



UL FR 863

Fire Retardant

Two Component Aromatic Hybrid Polyurethane Protective Coating

DESCRIPTION

UL FR 863 is a Class 1 fire-rated, fast set, rapid curing, aromatic, two component hybrid polyurea/polyurethane spray designed to be applied over EPS, wood, and many other surfaces. Its excellent balance of stiffness and impact resistance provides excellent plastic "shell-like" protection for delicate foams and EPS. **UL FR 863's** chemical design allows fast "user-friendly" application with excellent flow and appearance.

FEATURES

- *Meets ASTM E-84 Class 1 Fire Test Criteria
- *Plastic "Shell-Like" Protection □Low Shrinkage
- *100% Solids, Zero VOC
- *Meets USDA Criteria, Fast Cure
- *Excellent Thermal Stability, High Productivity
- *Excellent Chemical Protection
- *Excellent Cold Temperature Impact

TYPICAL USES

Decorations / Props / Speaker Boxes / Architectural Shapes / Dock Flotation's / Steel Coating / Wood Pallets / Crates / Food Processing Crates / Food Processing Plants / Wood Cabinets

COLORS

Clear/Neutral. Custom colors are available upon request. Color Packs, when used, must be added to Part-B. Due to its aromatic composition, **UL FR 863** will tend to yellow or darken in color and will become flat after exposure to UV light. **UL FR 863** may be top coated within twelve hours of application with an aliphatic polyurethane/polyurea coating for a colorfast finish.

PACKAGING

10 gallon kit: One 5 gallon pail of Part-A (Isocyanate side) and one 5 gallon pail of Part-B (Resin side).
100 gallon kit: One 50 gallon drum of Part-A (Isocyanate side) and one 50 gallon drum of Part-B (Resin side).

COVERAGE

UL FR 863 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. Ultimate Linings recognizes the potential for unique substrates from one project to another. The following information is for general reference, and for project-specific questions, contact Ultimate Linings.

New and Old Concrete:

Refer to SSPC-SP13/NACE 6, or ICRI 03732: CSP 3-5. New concrete must be cured for 28 days prior to product application. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shot blasting and/or suitable chemical means, in accordance with local chemical regulations. Rinse thoroughly, to achieve a pH between 8.0 and 11.0. Allow to dry completely. If old concrete has a surface that has deteriorated to an unacceptably rough surface, UL BC 371 or a mixture of UL PM 32 and sand should be used as a repair agent for cracks, spalls, bug holes and voids. Upon full cure of the repair agent, prime the entire surface intended for coating.

Concrete Surface Preparation Reference:

ASTM D4258 - Standard practice for cleaning concrete
ASTM D4259 - Standard practice for abrading concrete
ASTM D4260 - Standard practice for etching concrete
ASTM F1869 - Standard test method for measuring moisture vapor emission rate of concrete
ICRI 03732 - Concrete surface preparation

Wood:

All wood should be clean, dry and free of any knots, splinters, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be repaired using UL BC 371 with sand. Upon full cure of the repair agent, prime the entire surface intended for coating.

Steel (Atmospheric and Immersion Exposure):

Remove all oil, grease, weld spatters and round off any sharp edges from surface. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Optimum surface profile is 2-3 mils. Prime and shoot UL on to any bare metal the same day as it is cleaned to minimize any potential flash rusting.

| TECHNICAL DATA | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Mix Ratio by Volume | 1A : 1B |
| Pot Life @ 150°F | 4 - 6 seconds |
| Tack Free Time (150 mils thick) | 60-120seconds |
| Recoat Time | 0-12 hours |
| Viscosity at 150-160°F (66.5-71°C), Brookfield: | |
| Part-A | 150 ± 20 cps |
| Part-B | 250 ± 50 cps |
| Density (Side A & B Combined) | 10.89 lbs/gal |
| Flash Point | >200°F |
| Hardness, ASTM D-2240* | 75 ± 5 D |
| Tensile, ASTM 412-C* | 2500 ± 200psi |
| Elongation, ASTM 412-C* | 10% ± 5% |
| Tear, ASTM 624-C* | 400 ± 30 pli |
| Service Temperature | -40°F to 300°F |
| (Results based on lab drawn film) | |
| (*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.) | |

Aluminum:

Aluminum should be blasted with aluminum oxide or sand, and not with steel or metal grit. Excessive blasting may result in a warped or deformed surface. After blasting, wash aluminum with a commercially available aluminum cleaner. Allow to dry, then prime.

Brass and Copper:

Brass and copper should be blasted with sand, and not with steel or metal grit. Remove all dust and grease prior to applying primer.

Galvanized Surfaces:

Clean and degrease any contaminated surfaces before priming. Do not blast galvanized surfaces with an abrasive grit. An adhesion test is recommended prior to starting the project.

Fiberglass Reinforced Plastic:

The gel coat should be lightly blasted or sanded with 80 grit sandpaper and cleaned.

Plastic Foams:

Enhanced adhesion is obtained when the foam is mechanically abraded. When coating polystyrene, do not use a solvent-based primer.

Textiles, Canvas, Fabrics:

Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

Stainless Steel:

Stainless steel may be grit blasted and degreased before priming. Some stainless steel alloys are so inert that it is not possible to achieve a satisfactory bond. An adhesion test is recommended prior to starting the project.

New and Old Cast Iron:

Blast with a steel grit and degrease before priming. Old cast iron is difficult to prepare for a satisfactory bond. It can absorb oil and water soluble contaminants that will keep returning to the surface after the coating system has been applied and affect the coating system adhesion. An adhesion test is recommended prior to starting the project.

All Other Surfaces:

An adhesion test is recommended prior to starting the project.

MIXING

UL FR 863 may not be diluted under any circumstances. Thoroughly mix UL FR 863 Part-A and Part-B 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 90-100°F before application. Both Side-A and Side-B materials should be continuously agitated before and during application. Agitate at least one hour prior to application using heavy duty drum agitator. Both Side-A and Side-B lines must have filters removed. Use a round pattern disc for spraying. Orifice diameter must be 0.042" or greater. Recommended surface temperature must be at least 5°F above the dew point. UL FR 863 should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment like Graco's Reactor, Glass Craft 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. **UL FR 863** should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

STORAGE

UL FR 863 has a shelf life of one (1) year 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 Ultimate Linings Products representative or visit our website for recently updated instructions and data.

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