ULTRA-GUARD 5700 SILICONE ACCELERATOR

PRODUCT DISCRIPTION

ULTRA-GUARD 5700 SILICONE ACCELERATOR is a single component curative for General Coatings *ULTRA-GUARD 5700* High Solids Silicone Coating. *ULTRA-GUARD 5700 SILICONE ACCELERATOR* enhances the moisture curing characteristics that accelerates the cure time. Typically the addition of accelerator will shorten cure time by 50%. Actual cure time is dependent on weather conditions.

PACKAGING

¼ pint (0.18 liter) can
1 quart (0.95 liter) can

MIXING

Add accelerator to *ULTRA-GUARD 5700* (¼ pint per 5 gallon pail or 1 quart to 50 gallon drum). Using an air powered mixer capable of uniformly mixing the entire container, thoroughly mix accelerator into *ULTRA-GUARD 5700*. For mixing 50 gallon drums we recommend a drum mixer of at least 2 ½ horsepower with a minimum of two 8 inch blades. *ULTRA-GUARD 5700* is packaged with nitrogen to keep latent moisture from prematurely starting the curing process. After opening and catalyzing the *ULTRA-GUARD 5700* is becomes much more sensitive to moisture and the entire container must be used in a relatively short period of time.

EQUIPMENT CLEANUP

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

STORAGE

ULTRA-GUARD 5700 SILICONE ACCELERATOR has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

NOMINAL PROPERTIES

ASTM D6083

Form	Liquid
Color	Light yellow
Odor	Hydrocarbon like
Molecular Weight	200 g/mol
Relative vapor density	6
Vapor pressure	1.2 mm Hg
Density	6.5
Boiling point/range	350 °F
Flash point	105 °F
Water Solubility	Insoluble

WARNING

This product contains Curatives

SAFETY, HEALTH & TOXICITY DATA

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LAST REVISED: 02/25/2015



TECHNICAL DATA SHEET ULTRA-GUARD 5700 SILICONE MASTIC

HIGH SOLIDS ELASTOMERIC SILICONE MASTIC

DESCRIPTION AND USE

ULTRA-GUARD 5700 SILICONE MASTIC is a high-solids, heat-resistant, single-component, brush/trowel grade silicone mastic with:

1. Exceptional adhesion
2. Outstanding UV resistance
3. Excellent low temperature flexibility & Elasticity
4. High tensile strength

COVERAGE

ULTRA-GUARD 5700 SILICONE MASTIC approximate coverage is 25 square feet per gallon.

STORAGE STABILITY

ULTRA-GUARD 5700 SILICONE MASTIC has a minimum shelf life of one year when stored at temperatures between 32°F and 100°F.

APPLICATION INSTRUCTIONS

ULTRA-GUARD 5700 SILICONE MASTIC is applied by brush or trowel at thicknesses up to 1/4".

THINNER

ULTRA-GUARD 5700 SILICONE MASTIC should be applied directly from the container without thinning.

PRIMER

Sprayed Foams: No primer necessary. Consult manufacturer for application to other surfaces.

Nominal Properties

PHYSICAL PROPERTY	TEST METHOD	VALUE
*Tackfree	75 F, 50% RH	>3
*Cure	75 F, 50% RH	24 Hours
Weathering QUV 5,000 hours	ASTM D-822	No degradation
Elongation	ASTM D-412	200%
Adhesion to SPF	ASTM C-794	2.3 pli
Tensile Strength (Die C)	ASTM D-412	300 psi
Durometer hardness: Shore A	ASTM D-2240	45-55
Permeability (U.S. perms)	ASTM E-96	7.9
Tear Strength	ASTM D-624	45 lbs/in
LIQUID PROPERTY	TEST METHOD	VALUE
Solids by Volume	ASTM D-2697	94% (+/- 2)
Solids by Weight	ASTM D-2697	94% (+/- 2)
Flash Point	ASTM D-56	142 F

This information is intended only as a guide for design purposes. The values shown are the average values obtained from sprayed laboratory samples. The test methods were performed per the ASTM Book of Standards. Higher or lower temperature & humidity conditions will effect dry time. The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Safety, Health & Toxicity Data

A Safety Data Sheet has been prepared on this coating. All personnel who will come in contact with the product should read and understand this SDS.

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.



1220 E. North Avenue, Fresno, CA 93725 Phone (559) 495-4004

REVISED: 01/16

ALIPHATIC POLYURETHANE ELASTOMER

DESCRIPTION

ULTRA-SHIELD 3000 is a high-solids, high build two-component aliphatic polyurethane elastomeric coating. ULTRA-SHIELD 3000 is intended for use as a protective membrane coating for construction surfaces requiring outstanding UV weathering, color and gloss retention, soil resistance, and chemical and abrasion resistance.

USES

ULTRA-SHIELD 3000 is the protective coating of choice for pedestrian or traffic decks and polyurethane foam insulation when requiring maximum resistance to weathering or chemical or physical elements. ULTRA-SHIELD 3000 is listed and classified by Underwriters Laboratories, Inc. UL 790 Class A as an integral component to numerous roof deck and construction assemblies, File #14330.

PRIMERS

ULTRA-SHIELD 3000 requires no primer when applied to polyurethane or polyurea coatings or polyurethane foam insulation. Consult manufacturer before application to other construction surfaces.

STORAGE

ULTRA-SHIELD 3000 has a minimum shelf life of 6 months when stored at temperatures between 40° F and 100° F.

APPLICATION

ULTRA-SHIELD 3000 "B" Component must be power mixed prior to application. ULTRA-SHIELD 3000 may be applied using plural spray equipment or can be batch mixed 1 to 1 by volume and applied through high pressure airless spray equipment. If thinning is required, consult General Coatings Manufacturing Corp. ULTRA-SHIELD 3000 has a 30-45 minute pot life when mixed in 5 gallon batch sizes at 75°F. Higher temperatures may shorten the pot life. ULTRA-SHIELD 3000 standard cure will dry to touch in 4 hours at 75°F 50% relative humidity and will support light foot traffic in 8-24 hours depending on ambient conditions.

RECOMMENDED THICKNESS

ULTRA-SHIELD 3000 should be applied at a minimum of 10 dry mils when used as a protective top coat for walk decks, traffic decks or polyurethane foam insulation.

WEATHERING & ULTRA-VIOLET RESISTANCE

After 6,000 hours QUV accelerated weathering, according to ASTM G53, Atlas carbon arc, ASTM D822, and Atlas Xenon, ASTM G26, ULTRA-SHIELD 3000 had excellent appearance with no chalking, cracking, checking, delamination or loss of flexibility.



Nominal Properties

PHYSICAL PROPERTY	VALUE	TEST METHOD
Solids by Volume	75%	ASTM D-2697
Solids by Weight	82%	ASTM D-2369
Flash Point	79°	ASTM D-56
Elongation	450% +/- 100	ASTM D-412
Tensile Strength	2200 PSI +/- 100	ASTM D-412
Tear Resistance	375 PLI +/- 50	ASTM D-624
Permanent Set @ Break	9%	ASTM D-412
Hardness Shore A	90	ASTM D-2240
Water Absorption	1.5%	ASTM D-471
Permeability US	.45	ASTM E-96(B)
Low Temperature Flexibility	Pass	ASTM D-1737
Abrasion Resistance	29 Mg Loss	ASTM C-501
Volatile Organic Compound	219 grams/liter	

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PROTECTION OF THE WORKPLACE

The overspray from ULTRA-SHIELD 3000 can carry considerable distances and care should be given to the following:

1. Post warning signs a minimum of 100 ft. from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FLAMMABILITY

Flash point < 80°F for components A and B. DOT freight classification: Paint Flammable Liquid UN 1263.

CONSISTENCY

ULTRA-SHIELD 3000 component "A" is a moderate viscosity (2,000-3,000 cps) light amber colored solution prepolymer. Component "B" is a thixotropic liquid with a viscosity of 6,000-12,000 cps

COLOR

Standard colors are: White
Light Grey

ADHESION

ULTRA-SHIELD 3000 adheres well to most surfaces including spray-applied polyurethane and polyurea elastomers or polyisocyanurate insulations and other construction surfaces. ULTRA-SHIELD 3000 can be recoated when set to touch or has cured. Dry sufficiently to allow foot traffic.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on this coating. All personnel who will come in contact with the product should read and understand the MSDS.

PROTECTIVE EQUIPMENT

Since the coating is atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. This coating contains polymeric isocyanate (MDI) and, as such, can be very sensitizing, particularly from the standpoint of vapor inhalation. Some other ingredients in the coating may be sensitizing from the standpoint of skin contact or eye contact.

FIRST AID CONSIDERATIONS

Vapor inhalation problems are characterized by coughing, shortening of breath, and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, summon "emergency trained" medical attention immediately.

CONDITIONS TO AVOID

Avoid open flame or spark sources. Avoid excess heat. Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, or other ignition sources at locations distant from the material handling point. Never use welding or cutting torch on or near drum (even if empty) because product (residue is sufficient hazard) can ignite explosively. In case of fire, use CO₂, steam, dry chemicals, or water fog. Do not use water.

TOXICITY

Contains solvents which require normal precautions in handling materials of this type. Part A contains diisocyanate which can be toxic if inhaled as particulate matter.

VAPOR INHALATION

The recommended form of protection against isocyanate or other potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full-face fresh air masks. For maximum protection, we recommend use of NIOSH/MESA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

Effects of over-exposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, unconsciousness, or even asphyxiation.

If ingested and victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately.

SKINCONTACT

To prevent skin contact with the sprayed product, we recommend the use of fabric coveralls and neoprene or other chemically resistant gloves.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with water. Wipe residual from the skin with a clean cloth, then wipe affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

EYECONTACT

Wear a full-face mask or OSHA-approved protective goggles.

Eye contact with liquid or spray components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. Summon "emergency trained" medical attention immediately.

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Technical Data Sheet ULTRA-SHIELD 3300

Aliphatic Polyurethane Topcoat

DESCRIPTION

ULTRA-SHIELD 3300 is an economical, aliphatic, single component, liquid applied, moisture cured, polyurethane surface protection coating. This product does not meet VOC requirements for SCAQMD and BAAQMD areas.

FEATURES

- ❖ UV Stable
- ❖ Excellent Color Retention
- ❖ Excellent Weatherability

TYPICAL USES

- ❖ Topcoat for Foam Insulated Tanks
- ❖ Topcoat for Wine Storage Tanks

COLORS

White

Custom colors are also available. Minimum order of 250 gallons (945 liters). See color chart for special provisions. Contact General Coatings Manufacturing Corp. for more information.

PACKAGING

5 gallon (18.9 liter) pail with ½ gallon can (net 0.4 gallon) of Catalyst

55 gallon drum, net fill 50 gallons (189 liters) with 2 cans (net 1 gallon each can) of Catalyst

MIXING

Before application, mix ULTRA-SHIELD 3300 using a mechanical mixer at slow speed. Mix ULTRA-SHIELD 3300 thoroughly until a homogenous mixture and color is obtained.

APPLICATION

The first coat of ULTRA-SHIELD 3300 should be applied at the rate of 1 gallon/100 square feet (0.41 liters/square meter). For best results, airless sprayer or phenolic core roller may be used but extra care should be taken not to cause air bubbles. Apply ULTRA-SHIELD 3300 evenly over the entire surface. After the coating becomes tack-free, proceed to the second coat.

ULTRA-SHIELD 3300 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 re-coating be done within 36 hours.

CURING

At 75°F (24°C) and 50% relative humidity, allow each coat to cure 8 to 12 hours. Cure time will vary depending on temperature and humidity. If more than 48 hours passes between coats, re-prime the surface with Polyprime U or Polyprime 172 before proceeding.

TECHNICAL DATA (Based on draw down film)

Coverage Rate	1 gal/100sq.ft. 0.41 l/m ²
Dry Film Thickness, exclusive of aggregate	
Per coat at 1 gal/100 sq. ft	12 ± 2 mils 305 ± 50 microns
Hardness, ASTM D-2240	95 ± 5 Shore A
Tear Resistance, Die C, ASTM D-624	400 ± 50 pli 70.1 ± 8.8 kNm
Tensile Strength, ASTM D-412	3500 ± 300 psi 29.2 ± 2.1 MPa
Ultimate Elongation, ASTM D-412	200% ± 50
Specific Gravity	1.19
Total Solids by Weight, ASTM D-2369	80 ± 2%
Total Solids by Volume, ASTM D-2697	72 ± 2%
Viscosity at 24°C (75°F)	3000 ± 1000 cps
Volatile Organic Compounds	
ASTM D-2369-81	<2.08 lb/gal <250 gm/liter
Moisture Vapor Transmission	
ASTM E-96(B)	0.306 grains/ft ² .hr.in Hg
QUV (Accelerated weathering 2000 hours)	No cracking or crazing or chalking

Uncured ULTRA-SHIELD 3300 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.

EQUIPMENT CLEANUP

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

STORAGE

ULTRA-SHIELD 3300 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

LIMITATIONS

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

Surface may be slippery when wet.

ULTRA-SHIELD 3300 may become flat and stained over time.

ULTRA-SHIELD 3300 has limited chemical resistance properties.

Containers that have been opened must be used as soon as possible.

Do not dilute under any circumstance.

Refer to general guidelines for more information.

WARNING

This product contains Isocyanates and Solvent.

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

LIMITED WARRANTY

General Coatings Manufacturing Corp. warrants its products to be free of manufacturing defects and that they will meet General Coatings Manufacturing Corp. current published physical properties. General Coatings Manufacturing Corp. warrants that its products, when properly installed by a state licensed waterproofing contractor according to General Coatings Manufacturing Corp. guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by General Coatings Manufacturing Corp. of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests, accurately represent all environments.

REVISED: 02/13

TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-SHIELD 7000 is a high solids, spray-applied, aliphatic polyaspartic polyurea with excellent retention, gloss and UV stability characteristics. It can be applied at any thickness of 8-12 mils (200-300 microns) in a single pass on horizontal surfaces or multiple passes on vertical surfaces. Ultra-Shield 7000 is quick curing and specifically formulated to be installed in thin film applications.

TECHNICAL DATA

Ultra-Shield 7000 - Pigmented

Based on a draw down film

Mix Ratio by Volume	1A: 1B
Coverage Rate	1 gal/100ft ²
Dry Film Thickness per Coat (exclusive of aggregate)	15±2 mils 381 ± 50 microns
Pot Life @ 75°F (24°C), 50% R.H.	30-40 minutes
Hardness, ASTM D-2240	65 ± 2 Shore D
Tear Resistance, Die C, ASTM D-624	400 ± 50 pli 70.1 ± 8.8 kN/m
Tensile Strength, ASTM D-412	3000 ± 200 psi 20.7 ± 1.4 MPa
Ultimate Elongation, ASTM D-412	50 ± 10%
Specific Gravity / Part-A, Part-B	(A) 1.14, (B) 1.28
Total Solids by Weight, ASTM D-2369	91 ± 2%
Total Solids by Volume, ASTM D-2697	91 ± 2%
Viscosity at 75°F (24°C), Side-A	300 ± 200 cps
Part-B	1400 ± 300 cps
Volatile Organic Compound, ASTM D-2369-81	0 lb/gal 0 gm/liter

FEATURES:

- USDA Approved for Incidental Food Contact
- Anti-Fungal and Biocide
- Quick Cure
- Color Stable
- High Tensile Strength
- Very Durable
- Abrasion Resistant
- Excellent Weatherability
- Topcoat over aromatic polyurea, polyurethane and epoxy applications ranging from 35°F to 130°F, service temperature 0°F to 200°F
- UV Resistant For Superior Gloss Retention
- Meets California VOC and AQMD Requirements, including SCAQMD areas
- Versatile Application: Can be applied by squeegee, phenolic resin core roller, plural component high pressure spray, or through a Pressure Pot

TYPICAL USES:

- Concrete
- Plywood
- Cold Storage Areas
- Industrial Warehouses
- Chemical Plants
- Off-shore Oil Platforms
- Steel
- Plastic
- Food Processing Areas
- Pulp and Paper Mills
- Fertilizer Plants
- Pipeline Barges

COLORS:

Clear, Tan and Dolphin Grey

PACKAGING:

2 gallon kit (7.57 liters):

One 1 gallon (3.78 liters) can Side-A and One 1 gallon (3.78 liters) can Side-B.

10 gallon kit is not a stock item and is available with a minimum order of 100 gallons (378 liters). Contact General Coatings for availability.

APPLICATION

MIXING:

Ultra-Shield 7000 may not be diluted under any circumstance. Proportions are premeasured. Ultra-Shield 7000 Side-A and Side-B should be mixed individually before combining. Add Side-B to Side A while mixing, using a mechanical mixer at medium speed. Mix until a homogeneous mixture and color is obtained (at least 5 minutes) and mix frequently during application to maintain uniform color. Do not thin. Do not mix in an up and down motion. Use care to scrape the sides of the container to ensure that no unmixed material remains.

Use caution not to whip air into the material as this may result in pinhole blisters and/or shortened pot life. Do not mix any material that cannot be used within 20-30 minutes.

SURFACE PREPARATION:

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Refer to product Application Bulletin for detailed surface preparation information. Minimum recommended surface preparation:

Atmospheric:
SSPC-SP6/NACE 3, 2 mils
(50 microns) profile
required.

Concrete & Masonry:
SSPC-SP13/NACE 6 or ICRI
No. 310.2 CSP 3-5. Primer

APPLICATION:

Ultra-Shield 7000 can be applied by phenolic resin core roller, plural component high pressure spray, or through a Pressure Pot. Ultra-Shield 7000 should be applied at a minimum film thickness of 5 mils. It should be noted that the heavier the application, the longer the curing process takes. For best results, use an airless sprayer. A phenolic resin core roller may be used, but extra care should be taken not to cause air bubbles.

CURING:

At 75°F (24°C) and 50% relative humidity, allow each coat to cure 3-4 hours. Cure time will vary depending on temperature and humidity. Allow 6 hours before permitting light pedestrian traffic and at least 24-48 hours before permitting heavy pedestrian traffic on to the finished surface. Uncured Ultra-Shield 7000 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. If more than 48 hours passes between coats, re-prime the surface with Ultra-Bond U before proceeding. Low temperature and/or low humidity extend the cure time.

EQUIPMENT CLEANUP:

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

STORAGE:

Ultra-Shield 7000 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

LIMITATIONS:

The following conditions must not be coated with deck coatings or systems: split slabs, buried membrane, sandwich slabs with insulation, slabs over unvented metal pan, magnesite, and lightweight concrete. With regard to coating asphalt surfaces, please contact General Coatings technical department. 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. Surface may be slippery when wet. Containers that have been opened must be used as soon as possible. Do not dilute under any circumstance.

Warning: This product contains Isocyanates and Solvent.**DISCLAIMER**

Please read all information in the general guidelines, technical data sheets, application guide and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

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 user's responsibility to satisfy himself, by his own information and tests, 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 own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests accurately represent all environments..

Rev. 7/6/17



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TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-SHIELD 7072V is a high solids, spray-applied, aliphatic antimicrobial polyaspartic polyurea with excellent resistance to mold, fungus, and mildew growth. It also has strong retention for gloss and UV stability characteristics.

Ultra-Shield 7072V can be applied at any thickness of 8-12 mils (200-300 microns) in a single pass on horizontal surfaces or multiple passes on vertical surfaces. It is quick curing and specifically formulated to be installed on vertical tank applications.

Cured Ultra-Shield 7072V offers excellent chemical resistance against ethanol vapors and wine alcohol. It also provides protection for exterior storage tanks in wine production facilities.

TECHNICAL DATA

Mix Ratio by Volume	1A: 1B
Coverage Rate	1 gal/100ft ²
Dry Film Thickness per Coat (exclusive of aggregate)	14±2 mils 356 ± 50 microns
Pot Life @ 75°F (24°C), 50% R.H.	10-15 minutes
Hardness, ASTM D-2240	65 ± 5 Shore D
Tear Resistance, Die C, ASTM D-624	600 ± 50 pli 105.1 ± 8.8 kN/m
Tensile Strength, ASTM D-412	5500 ± 500 psi 37.9 ± 2.1 MPa
Ultimate Elongation, ASTM D-412	25 ± 10%
Specific Gravity / Part-A, Part-B	(A) 1.11, (B) 1.24
Total Solids by Weight, ASTM D-2369	91 ± 2%
Total Solids by Volume, ASTM D-2697	89 ± 2%
Viscosity at 75°F (24°C), Side-A	500 ± 100 cps
Part-B	1400 ± 200 cps
Volatile Organic Compound, ASTM D-2369-81	<0.42 lb/gal <50 gm/liter

FEATURES:

- Anti-Fungal and Biocide
- USDA Approved for Incidental Food Contact
- Quick Cure
- Color Stable
- High Gloss
- Very Durable
- High Tensile Strength
- Abrasion Resistant
- Excellent Weatherability
- Seamless Waterproofing Membrane
- UV Resistant for Superior Gloss Retention
- Topcoat over aromatic polyurea, polyurethane and epoxy applications ranging from 35°F to 130°F, service temp. from 0°F to 200°F

TYPICAL USES:

- Coated Foam Tanks
- Concrete
- Cold Storage Areas
- Industrial Warehouses
- Chemical Plants
- Fertilizer Plants
- Off-Shore Oil Platforms
- Steel
- Plywood
- Food Processing Areas
- Pulp and Paper Mills
- Pipeline Barges

COLORS:

White, Tan and Dolphin Grey.

Custom colors are also available. Minimum order of 100 gallons (378 liters). See color chart for special provisions. Contact General Coatings for more information.

PACKAGING:

2 gallon kit (7.57 liters):

One 1 gallon (3.78 liters) can Side-A and One 1 gallon (3.78 liters) can Side-B.

10 gallon kit (37.8 liters):

One 5 gallon (18.9 liter) pail of Side-A and One 5 gallon (18.9 liter) pail of Side-B. 10 gallon kit is not a stock item and is available with a minimum order of 100 gallons (378 liters).

APPLICATION

MIXING:

Ultra-Shield 7072V may not be diluted under any circumstance. Ultra-Shield 7072V Side-A and Side-B should be mixed individually before combining. Add Side-B to Side-A while mixing, using a mechanical mixer at medium speed.

Mix until a homogeneous mixture and color is obtained (at least 5 minutes) and mix frequently during application to maintain uniform color. Use care to scrape the sides of the container to ensure that no unmixed material remains.

Use caution not to whip air into the material as this may result in pinhole blisters and/or shortened pot life. Do not mix in an up and down motion. Do not mix any material that cannot be used within 45 minutes.

APPLICATION:

Ultra-Shield 7072V can be applied by phenolic resin core roller, high pressure spray, or through a cup gun under low pressure. Ultra-Shield 7072V should be applied at a minimum film thickness of 5 mils. It should be noted that the heavier the application, the longer the curing process takes.

Apply Ultra-Shield 7072V evenly over the entire deck. For best results, use an airless sprayer. A phenolic resin core roller may be used, but extra care should be taken not to cause air bubbles.

Curing:

At 75°F (24°C) and 50% relative humidity, allow each coat to cure 2-4 hours. Allow 6 hours before permitting light pedestrian traffic and at least 24-48 hours before permitting heavy pedestrian traffic on to the finished surface. Uncured Ultra-Shield 7072V 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.

Equipment Cleanup:

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

Storage:

Ultra-Shield 7072V has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

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. Surface may be slippery when wet. Containers that have been opened must be used as soon as possible. Do not dilute under any circumstance.

Warning: This product contains Isocyanates and Solvent.

DISCLAIMER

Please read all information in the general guidelines, technical data sheets, application guide and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

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 user's responsibility to satisfy himself, by his own information and tests, 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 own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests accurately represent all environments..

Rev. 7/6/17



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TECHNICAL DATA SHEET

FOR PROFESSIONAL CONTRACTOR USE ONLY

ULTRA-SHIELD 7700 is an aliphatic polyaspartic, environmentally friendly topcoat for Tank membrane systems. Ultra-Shield 7700 is quick curing and specifically formulated to be installed in thin film applications. It is designed for use in Southern California and is in compliance with SCAQMD air quality standards.

Ultra-Shield 7700 is a high solids, spray-applied, aliphatic antimicrobial polyaspartic polyurea with excellent resistance to mold, fungus, and mildew growth. It also has strong retention, gloss and UV stability characteristics.

Ultra-Shield 7700 can be applied at any thickness of 8-12 mils (200-300 microns) in a single pass on horizontal surfaces or multiple passes on vertical surfaces. It is quick curing and specifically formulated to be installed on vertical tank applications.

Cured Ultra-Shield 7700 offers excellent chemical resistance against ethanol vapors and wine alcohol. It also provides protection for exterior storage tanks in wine production facilities.

TECHNICAL DATA

Mix Ratio by Volume	1A: 1B
Coverage Rate	1 gal/100ft ²
Dry Film Thickness per Coat (exclusive of aggregate)	14±2 mils 356 ± 50 microns
Pot Life @ 75°F (24°C), 50% R.H.	10-15 minutes
Hardness, ASTM D-2240	65 ± 5 Shore D
Tear Resistance, Die C, ASTM D-624	600 ± 50 pli 105.1 ± 8.8 kN/m
Tensile Strength, ASTM D-412	5500 ± 500 psi 37.9 ± 2.1 MPa
Ultimate Elongation, ASTM D-412	25 ± 10%
Specific Gravity / Part-A, Part-B	(A) 1.11, (B) 1.24
Total Solids by Weight, ASTM D-2369	91 ± 2%
Total Solids by Volume, ASTM D-2697	89 ± 2%
Viscosity at 75°F (24°C), Side-A	500 ± 100 cps
Part-B	1400 ± 200 cps
Volatile Organic Compound, ASTM D-2369-81	<0.42 lb/gal <50 gm/liter

FEATURES:

- Anti-Fungal and Biocide
- Quick Cure
- Color Stable
- High Gloss
- Very Durable
- Mold Resistant
- High Tensile Strength
- Abrasion Resistant
- Excellent Weatherability
- Seamless Waterproofing Membrane
- UV Resistant for Superior Gloss Retention
- For use in SCAQMD areas
- Vertical Application
- Top coat over aromatic polyurea, polyurethane and epoxy applications ranging from 35°F to 130°F, service temp. from 0°F to 200°F

TYPICAL USES:

- Concrete
- Plywood
- Cold Storage Areas
- Industrial Warehouses
- Chemical Plants
- Wine Tanks
- Steel
- Plastic
- Food Processing Areas
- Pulp and Paper Mills
- Fertilizer Plants
- Pipeline Barges

COLORS:

White. Custom colors are also available. Minimum order of 100 gallons (378 liters). See color chart for special provisions. Contact General Coatings for more information.

PACKAGING:

2 gallon kit (7.57 liters):

One 1 gallon (3.78 liters) can Side-A and One 1 gallon (3.78 liters) can Side-B.

10 gallon kit (37.8 liters):

One 5 gallon (18.9 liter) pail of Side-A and One 5 gallon (18.9 liter) pail of Side-B.

10 gallon kit is not a stock item and is available with a minimum order of 100 gallons (378 liters).

APPLICATION

MIXING:

Ultra-Shield 7700 may not be diluted under any circumstances. Thoroughly mix Ultra-Shield 7700 Side-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

APPLICATION:

Ultra-Shield 7700 can be applied by phenolic resin core roller, high pressure spray, or through a cup gun under low pressure. Ultra-Shield 7700 should be applied at a minimum film thickness of 5 mils. It should be noted that the heavier the application, the longer the curing process takes.

Apply Ultra-Shield 7700 evenly over the entire deck. For best results, use an airless sprayer. A phenolic resin core roller may be used, but extra care should be taken not to cause air bubbles.

Ultra-Shield 7700, when using machine mixer, requires a Graco Xtreme 1:1 by volume proportioner with remote manifold and static mix tube connected to a minimum of a 50 foot airless hose and gun.

Curing:

At 75°F (24°C) and 50% relative humidity, allow each coat to cure 2-4 hours. Allow 6 hours before permitting light pedestrian traffic and at least 24-48 hours before permitting heavy pedestrian traffic on to the finished surface. Uncured Ultra-Shield 7700 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.

Equipment Cleanup:

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

Storage:

Ultra-Shield 7700 has a shelf life of one (1) year from date of manufacture in original, factory-sealed containers when stored indoors at a temperature between 60-95°F (15-35°C).

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. Surface may be slippery when wet. Containers that have been opened must be used as soon as possible. Do not dilute under any circumstance.

Warning: This product contains Isocyanates and Solvent.**DISCLAIMER**

Please read all information in the general guidelines, technical data sheets, application guide and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

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 user's responsibility to satisfy himself, by his own information and tests, 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 own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests accurately represent all environments.

Rev. 7/6/17



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POUR GRADE POLYURETHANE FOAM

PRODUCT DESCRIPTION

ULTRA-THANE 170 is a two component, rigid, polyurethane foam system. Designed for pour foam applications where constant flow characteristics and even density distributions are preferred. Its inherent fast initiation and slow rise times make it suitable for applying with a plural component spray system or hand mixing and pouring into place.

UNIQUE PROPERTIES

ULTRA-THANE 170's "A" component is a polymeric isocyanate containing reactive isocyanate groups. The "B" component is a combination of polyols, catalytic agents and HFC-245fa blowing agent, offers zero ozone-depletion technology to help protect the environment.

RECOMMENDED USES

- ◆ Decorative Molding
- ◆ Cavity Voids
- ◆ Insulated Panels

PROCESSING CHARACTERISTICS

PROPERTY

Cream Time	20 - 30 seconds
Tack Free Time	275 - 325 seconds
Rise Time	275 - 325 seconds
Cup Density	1.90 - 5.0 pcf

*Specific reaction times and densities are available by request.

STORAGE

Maintain storage areas for materials between 50-75°F at all times. Open drums with caution to prevent loss of blowing agent and potential personal chemical contamination. Avoid moisture contamination in containers. Containers should not be resealed if contamination is suspected. CO₂ or carbon dioxide created pressure can develop. Do not attempt to use contaminated material.

SHELF LIFE

Shelf life of **ULTRA-THANE 170** is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50°F and 75°F. Temperatures above 75°F may decrease shelf life.

FREIGHT CLASSIFICATION

Liquid Plastic Material -- NOIBN

PROCESSING EQUIPMENT

The pour equipment used to apply the liquid components shall be of the heated, airless type capable of supplying each component with +/- 2% of the mixing ratio by volume (50 parts A to 50 parts B [1:1]) and maintaining a temperature of the mixed components at the gun of 110°F-130°F. Optimum component spraying pressures and temperatures will vary as a function of the type of equipment utilized, material system used, ambient and substrate conditions, and the specified application. Thorough, intensive mixing of the components at the gun, either by mechanical, hydraulic, or air action is essential to producing acceptable foam quality. Ideal material drum temperatures for spraying should range from 65°F to 80°F. In colder weather (<50°F is not recommended), 2:1 transfer pumps are recommended due to the effects of lower temperatures on liquid component viscosity limiting the supply of material to the proportioning unit.

LIQUID COMPONENT PROPERTIES

PROPERTY

In Place Density	ASTMD1622	2.0 lbs./ft ³
Adhesion	ASTMD1623	Equal to Tensile
Closed Cell Content	ASTMD2856	>90%

Viscosity @ 77°F 800 - 900 cps "B" Component

Compressives:

Parallel to rise	25psi
Perpendicular to rise	21psi

THERMAL BARRIER

The use of polyurethane or polyisocyanate foam in interior applications on walls or ceilings may present an unreasonable fire hazard unless the foam is protected by an approved, fire-resistant, 15-minute thermal barrier. A thermal barrier is a material, applied over polyurethane foam, designed to slow the temperature rise of the foam during a fire situation and to delay the foam's involvement in a fire. A building code definition of an approved thermal barrier is one, which, is equal in fire resistance to 12.7 mm (1/2 inch) gypsum board. Such thermal barriers limit the temperature rise of the underlying polyurethane foam to not more than 121°C (250°F) after 15 minutes of fire exposure complying with the standard time temperature curve of ASTM E119 (Test Methods for Fire Tests of Building Construction Materials). Thermal barriers meeting this criterion are termed a "15 minute thermal barrier" or classified as having an "index of 15".

GENERAL SAFETY, TOXICITY AND HEALTH DATA

Material Safety Data Sheets are available on this polyurethane foam material. Any individual who may come in contact with these products should read and understand the MSDS.

Handling and Safety

Respiratory protection is MANDATORY! Persons with known respiratory allergies should avoid exposure to the "A" component. The "A" component contains reactive isocyanate groups while the "B" component contains amine and/or organometallic catalysts with blowing agents. Both materials must be handled and used with adequate ventilation. The vapors must not exceed the TLV (0.02 parts per million) for isocyanates. Avoid breathing vapors. Wear a NIOSH approved respirator. If inhalation of vapors occur, remove victim from contaminated area and administer oxygen if breathing is difficult. Call a physician immediately. Avoid contact with skin, eyes, and clothing. Open containers carefully, allowing any pressure to be relieved slowly and safely. Wear chemical safety goggles and rubber gloves when handling or working with these materials. In case of eye contact,

Fire Hazard

Fires involving either of these components may be extinguished with carbon dioxide, dry chemical, or inert gas. Application of large quantities of water spray is recommended for spill fires. Personnel fighting the fire must be equipped with NIOSH approved self-contained breathing apparatus.

Cleaning of Spills or Leakage

Cover the area with an inert absorbent material such as clay or vermiculite and transfer to metal waste containers. Saturate with water but do not seal the container with the isocyanates and water mixture. The area should then be flushed with large amounts of water, in the case of the "B" component, or a 5% aqueous ammonia, in the case of the "A" component. Dispose of these materials in compliance with federal, state and local regulations.

Caution: Isocyanates will react with water and generate carbon dioxide. This could result in rupture of closed containers.

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties, and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedure shall relieve General Coatings Manufacturing Corp. of all liability with respect to the materials or the use thereof.

Revision Date: 12/09/2013



ULTRA-THANE 230
ROOFING

RIGID POLYURETHANE FOAM

PRODUCT DESCRIPTION

ULTRA-THANE 230 is a two component spray-in-place rigid monolithic polyurethane foam insulation. This product can be formulated in a variety of densities to accommodate a broad range of applications. ULTRA-THANE 230 contains no ozone-depleting chemicals.

USES

ROOFING: ULTRA-THANE 230 is used extensively as a superior thermal insulation and waterproofing product for new and remedial roofing.

COLD STORAGE: ULTRA-THANE 230 is the insulation of choice for maintaining the rigid climatic conditions of many cold storage buildings.

TANK INSULATION: ULTRA-THANE 230 is an excellent insulation for hot and cold storage vessels.

BUILDING AND FIRE CODES

Local Building Authority should be consulted if ULTRA-THANE 230 is used as an insulation material on interior applications.

ULTRA-THANE 230 is listed and complies with the California State Fire Marshall

ULTRA-THANE 230 is evaluated and listed by ICC-ES in ESR 3239. Additionally ULTRA-THANE 230 meets the "Standard Test Methods for Fire Tests of Roof Coverings" and exceeds ASTM E84/UL 790 (A) and ASTM E108/UL 723 fire ratings.

Fire Hazard Classifications*

SURFACE BURNING ASTM E-84/UL 723		FLAMMABILITY ROOF DECK CONSTRUCTION ASTM E-108/UL 790	
Flame Spread	<75	Class A	New Construction
		Class A	Maintenance and Repair

*These numerical flame spread ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

Liquid Component Properties

PROPERTY	DENSITY		
	2.5	2.7	3.0
Viscosity 25°C			
Component A	200	200	200
Component B	500	550	625
Specific Gravity 25°C			
Component A	1.24	1.24	1.24
Component B	1.19	1.19	1.18
Mix ratio by volume (A/B)	50/50	50/50	50/50

Processing Characteristics

PROPERTY	72°F(HAND MIX)			SPRAYED*		
	Winter	Regular	Summer	Winter	Regular	Summer
Cream Time	4 Sec.	5 Sec.	6 Sec.	1-2 Sec.	1-2 Sec.	1-2 Sec.
Rise Time	15-16 sec.	19 sec.	22 sec.	4-5 sec.	5-6 sec.	6-7 sec.
Tack Free	On Rise	On Rise	On Rise	On Rise	On Rise	On Rise

*Nominal 1" thickness sprayed through Gusmer Model H-11 proportioner with GX-7 Gun: preheat set at 110°F, hose heat set to maintain 110°F at the spray gun. Reaction times are influenced by mix efficiency of the spray gun, temperature of the components, ambient conditions and thickness of the foamed mass.

Nominal Cured Physical Properties

PROPERTY	ASTM TEST METHOD	DENSITY		
		2.5	2.7	3.0
Sprayed-in-place Density	D-1622	2.5	2.7	3.0
K-factor Aged	C-518	.15	.15	.16
Compressive Strength	D-1621	40-45 psi	46 psi	50-60 psi
Tensile Strength	D-1623	60 psi	75 psi	90 psi
Shear Strength	C-273	45 psi	50 psi	50-60 psi
Closed Cell Content	D-1940	95%	95%	98%
Water Vapor Transmission	C-355	1.8 perms	1.8 perms	1.8 perms
Water Absorption	D-2842	.017	.017	.017
Wind Uplift	FM-4470	>I-450	>I-450	>I-450

This information is intended only as a guide for design purposes. The values shown are the average values obtained from laboratory prepared samples and results may vary with application conditions, equipment and technician.

K-Factor varies depending on age and use conditions.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors

Dimensional Stability Properties ASTM D-2126

DAYS	°F	°C	%R.H.	AV
28	-20	-29	DRY	N/C
28	158	70	100%	+7%
28	158	70	DRY	+1%

SHELF LIFE

Shelf life of **ULTRA-THANE 230** is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50° - 75° F. Temperatures above 75° F may decrease shelf life.

FREIGHT CLASSIFICATION

Liquid Plastic Material -- NOIBN

CAUTION

The use of foamed plastic in interior applications on walls or ceilings may present an unreasonable fire hazard unless the foam is protected by an approved, fire-resistive thermal barrier which has a finish rating of not less than 15 minutes.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Processing Guide

DESCRIPTION AND GENERAL USE

ULTRA-THANE 230 systems are light density spray polyurethane insulations designed to be fluid-applied to construction surfaces to effect a permanent, monolithic and dimensionally stable thermal insulation.

ULTRA-THANE 230 systems are a sophisticated plural component building product which should be applied only by trained and manufacturer-approved insulation experts familiar with the properties of this material.

ULTRA-THANE 230 systems are specifically designed as insulation for construction applications where the end use ambient temperature range will be maintained between -100°F and 225°F. When considering any other use for this product, consult **General Coatings Manufacturing Corp.** for specific application recommendations.

SUBSTRATE PREPARATION

For optimum results, surfaces to receive ULTRA-THANE 230 should be clean and dry, free of dirt, oil, solvent, grease, loose particles, peeling coating and other foreign matter. Untreated ferrometallic substrates should be sandblasted in accordance with SSPC-SP6. Sandblasted surfaces should be primed immediately with an approved primer.

Galvanized and stainless steel surfaces should be treated with an appropriate wash primer prior to the application of ULTRA-THANE 230.

Porous substrates such as wood and concrete may not require priming if surfaces are clean and dry with less than 10% moisture content. **FOR BEST RESULTS ON SURFACES WHERE MOISTURE CONTENT CANNOT BE DETERMINED OR CONTROLLED, PRIMING IS RECOMMENDED.** Consult **General Coatings Manufacturing Corp.** for specific application requirements.

SUBSTRATE TEMPERATURE

ULTRA-THANE 230 systems may be applied to surfaces with temperatures as low as 50 deg. in most instances. Please consult with General Coatings Manufacturing Corp. technical representatives for certain requirements.

AMBIENT AIR TEMPERATURE

Winter	Regular	Summer
50 - 60°F	65 - 85°F	Above 90°F

GENERAL COATINGS MANUFACTURING CORP. TECHNICAL SERVICE PERSONNEL SHOULD BE CONSULTED IN ALL CASES WHERE APPLICATION CONDITIONS ARE MARGINAL.

EQUIPMENT

Proportioning equipment shall be manufactured by Gusmer, Graco or Glas-Craft. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be heated airless type, capable of maintaining 120°F to 140°F mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions.

SPRAYING

ULTRA-THANE 230 systems should be deposited in uniform passes ranging from 1/2" to 1 1/2". Pass thicknesses will vary as a function of substrate temperature, ambient air temperature and machine output. ULTRA-THANE 230 systems bond best to themselves when the previous pass is still warm (above 70°F). ULTRA-THANE 230 performs best when coated the same day of application, however it may be left exposed for up to 24 hours. In the event that ULTRA-THANE 230 is exposed for a period greater than 24 hours, please contact **General Coatings Manufacturing Corp.** for recommendations.

CLIMATIC CONDITIONS: No spraying should be done when moisture is present in the form of rain, dew or relative humidity greater than 80%, or when there is wind in excess of 15 m.p.h.

PROTECTIVE COATING

ULTRA-THANE 230, when applied to exterior weathering surfaces, must be top coated with an approved elastomeric coating. All coatings shall be applied in accordance with **General Coatings Manufacturing Corp.** or other coating manufacturer's instructions.

FIRE AND THERMAL BARRIER

ULTRA-THANE 230 polyurethane insulation systems are combustible under many fire conditions. A fire and thermal protection have a UL rated 15-minute finish rating should be used to cover all ULTRA-THANE 230 systems used on interior wall or ceiling applications.

SPECIAL NOTE

*Particular attention must be paid to coating selection in applications where a vapor drive may be present. Consult **General Coatings Manufacturing Corp.** technical service personnel for specific system recommendations.*

STORAGE

Both liquid components of ULTRA-THANE 230 systems should be stored in original unopened containers at temperatures between 50°F and 75°F. Note: Storage for prolonged periods of time at high temperatures may alter the reactivity profile of the product. Additionally storing the B component at increased temperatures or in direct sunlight for prolonged periods may cause a build up of pressure in the storage vessel. Use caution in opening containers of ULTRA-THANE 230. Containers should be opened slowly to allow the release of any pressure buildup.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on the ULTRA-THANE 230 systems. All personnel who will come in contact with the product should read and understand the MSDS.

PROTECTIVE EQUIPMENT

Since the ULTRA-THANE 230 systems are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. Component "A" ULTRA-THANE systems are polymeric isocyanate and, as such, can be very sensitizing, particularly from the standpoint of **VAPOR INHALATION**. Some other ingredients may be sensitizing from the standpoint of **SKIN CONTACT** or **EYE CONTACT**.

VAPOR INHALATION

The best form of protection against isocyanate or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, the use of fabric overalls and fabric gloves is recommended.

EYE CONTACT

Wear a full face mask or OSHA-compliant protective goggles.

PROTECTION OF THE WORKPLACE

Overspray from ULTRA-THANE 230 systems can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with clean water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings using soap and water. If a rash or other irritation develops, **SEE A PHYSICIAN**.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

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The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

RIGID POLYURETHANE FOAM

PRODUCT DESCRIPTION

ULTRA-THANE 230 is a two component spray-in-place rigid monolithic polyurethane foam insulation. This product can be formulated in a variety of densities to accommodate a broad range of applications. ULTRA-THANE 230 contains no ozone-depleting chemicals.

USES

TANK INSULATION: ULTRA-THANE 230 is an excellent insulation for hot and cold storage vessels.

Liquid Component Properties

PROPERTY	<u>DENSITY</u>	
	2.3	2.5
Viscosity 25°C		
Component A	200	200
Component B	340	500
Specific Gravity 25°C		
Component A	1.24	1.24
Component B	1.19	1.19
Mix ratio by volume (A/B)	50/50	50/50

Processing Characteristics

PROPERTY	72°F(HAND MIX)			SPRAYED*		
	Winter	Regular	Summer	Winter	Regular	Summer
Cream Time	4 Sec.	5 Sec.	6 Sec.	1-2 Sec.	1-2 Sec.	1-2 Sec.
Rise Time	15-16 sec.	19 sec.	22 sec.	4-5 sec.	5-6 sec.	6-7 sec.
Tack Free	On Rise	On Rise	On Rise	On Rise	On Rise	On Rise

*Nominal 1" thickness sprayed through Gusmer Model H-11 proportioner with GX-7 Gun: preheat set at 110°F, hose heat set to maintain 110°F at the spray gun. Reaction times are influenced by mix efficiency of the spray gun, temperature of the components, ambient conditions and thickness of the foamed mass.

Nominal Cured Physical Properties

PROPERTY	ASTM TEST METHOD	DENSITY	
		2.3	2.5
Sprayed-in-place Density	D-1622	2.3	2.5
K-factor Aged	C-518	.14	.15
Compressive Strength	D-1621	33 psi	45 psi
Tensile Strength	D-1623	50 psi	60 psi
Shear Strength	C-273	40 psi	45 psi
Closed Cell Content	D-1940	95%	95%
Water Vapor Transmission	C-355	1.8 perms	1.8 perms
Water Absorption	D-2842	.017	.017
Wind Uplift	FM-4470	>I-450	>I-450

This information is intended only as a guide for design purposes. The values shown are the average values obtained from laboratory prepared samples and results may vary with application conditions, equipment and technician.

K-Factor varies depending on age and use conditions.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors

Dimensional Stability Properties ASTM D-2126

DAYS	°F	°C	%R.H.	AV
28	-20	-29	DRY	N/C
28	158	70	100%	+7%
28	158	70	DRY	+1%

SHELF LIFE

Shelf life of **ULTRA-THANE 230** is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50° - 75° F. Temperatures above 75° F may decrease shelf life.

FREIGHT CLASSIFICATION

Liquid Plastic Material -- NOIBN

CAUTION

The use of foamed plastic in interior applications on walls or ceilings may present an unreasonable fire hazard unless the foam is protected by an approved, fire-resistive thermal barrier which has a finish rating of not less than 15 minutes.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Processing Guide

DESCRIPTION AND GENERAL USE

ULTRA-THANE 230 systems are light density spray polyurethane insulations designed to be fluid-applied to construction surfaces to effect a permanent, monolithic and dimensionally stable thermal insulation.

ULTRA-THANE 230 systems are a sophisticated plural component building product which should be applied only by trained and manufacturer-approved insulation experts familiar with the properties of this material.

ULTRA-THANE 230 systems are specifically designed as insulation for construction applications where the end use ambient temperature range will be maintained between -100°F and 225°F. When considering any other use for this product, consult **General Coatings Manufacturing Corp.** for specific application recommendations.

SUBSTRATE PREPARATION

For optimum results, surfaces to receive ULTRA-THANE 230 should be clean and dry, free of dirt, oil, solvent, grease, loose particles, peeling coating and other foreign matter. Untreated ferrometallic substrates should be sandblasted in accordance with SSPC-SP6. Sandblasted surfaces should be primed immediately with an approved primer.

Galvanized and stainless steel surfaces should be treated with an appropriate wash primer prior to the application of ULTRA-THANE 230.

Porous substrates such as wood and concrete may not require priming if surfaces are clean and dry with less than 10% moisture content. **FOR BEST RESULTS ON SURFACES WHERE MOISTURE CONTENT CANNOT BE DETERMINED OR CONTROLLED, PRIMING IS RECOMMENDED.** Consult **General Coatings Manufacturing Corp.** for specific application requirements.

SUBSTRATE TEMPERATURE

ULTRA-THANE 230 systems may be applied to surfaces with temperatures as low as 50 deg. in most instances. Please consult with General Coatings Manufacturing Corp. technical representatives for certain requirements.

AMBIENT AIR TEMPERATURE

Winter	Regular	Summer
40 - 60°F	65 - 85°F	Above 90°F

GENERAL COATINGS MANUFACTURING CORP. TECHNICAL SERVICE PERSONNEL SHOULD BE CONSULTED IN ALL CASES WHERE APPLICATION CONDITIONS ARE MARGINAL.

EQUIPMENT

Proportioning equipment shall be manufactured by Gusmer, Graco or Glas-Craft. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be heated airless type, capable of maintaining 120°F to 140°F mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions.

SPRAYING

ULTRA-THANE 230 systems should be deposited in uniform passes ranging from 1/2" to 1 1/2". Pass thicknesses will vary as a function of substrate temperature, ambient air temperature and machine output. ULTRA-THANE 230 systems bond best to themselves when the previous pass is still warm (above 70°F). ULTRA-THANE 230 performs best when coated the same day of application, however it may be left exposed for up to 24 hours. In the event that ULTRA-THANE 230 is exposed for a period greater than 24 hours, please contact **General Coatings Manufacturing Corp.** for recommendations.

CLIMATIC CONDITIONS: No spraying should be done when moisture is present in the form of rain, dew or relative humidity greater than 80%, or when there is wind in excess of 15 m.p.h.

PROTECTIVE COATING

ULTRA-THANE 230, when applied to exterior weathering surfaces, must be top coated with an approved elastomeric coating. All coatings shall be applied in accordance with **General Coatings Manufacturing Corp.** or other coating manufacturer's instructions.

FIRE AND THERMAL BARRIER

ULTRA-THANE 230 polyurethane insulation systems are combustible under many fire conditions. A fire and thermal protection have a UL rated 15-minute finish rating should be used to cover all ULTRA-THANE 230 systems used on interior wall or ceiling applications.

SPECIAL NOTE

*Particular attention must be paid to coating selection in applications where a vapor drive may be present. Consult **General Coatings Manufacturing Corp.** technical service personnel for specific system recommendations.*

STORAGE

Both liquid components of ULTRA-THANE 230 systems should be stored in original unopened containers at temperatures between 50°F and 75°F. Note: Storage for prolonged periods of time at high temperatures may alter the reactivity profile of the product. Additionally storing the B component at increased temperatures or in direct sunlight for prolonged periods may cause a build up of pressure in the storage vessel. Use caution in opening containers of ULTRA-THANE 230. Containers should be opened slowly to allow the release of any pressure buildup.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on the ULTRA-THANE 230 systems. All personnel who will come in contact with the product should read and understand the MSDS.

PROTECTIVE EQUIPMENT

Since the ULTRA-THANE 230 systems are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. Component "A" ULTRA-THANE systems are polymeric isocyanate and, as such, can be very sensitizing, particularly from the standpoint of **VAPOR INHALATION**. Some other ingredients may be sensitizing from the standpoint of **SKIN CONTACT OR EYE CONTACT**.

VAPOR INHALATION

The best form of protection against isocyanate or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, the use of fabric overalls and fabric gloves is recommended.

EYE CONTACT

Wear a full face mask or OSHA-compliant protective goggles.

PROTECTION OF THE WORKPLACE

Overspray from ULTRA-THANE 230 systems can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with clean water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings using soap and water. If a rash or other irritation develops, **SEE A PHYSICIAN**.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

*The information herein is believed to be reliable, but unknown risks may be present. **General Coatings Manufacturing Corp.** warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties, and **General Coatings Manufacturing Corp.** expressly disclaims any warranty for a particular purpose, or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedure shall relieve **General Coatings Manufacturing Corp.** of all liability with respect to the materials or the use thereof.*

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.



ULTRA-THANE 230
WALL FOAM

RIGID POLYURETHANE FOAM

PRODUCT DESCRIPTION

ULTRA-THANE 230 is a two component spray-in-place closed-cell, rigid, monolithic polyurethane foam insulation. This product can be formulated in a variety of densities, upon request, to accommodate a broad range of applications. All ULTRA-THANE 230 systems are blown with HFC-245fa and contains no ozone-depleting chemicals.

USES

COLD STORAGE: ULTRA-THANE 230 is the insulation of choice for maintaining the rigid climatic conditions of many cold storage buildings.

TANK INSULATION: ULTRA-THANE 230 is an excellent insulation for hot and cold storage vessels.

BUILDING AND FIRE CODES

ULTRA-THANE 230 used as insulation material on building interior applications must be protected by a 15-minute rated thermal barrier or other construction assembly specifically permitted by model building codes.

ULTRA-THANE 230 Wall Foam has been independently tested and listed by ICC-ES (ESR-3033) and determined to meet the following building codes: IBC, IRC and IECC. Additionally ULTRA-THANE 230 meets the "Standard Test Methods for Surface Burning Characteristics of Building Materials" in accordance with UL 723/ASTME84.

Fire Hazard Classifications*

SURFACE BURNING ASTM E-84/UL 723		FLAME SPREAD CLASSIFICATION	
Flame Spread	25	NFPA CLASS	A
Smoke	450	UBC CLASS	1

*These numerical flame spread ratings are not intended to reflect hazards presented by this or any other material under actual fire conditions.

Liquid Component Properties

PROPERTY	Component A	Component B
Color	Dark Brown	Amber/Brown
Viscosity 25°C (cps)	200 +/- 100	350 +/- 150
Specific Gravity 25°C	1.24	1.18-1.20
Mix ratio by volume (A/B)	50/50	50/50

Processing Characteristics

PROPERTY	72°F (HAND MIX)			SPRAYED*		
	Winter	Regular	Summer	Winter	Regular	Summer
Cream Time	4 Sec.	5 Sec.	6 Sec.	1-2 Sec.	1-2 Sec.	1-2 Sec.
Rise Time	15-16 sec.	19 sec.	22 sec.	4-5 sec.	5-6 sec.	6-7 sec.
Tack Free	On Rise	On Rise	On Rise	On Rise	On Rise	On Rise

*Nominal 1" thickness sprayed through Gusmer Model H-11 proportioner with GX-7 Gun: preheat set at 110°F, hose heat set to maintain 110°F at the spray gun. Reaction times are influenced by mix efficiency of the spray gun, temperature of the components, ambient conditions and thickness of the foamed mass.

Nominal Cured Physical Properties

PROPERTY	ASTM TEST METHOD	DENSITY ³ 2.0
Sprayed-in-place Density	D-1622	2.0
R-Value (1-inch thickness)	C-518	6.49
K-factor Aged	C-518	.15
Compressive Strength	D-1621	26 psi
Tensile Strength	D-1623	45 psi
Shear Strength	C-273	35 psi
Closed Cell Content	D-1940	93%
Water Vapor Transmission	C-355	1.9 perms
Water Absorption	D-2842	.019

This information is intended only as a guide for design purposes. The values shown are the average values obtained from laboratory prepared samples and results may vary with application conditions, equipment and technician.

K-Factor varies depending on age and use conditions.

Typical density for wall foam is 2.0 pcf. For higher density, exterior foams, see [ULTRA-THANE 230 ROOF FOAM](#) data sheet.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors

<u>Dimensional Stability Properties</u>				
<u>ASTM D-2126</u>				
DAYS	°F	°C	%R.H.	AV
28	-20	-29	DRY	N/C
28	158	70	100%	+7%
28	158	70	DRY	+1%

SHELF LIFE

Shelf life of [ULTRA-THANE 230](#) is 6 months from the date of manufacture when stored in original unopened containers at temperatures between 50° - 75° F. Temperatures above 75° F may decrease shelf life.

FREIGHT CLASSIFICATION

Liquid Plastic Material -- NOIBN

CAUTION

The use of foamed plastic in interior applications on walls or ceilings may present an unreasonable fire hazard unless the foam is protected by an approved, fire-resistive thermal barrier which has a finish rating of not less than 15 minutes.

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

Processing Guide

DESCRIPTION AND GENERAL USE

ULTRA-THANE 230 systems are light density spray polyurethane insulations designed to be fluid-applied to construction surfaces to effect a permanent, monolithic and dimensionally stable thermal insulation.

ULTRA-THANE 230 systems are a sophisticated plural component building product which should be applied only by trained and manufacturer-approved insulation experts familiar with the properties of this material.

ULTRA-THANE 230 systems are specifically designed for construction applications where the end use ambient temperature range will be maintained between -100°F and 225°F. When considering any other use for this product, consult **General Coatings Manufacturing Corp.** for specific application recommendations.

SUBSTRATE PREPARATION

For optimum results, surfaces to receive **ULTRA-THANE 230** should be clean and dry, free of dirt, oil, solvent, grease, loose particles, peeling coating and other foreign matter. Untreated ferrometallic substrates should be sandblasted in accordance with SSPC-SP6. Sandblasted surfaces should be primed immediately with an approved primer.

Galvanized and stainless steel surfaces should be treated with an appropriate wash primer prior to the application of **ULTRA-THANE 230**.

Porous substrates such as wood and concrete may not require priming if surfaces are clean and dry with less than 10% moisture content. **FOR BEST RESULTS ON SURFACES WHERE MOISTURE CONTENT CANNOT BE DETERMINED OR CONTROLLED, PRIMING IS RECOMMENDED.** Consult **General Coatings Manufacturing Corp.** for specific application requirements.

SUBSTRATE TEMPERATURE

ULTRA-THANE 230 systems may be applied to surfaces with temperatures as low as 50 deg. in most instances. Please consult with General Coatings technical representatives for certain requirements.

AMBIENT AIR TEMPERATURE

Winter	Regular	Summer
50 - 65°F	60 - 90°F	Above 90°F

GENERAL COATINGS MANUFACTURING Corp. TECHNICAL SERVICE PERSONNEL SHOULD BE CONSULTED IN ALL CASES WHERE APPLICATION CONDITIONS ARE MARGINAL.

EQUIPMENT

Proportioning equipment shall be manufactured by Gusmer, Graco or Glas-Craft. Mixing ratio by volume is 50 parts "A" to 50 parts "B". Equipment shall be heated airless type, capable of maintaining 120°F to 140°F mixed material at the spray gun. Optimum spraying temperature will vary as a function of substrate and ambient conditions.

SPRAYING

ULTRA-THANE 230 systems should be deposited in uniform passes ranging from 1/2" to 1 1/2". Pass thicknesses will vary as a function of substrate temperature, ambient air temperature and machine output. **ULTRA-THANE 230** systems bond best to themselves when the previous pass is still warm (above 70°F). **ULTRA-THANE 230** performs best when coated the same day of application, however it may be left exposed for up to 24 hours. In the event that **ULTRA-THANE 230** is exposed for a period greater than 24 hours, please contact **General Coatings Manufacturing Corp.** for recommendations.

CLIMATIC CONDITIONS: No spraying should be done when moisture is present in the form of rain, dew or relative humidity greater than 80%, or when there is wind in excess of 15 m.p.h.

PROTECTIVE COATING

ULTRA-THANE 230, when applied to exterior weathering surfaces, must be top coated with an approved elastomeric coating. All coatings shall be applied in accordance with **General Coatings Manufacturing Corp.** or other coating manufacturer's instructions.

SPECIAL NOTE

*Particular attention must be paid to coating selection in applications where a vapor drive may be present. Consult **General Coatings Manufacturing Corp.** technical service personnel for specific system recommendations.*

STORAGE

Both liquid components of **ULTRA-THANE 230** systems should be stored in original unopened containers at temperatures between 50°F and 75°F. Note: Storage for prolonged periods of time at high temperatures may alter the reactivity profile of the product. Additionally storing the B component at increased temperatures or in direct sunlight for prolonged periods may cause a build up of pressure in the storage vessel. Use caution in opening containers of **ULTRA-THANE 230**. Containers should be opened slowly to allow the release of any pressure buildup.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on the **ULTRA-THANE 230** systems. All personnel who will come in contact with the product should read and understand the MSDS.

PROTECTIVE EQUIPMENT

Since the **ULTRA-THANE 230** systems are atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. Component "A" **ULTRA-THANE** systems are polymeric isocyanate and, as such, can be very sensitizing, particularly from the standpoint of **VAPOR INHALATION**. Some other ingredients may be sensitizing from the standpoint of **SKIN CONTACT OR EYE CONTACT**.

VAPOR INHALATION

The best form of protection against isocyanate or potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

SKIN CONTACT

To prevent excessive skin contact with the sprayed product, the use of fabric overalls and fabric gloves is recommended.

EYE CONTACT

Wear a full face mask or OSHA-compliant protective goggles.

PROTECTION OF THE WORKPLACE

Overspray from **ULTRA-THANE 230** systems can carry considerable distances and attention should be given to the following:

1. Post warning signs a minimum of 100 feet from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

FIRST AID CONSIDERATION

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with clean water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings using soap and water. If a rash or other irritation develops, **SEE A PHYSICIAN**.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. **SUMMON EMERGENCY TRAINED MEDICAL ATTENTION IMMEDIATELY**.

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Technical Data Sheet **ULTRA-TUFF 2200**

Two Component Pure Polyurea Protective Coating

DESCRIPTION

ULTRA-TUFF 2200 is a two component, 1:1, 100% solids, fast set, liquid applied, pure polyurea liner system for metal and sprayed foam surfaces.

FEATURES

- ❖ Seamless
- ❖ High Build
- ❖ Quick Drying
- ❖ Chemical Resistant
- ❖ Tough and Elastomeric
- ❖ Low Temperature Flexibility
- ❖ Abrasion and Impact Resistant

TYPICAL USES

- ❖ Tanks
- ❖ Over Sprayed Foam

COLOR

Clear/Neutral. Custom colors are available upon request. Color Packs, when used, must be added to Part-B.

Due to its aromatic composition, ULTRA-TUFF 2200 will tend to yellow or darken in color and will become flat after exposure to UV light. ULTRA-TUFF 2200 may be topcoated within twelve hours of application with an aliphatic polyurethane/polyurea coating for a colorfast finish.

PACKAGING

10 gallon kit: 5 gallons Part-A (Isocyanate side) and 5 gallons Part-B (Resin side).

100 gallon kit: 50 gallons Part-A (Isocyanate side) and 50 gallons Part-B (Resin side).

COVERAGE

ULTRA-TUFF 2200 may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 sq. ft.

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. General Coatings Manufacturing Corp. recognizes the potential for unique substrates from one project to another. The following information is for general reference, and for project-specific questions, contact General Coatings Manufacturing Corp.

TECHNICAL DATA

TECHNICAL DATA

Mix Ratio, by volume	1A:1B
Pot Life	4-5 seconds
Tack Free Time	10-30 seconds
Recoat Time	0-6 hours
Viscosity at 150-160°F (65.5-71°C), Brookfield,	
Part-A	70 ± 30 cps
Part-B	70 ± 30 cps
Density (Side-A & B Combined)	9.0 lbs/gal
Flash Point	>200°F
Hardness, ASTM D-2240	90 ± 2 Shore A
Tensile, ASTM 412-C	3000 ± 300 psi
Elongation, ASTM 412-C	250 ± 50%
Tear, ASTM 624-C	400 ± 50 pli
Service Temperature	-20°F to 250°F
Water Vapor Permeability, ASTM E-96	0.2338 perm-inch

(*These physical properties from sample sprayed with Graco Foam Cat 200 @ 2000 psi minimum, with Gusmer GX7-400 mechanical purge gun @ 150-160°F. Different machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.)

MIXING

ULTRA-TUFF 2200 may not be diluted under any circumstances. Thoroughly mix ULTRA-TUFF 2200 Part-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

APPLICATION

Both Side-A and Side-B materials should be preconditioned to 75-80°F before application.

Recommended surface temperature must be at least 5°F above the dew point.

ULTRA-TUFF 2200 should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment like Graco's Reactor, or other equivalent machine may be used.

Both Part-A and Part-B materials should be sprayed at a minimum of 2000 psi and at temperatures above 150°F. Adequate pressure and temperature should be maintained at all times.

ULTRA-TUFF 2200 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

STORAGE

ULTRA-TUFF 2200 has a shelf life of six (6) months from date of manufacture, in factory-sealed containers.

Part-A and Part-B drums are recommended to be stored above 60°F.

Avoid freezing temperatures.

Store drums on wooden pallets to avoid direct contact with the ground.

If stored for a long period of time, rotate Part-A and Part-B drums regularly.

LIMITATIONS

Do not open until ready to use.

Both Part-A and Part-B containers must be fitted with a desiccant device during use.

WARNING

This product contains Isocyanates and Curative Material.

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

LIMITED WARRANTY

General Coatings Manufacturing Corp. warrants its products to be free of manufacturing defects and that they will meet General Coatings Manufacturing Corp. current published physical properties. General Coatings Manufacturing Corp. warrants that its products, when properly installed by a state licensed waterproofing contractor according to General Coatings Manufacturing Corp. guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by General Coatings Manufacturing Corp. of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests, accurately represent all environments.

REVISED: 02/13



Technical Data Sheet ULTRA-TUFF 2400

Two Component Modified Hybrid Polyurea Protective Coating

DESCRIPTION

ULTRA-TUFF 2400 is a two component, 1:1, 100% solids, fast set, liquid applied, modified hybrid polyurea liner system for metal and sprayed foam surfaces.

FEATURES

- ❖ Seamless
- ❖ High Build
- ❖ Quick Drying
- ❖ Chemical Resistant
- ❖ Tough and Elastomeric
- ❖ Low Temperature Flexibility
- ❖ Abrasion and Impact Resistant

TYPICAL USES

- ❖ Tanks
- ❖ Over Sprayed Foam

COLOR

Clear/Neutral. Custom colors are available upon request. Color Packs, when used, must be added to Part-B.

Due to its aromatic composition, ULTRA-TUFF 2400 will tend to yellow or darken in color and will become flat after exposure to UV light. ULTRA-TUFF 2400 may be topcoated within twelve hours of application with an aliphatic polyurethane/polyurea coating for a colorfast finish.

PACKAGING

10 gallon kit: 5 gallons (47 lbs. net) Part-A (Isocyanate side) and 5 gallons (43 lbs. net) Part-B (Resin side).

100 gallon kit: 50 gallons (477 lbs. net) Part-A (Isocyanate side) and 50 gallons Part-B (Resin side) (neutral: 426 lbs. net; black: 420 lbs. net).

COVERAGE

ULTRA-TUFF 2400 may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 sq. ft.

SURFACE PREPARATION

In general, coating performance and adhesion are directly proportional to surface preparation. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Polyurea coatings rely on the structural strength of the substrate to which they are applied. All surfaces must be free of dust, dirt, oil, grease, rust, corrosion and other contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. General Coatings Manufacturing Corp. recognizes the potential for unique substrates from one project to another. The following information is for general reference, and

TECHNICAL DATA

Mix Ratio, by volume	1A:1B	
Pot Life @ 150°F	2 - 5 secs	
Tack Free Time (150 mils Thick)	10-30 secs	
Recoat Time	0 - 6 hours	
Viscosity at 150-160°F (65.5-71°C), Brookfield:		
Side-A	120 ± 20 cps	
Side-B	60 ± 20 cps	
Density (Side-A & B Combined)	9.1 lbs/gal	
Flash Point	> 200°F	
Hardness, ASTM D-2240*	50 ± 5 Shore D	
Tensile, ASTM D-412*	2700 ± 300 psi	
Elongation, ASTM D-412*	200± 25%	
Tear, ASTM D-624*	400 ± 40 pli	
Service Temperature	-20°F to 250°F	
Water Vapor Permeability, ASTM E-96	0.2338 perm-inch	
VOC Content	0 gm/lit	
Recommended Applied Thickness	> 2 mm	
Taber Abrasion Resistance, ASTM D4060 (CS17 wheel, 1000 cycles, 1 kg load)(maximum)		2.8 mg loss
Water Absorption, ASTM D471 (maximum 23°C, 24 hours)		<0.5%
Crack Bridging, ASTM C836 (-25°C, 1.6mm crack, 25 cycles)		Pass
Impact Resistance @ 25°C (ASTM G14)		>200lbs
Pull-Off Strength (minimum), ASTM D4541:		
Inter-Coat Adhesion (within recoat time)		Excellent
Lineal Shrinkage		1-2%
Flexibility 1/8"(3mm) Mandrel Bend Test, ASTM D1737		Pass
Resistance to Weathering, ASTM G-23 (Type QUV Weatherometer-3000 hrs exposure)		No cracking or blistering. Color change, gloss reduction & chalking are noted.
(*These physical properties from sample sprayed with Graco Foam Cat 200 @ 2000 psi minimum, with Gusmer GX7-400 mechanical purge gun @ 150-160°F. Different machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.)		

for project-specific questions, contact General Coatings Manufacturing Corp.

MIXING

ULTRA-TUFF 2400 may not be diluted under any circumstances. Thoroughly mix ULTRA-TUFF 2400 Part-B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

APPLICATION

Both Side-A and Side-B materials should be preconditioned to 75-80°F before application.

Recommended surface temperature must be at least 5°F above the dew point.

ULTRA-TUFF 2400 should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment like Graco's Reactor, or other equivalent machine may be used.

Both Part-A and Part-B materials should be sprayed at a minimum of 2000 psi and at temperatures above 150°F. Adequate pressure and temperature should be maintained at all times.

ULTRA-TUFF 2400 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

STORAGE

ULTRA-TUFF 2400 has a shelf life of six (6) months from date of manufacture, in factory-sealed containers.

Part-A and Part-B drums are recommended to be stored above 60°F.

Avoid freezing temperatures.

Store drums on wooden pallets to avoid direct contact with the ground.

If stored for a long period of time, rotate Part-A and Part-B drums regularly.

LIMITATIONS

Do not open until ready to use.

Both Part-A and Part-B containers must be fitted with a desiccant device during use.

WARNING

This product contains Isocyanates and Curative Material.

Please read all information in the general guidelines, product data sheets, guide specifications and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. Contact your local General Coatings Manufacturing Corp. representative or visit our website for current technical data and instructions.

LIMITED WARRANTY

General Coatings Manufacturing Corp. warrants its products to be free of manufacturing defects and that they will meet General Coatings Manufacturing Corp. current published physical properties. General Coatings Manufacturing Corp. warrants that its products, when properly installed by a state licensed waterproofing contractor according to General Coatings Manufacturing Corp. guide specifications and product data sheets over a sound, properly prepared substrate, will not allow water migration for a period of one (1) year. Seller's and manufacturer's sole responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. There are no other warranties by General Coatings Manufacturing Corp. of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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. General Coatings Manufacturing Corp. 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 General Coatings Manufacturing Corp. makes no claim that these tests or any other tests, accurately represent all environments.

FAST-SET AROMATIC URETHANE ELASTOMER

DESCRIPTION AND USE

ULTRA-TUFF 2500 is a 100% solids, fast-set, two-component, elastomeric aromatic, urethane protective coating.

ULTRA-TUFF 2500 is recommended as a durable, high performance membrane covering for polyurethane foam and other roofing and construction surfaces.

ADVANTAGES

ULTRA-TUFF 2500 exhibits excellent flexibility and impact resistance.

ULTRA-TUFF 2500 contains no volatile solvents.

ULTRA-TUFF 2500 is listed and classified by Underwriters Laboratories, Inc. UL790 Class A as an integral component of numerous roof deck and construction assemblies, File #14330.

ULTRA-TUFF 2500 IS APPROVED BY THE CALIFORNIA STATE FIRE MARSHALL

PRIMER

Sprayed urethane foams: no primer necessary. Consult manufacturer for application to other construction surfaces.

SERVICE TEMPERATURES

-40°F to 225°F

ADHESION

ULTRA-TUFF 2500 adheres well to most surfaces, including spray-applied polyurethane or isocyanurate foam insulations and other construction surfaces. ULTRA-TUFF 2500 should not be exposed to ultra-violet for more than 24 hours for best topcoat adhesion.

WEATHERING & ULTRA-VIOLET RESISTANCE

After 6,000 hours QUV accelerated weathering, according to ASTM G53, Atlas carbon arc, ASTM D822, and Atlas Xenon, ASTM G26, ULTRA-TUFF 2500 had excellent appearance with no cracking, checking, delamination or loss of flexibility and only slight chalking.

Nominal Properties

PHYSICAL PROPERTY	VALUE	TEST METHOD
Solids by Volume	100%	ASTM D-2697
Solids by Weight	100%	ASTM D-2369
Hardness Shore A	90 +/- 2	ASTM D-2240
Tensile Strength	2000 PSI +/-250	ASTM D-412
Elongation	100% +/- 25	ASTM D-412
Permanent Set @ Break	9%	ASTM D-412
Tear Resistance	150 PLI +/-20	ASTM D-624
Water Absorption	<1.5%	ASTM D-471
Permeability, US Perms @ 40 dry mils	.02	ASTM E-96(B)
Flash Point	> 300°F	ASTM D-56
Low Temperature Flexibility	Pass	ASTM D-2136
High Temperature Resistance	225°F	180° Bend @ -40°F ASTM D-573 Continuous

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

APPLICATION

ULTRA-TUFF 2500 coating is very rapid setting, and, as such, must be sprayed through heated, airless proportioning equipment. The "B" component should be thoroughly power mixed prior to application. Consult **General Coatings Manufacturing Corp.** Technical Service Personnel for further equipment recommendations. Important Note: ULTRA-TUFF 2500 is designed as a "base coating" only. For applications requiring maximum ultraviolet resistance, ULTRA-TUFF 2500 must be topcoated.

Recommended Thickness

Consult manufacturer for specific application guidelines.

Consistency

Both the "A" and "B" components of ULTRA-TUFF 2500 are low-viscosity, translucent liquids containing various colored dyes for ease of recognition.

Coverage

ULTRA-TUFF 2500 theoretical mil sq. ft. per gallon is 1600.

Thinner

None required.

MAINTENANCE

ULTRA-TUFF 2500 is virtually maintenance free. If ULTRA-TUFF 2500 is damaged, the damaged area should be removed. If substrate is affected, the surface should be repaired. The ULTRA-TUFF 2500 to be repaired should be free of all oil, tar, paint and other contaminants.

TECHNICAL SERVICE

Complete technical information and assistance for a specific application and/or application procedure is available from **General Coatings Manufacturing Corp.**

STORAGE STABILITY

Six months at 50°F to 100°F. Both components will solidify (freeze) if stored below 30°F.

PROTECTION OF THE WORKPLACE

The overspray from coating can carry considerable distance and care should be taken to do the following:

1. Post warning signs a minimum of 100 ft. from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on this coating. All personnel who will come in contact with the product should read and understand the MSDS.

Protective Equipment

Since the coating is atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. This coating contains polymeric isocyanate (MDI) and, as such, can be very sensitizing, particularly from the standpoint of vapor inhalation. Some other ingredients in the coating may be sensitizing from the standpoint of skin contact or eye contact.

Vapor Inhalation

The best form of protection against polymeric isocyanate (MDI) or other potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full-face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators may be acceptable.

Skin Contact

To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

Eye Contact

Wear a full-face mask or OSHA-approved protective goggles.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. Summon "emergency trained" medical attention immediately.

First Aid Considerations

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, summon "emergency trained" medical attention immediately.

Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation.

If ingested and victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately.

Flammability

Non-flammable.

Toxicity

Part A contains polymeric isocyanate (MDI) which can be toxic if inhaled as particulate matter. Consequently, a full-face fresh air respirator is required for spray applications.

The information herein is believed to be reliable, but unknown risks may be present. General Coatings Manufacturing Corp. warrants only that the material shall be of merchantable quality; this warranty is in lieu of all other written or unwritten, expressed or implied warranties; and General Coatings Manufacturing Corp. expressly disclaims any warranty for a particular purpose or freedom from patent infringement. Accordingly, Buyer assumes all risks whatsoever as to the use of these materials and Buyer's exclusive remedy as to any breach of warranty or negligence claim shall be limited to the purchase price of the materials. Failure to strictly adhere to recommended procedures shall relieve General Coatings, Inc. of all liability with respect to the materials or the use thereof.

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ULTRA-TUFF 2800
AROMATIC UREA

FAST-SET POLYUREA ELASTOMER
DESCRIPTION AND USE

ULTRA-TUFF 2800 is a 100% solids, fast-set, two-component, aromatic polyurea elastomeric protective coating.

ULTRA-TUFF 2800 is recommended as a durable, high performance membrane covering for concrete, steel, polyurethane foam and other construction surfaces.

ADVANTAGES

ULTRA-TUFF 2800 exhibits excellent flexibility and impact resistance.

ULTRA-TUFF 2800 contains no volatile solvents.

ULTRA-TUFF 2800 is processed in a 1 to 1 by volume ratio.

ULTRA-TUFF 2800 is listed and classified by Underwriters Laboratories, Inc. UL790 Class A as an integral component of numerous roof deck and construction assemblies, File #14330.

PRIMER

Concrete surfaces should be primed with **ULTRA-BOND 15**.

Sprayed urethane foams: no primer necessary. Consult manufacturer for application to other construction surfaces.

SERVICE TEMPERATURES

-40°F to >300°F

ADHESION

ULTRA-TUFF 2800 adheres well to most properly prepared surfaces, including spray-applied polyurethane or isocyanurate foam insulations and other construction surfaces. Consult General Coatings Manufacturing Corp. technical personnel for specific surface preparation and primer requirements. ULTRA-TUFF 2800 when top coated with **ULTRA-SHIELD 3000** Aliphatic Urethane, should not be exposed to ultra-violet for a period greater than 24 hours.

WEATHERING & ULTRA-VIOLET RESISTANCE

After 3,000 hours QUV accelerated weathering, according to ASTM G53, Atlas carbon arc, ASTM D822, and Atlas Xenon, ASTM G26, **ULTRA-TUFF 2800** had good appearance with only slight chalking and no cracking, checking, delamination or loss of flexibility.

Nominal Properties

PHYSICAL PROPERTY	VALUE	TEST METHOD
Solids by Volume	100%	ASTMD-2697
Solids by Weight	100%	ASTMD-2369
Hardness Shore D	85	ASTMD-2240
Tensile Strength	2600 PSI	ASTMD-412
Elongation	400%	ASTMD-412
Tear Resistance	420 PLI	ASTMD-624
Water Absorption	<1.5%	ASTMD-471
Flash Point	>300°F	ASTMD-56
Low Temperature Flexibility	Pass	ASTMD-2136 180° Bend @ -40°F
High Temperature Resistance	>300°F	ASTMD-573 Continuous

The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to that description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors.

APPLICATION

ULTRA-TUFF 2800 coating is very rapid setting, and, as such, must be sprayed with 1 to 1 by volume heated, plural component equipment developing a minimum of 1500 psi dynamic pressure and with heating capabilities of 160° F. Consult **General Coatings Manufacturing Corp.** Technical Service Personnel for further equipment recommendations. Important Note: ULTRA-TUFF 2800 is designed as a base coat,. For applications requiring maximum ultraviolet resistance, ULTRA-TUFF 2800 must be topcoated.

Recommended Thickness

Consult manufacturer for specific application guidelines.

Consistency

Both the "A" and "B" components of ULTRA-TUFF 2800 are low-viscosity, translucent liquids containing various colored dyes for ease of recognition.

Coverage

ULTRA-TUFF 2800 theoretical mil sq. ft. per gallon is 1600.

Thinner

None required.

Maintenance

ULTRA-TUFF 2800 is virtually maintenance free. If ULTRA-TUFF 2800 is damaged, the damaged area should be removed. If substrate is affected, the surface should be repaired. The ULTRA-TUFF 2800 to be repaired should be free of all oil, tar, paint and other contaminants.

TECHNICAL SERVICE

Complete technical information and assistance for a specific application and/or application procedure is available from **General Coatings Manufacturing Corp.**

STORAGE STABILITY

Six months at 40°F to 80°F. Both components will solidify (freeze) if stored below 30°F.

PROTECTION OF THE WORKPLACE

The overspray from coating can carry considerable distance and care should be taken to do the following:

1. Post warning signs a minimum of 100 ft. (30 meters) from the work area.
2. Cover all intake vents near the work area.
3. Minimize or exclude all personnel not directly involved with the spray application.
4. No welding, smoking or open flames.
5. Have CO₂ or other dry chemical fire extinguisher available at the jobsite.
6. Provide adequate ventilation.

Safety, Health & Toxicity Data

A Material Safety Data Sheet (MSDS) has been prepared on this coating. All personnel who will come in contact with the product should read and understand the MSDS.

Protective Equipment

Since the coating is atomized into a very fine particle distribution during spray application, it is essential that maximum effort is made to protect the spray mechanic and others near the workplace from undue exposure. This coating contains polymeric isocyanate (MDI) and, as such, can be very sensitizing, particularly from the standpoint of vapor inhalation. Some other ingredients in the coating may be sensitizing from the standpoint of skin contact or eye contact.

Vapor Inhalation

The best form of protection against polymeric isocyanate (MDI) or other potentially sensitizing vapors in the workplace is a fresh air supply. Numerous manufacturers, including the 3M Company and MSA, make full-face fresh air masks. For maximum protection, we recommend use of NIOSH/MSHA approved self-contained breathing apparatus with a full-face piece operated in a positive pressure mode. In well-ventilated application conditions, the use of Type C organic vapor cartridge respirators is acceptable.

Skin Contact

To prevent excessive skin contact with the sprayed product, we recommend use of fabric coveralls and neoprene or other resistant gloves.

Skin contact with liquid components can result in a rash or other irritation. Wash any affected skin area with water. Wipe residual liquid from the skin with a clean cloth, then wipe the affected area with a 30% solution of rubbing alcohol. Follow the alcohol wipe with repeated washings with soap and water. If a rash or other irritation develops, see a physician.

Eye Contact

Wear a full-face mask or OSHA-approved protective goggles.

Eye contact with liquid or sprayed components can result in corneal burns or abrasions. Upon exposure, eyes should be flushed with water for an extensive period. Summon "emergency trained" medical attention immediately.

First Aid Considerations

Vapor inhalation problems are characterized by coughing, shortening of breath and tightness in the chest. Anyone exhibiting these types of symptoms should be immediately removed from the workplace and administered oxygen or fresh air. If the condition is prolonged or extreme, summon "emergency trained" medical attention immediately.

Effects of overexposure to vapor are characterized by nasal and respiratory irritation, dizziness, nausea, headache, fatigue, possible unconsciousness or even asphyxiation.

If ingested and victim is conscious, give large amounts of water or milk to drink. Obtain medical attention immediately.

Flammability

Non-flammable.

Toxicity

Part A contains polymeric isocyanate (MDI) which can be toxic if inhaled as particulate matter. Consequently, a full-face fresh air respirator is required for spray applications.

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GCMC #11 WHITE GRANULES, 9 GRIT

DESCRIPTION

GCMC #11 White Granules are High Calcium Grits from a deposit of white high quality calcite. High calcium grits are most commonly used in animal feed applicaitons.

Consistent quality of Specialty Minerals high calcium grits is assured by process control on all aspects of manufacture, from mining of calcite ore to milling and final packaging. All high calcium grit products have the same chemical and mineralogical composition.

TYPICAL SCREEN SIZES

<u>GRADE</u>	<u>SCREEN</u>
NO. 6.....	-1/4" + 8 MESH
NO. 9.....	-1/8" + 30 MESH
NO. 69.....	-1/4" + 30 MESH

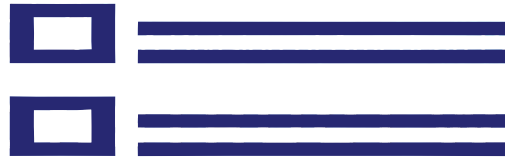
CHEMICAL COMPOSITION (typical)

Calcium	CaCO3	98%
Magnesium Carbonate	MgCO3	1.2%
Iron as	Fe2O3	0.025%

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TDS



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