

Diathon® HT Roof Coating Product Data Sheet

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North America's Largest Roofing Manufacturer!™*



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Product Data Sheet



PRODUCT DESCRIPTION

United Coatings™ Diathon® HT Roof Coating is a high tensile water-based top coat for spray polyurethane foam with superior physical properties, durability, weatherproofing, dirt and mildew resistance, ultraviolet resistance, and fire retardancy. Diathon® HT Roof Coating is a "breathable" coating, allowing moisture vapor to pass through the film while remaining impervious to mass water penetration.

PACKAGING & SHELF LIFE

5-gallon (18.9 liter) pail
55-gallon (208 liter) drum

Shelf Life: 24 months from date of manufacture in unopened containers, if stored properly in a clean and well-ventilated area at 40°F – 70°F (4°C – 21°C). Storage outside this temperature range may shorten shelf life. Keep containers covered when not in use. Do not allow coating to freeze.

BASIC USES & ADVANTAGES

Diathon® HT Roof Coating was specifically developed as a superior coating to help protect sprayed-in-place polyurethane foam insulation from degradation caused by normal weathering, aging, and ultraviolet exposure. Diathon® HT Roof Coating has the ability to uniformly cover the profile of textured substrates. Its dense, tight finish helps repel dirt and pollutants while the elastomeric membrane remains permanently flexible.

Diathon® HT Roof Coating can be used to help protect sprayed-in-place polyurethane foam on new or existing roofs as well as heated or ambient storage tanks. It also achieves excellent adhesion over concrete, masonry, primed metal, primed wood, and asphaltic surfaces.

PHYSICAL PROPERTIES

| DIATHON® HT ROOF COATING | |
|---------------------------|--|
| Solids by Weight | 62% (± 2) [ASTM D1644] |
| Solids by Volume | 52% (± 2) [ASTM D2697] |
| Ultimate Tensile Strength | 550 psi (± 50) (4.0 MPa) @ 70°F (21°C) [ASTM D412] |
| Elongation at Break | 500% (± 50) @ 70°F (21°C) [ASTM D412] |
| Hardness | 75 to 80 Shore A [ASTM D626] |
| Permeance | 2.5 U.S. Perms @ 20 mils [ASTM D1653] |

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|--|--|
| VOC | <50 g/L |
| Dry Time* For Foot Traffic Resistance | White: 5 hours, 75°F (24°C), 50% RH @ 16 wet mils (406 microns) [ASTM D1640] *Dry times will increase with higher humidity and/or lower temperature |
| Bond Strength | Exceeds cohesive strength of coating [ASTM C794] |
| High-Temperature Stability | No age hardening or slump up to 250°F (121°C) |
| Temperature Limits for Normal Service Conditions | -30°F – 200°F (-35°C – 93°C) |

APPLICATION INSTRUCTIONS

Substrate Preparation: Polyurethane foam and adjacent surfaces to be coated shall be free of any degraded foam, grease, oil, dirt, or other contaminants that could interfere with proper adhesion. Polyurethane foam shall be completely dry and frost-free before coating. Any physical damage to the polyurethane foam shall be repaired before coating application commences. Any oxidized polyurethane foam shall be repaired or replaced. Do not coat directly over polyurethane foam that has been mechanically scarified or sanded.

Mixing: Thoroughly mix using a power mixer for a minimum of 5 minutes prior to application. For 5-gallon (18.9 liter) pails, use a 3" (76 mm) minimum diameter mixing blade; for 55-gallon (208 liter) drum, use a 6" (152 mm) minimum diameter blade.

Application: Apply to polyurethane foam surfaces between 24 and 72 hours after final application, depending on climate and manufacturer (refer to foam manufacturer for more information). Coating should be applied within this time frame to prevent surface oxidation that would interfere with coating adhesion. Apply product with an airless sprayer, covering the surface at an even rate. Use an airless spray pump with a 1 gallon per-minute (3.8 L/minute) output and 2,000 psi (13,790 kPa) pressure capability. Use a reversible, self-cleaning tip with orifice size 0.027" – 0.039" (0.69 – 0.99 mm)

and a fan angle of 40° or 50°. Filter screens should be 60 mesh or larger. Use a 3/8" (10 mm) minimum inside diameter, nylon high pressure-type hose for lengths up to 75 ft. (23 m) from pump. For 75 ft. – 200 ft. (23–61 m), use 1/2" (13 mm) inside diameter hose added to pump side of existing 3/8" (10 mm) hose to maintain pressure and delivery. Over 200 ft. (61 m), use 5/8" to 3/4" (16 mm to 19 mm) inside diameter hose added to pump side of existing hose. Apply at a minimum rate of 1 gallon /100 ft² (4.1 L / 10 m²) per coat. Coating must be applied in two or more separate coats to ensure proper coverage and cure rate, and to achieve a pinhole-free continuous film. Each coat shall be applied in a direction perpendicular to the previous coat to ensure positive coverage. Each coat of coating must be dry and cured before an additional coat is applied. All surfaces must be uniformly coated and free from voids, pinholes, or blisters.

Application Note: Requires complete evaporation of water to cure. Cool temperatures and high humidity slow cure.

For Application Questions: Contact GAF Technical Services at 1-800-766-3411 or visit gaf.com.

Applicable Standards: ASTM D6083, ASTM D522, ASTM D2370, ASTM D4798, ASTM C297

GAF Liquid-Applied

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For technical, system, and warranty information, visit gaf.com or call 1-800-766-3411.

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BENEFITS

High Acrylic Resin Content: Percent solids by volume is only one measure of a coating's quality. Another basis for determining longevity of a coating is the ratio of filler pigment to polymer content. **Diathon® HT Roof Coating** contains lower filler pigment load and higher levels of acrylic polymer than most coatings. This high ratio of pure acrylic polymer provides long-term durability and weather resistance. **Diathon® HT Roof Coating's** excellent performance is ensured through the use of advanced elastomeric acrylic polymers.

No Plasticizers: There are no migratory plasticizers in **Diathon® HT Roof Coating**. The purpose of a plasticizer is to give good initial flexibility to the cured film. Plasticizers, however, gradually leach from the coating when exposed to sunlight and moisture, causing it to become brittle and exhibit poor flexibility and elongation properties. Surface checking and cracking occur, allowing moisture into the polyurethane foam and underlying substrate. This does not occur with **Diathon® HT Roof Coating**.

Uniform Film Build: The thixotropic consistency of **Diathon® HT Roof Coating** gives it excellent vertical hold, allowing uniform build on the highs and lows of the polyurethane foam texture. This quality maximizes the coating's ability to provide prolonged weather resistance.

Long-Term Fire Protection: Non-migratory fire retardants are dispersed into the raw material complex during the manufacturing process. These fire retardants become an integral and inseparable part of **Diathon® HT Roof Coating**. The non-leaching qualities of the specific fire retardants chosen by GAF add another dimension to **Diathon® HT Roof Coating's** impressive list of protective qualities.

Abrasive Weather Conditions: **Diathon® HT Roof Coating** will take normal abrasive weather conditions of all types. Ice, snow, and sand will not penetrate its tough, dense surface under normal conditions.

Diathon® HT Roof Coating conforms to all federal, state, and local air pollution standards and VOC requirements.

Volume Solids: The high-volume solids of **Diathon® HT Roof Coating**, along with its excellent hide and vertical hold characteristics, allows for higher film build in fewer coats. This enables **Diathon® HT Roof Coating** to uniformly cover the uneven surface texture of polyurethane foam.

Single Package: No catalyzation – **Diathon® HT Roof Coating** is a ready-to-use material with no pot life limitations.

LIMITATIONS & PRECAUTIONS

Do not apply **Diathon® HT Roof Coating** at temperatures below 50°F (10°C), or when there is possibility of temperatures falling below 32°F (0°C) within a 24-hour period after application.

Diathon® HT Roof Coating requires complete evaporation of water to cure. Cool temperatures and high humidity slow cure. Do not apply if weather conditions will not permit complete cure before rain, dew, or freezing temperatures occur. Do not apply in the late afternoon if heavy condensation may appear during the night.

Diathon® HT Roof Coating will freeze and become unusable at temperatures below 32°F (0°C). Do not ship or store unless protection from freezing is available.

Diathon® HT Roof Coating should generally not be used over cold storage tanks or buildings unless applied over a vapor barrier coating. **Diathon® HT Roof Coating** shall not be used for interior applications in place of a thermal barrier.

SAFETY & HANDLING

For specific information regarding safe handling of this material, please refer to the Safety Data Sheet (SDS).

CLEAN-UP

Use water and **United Cleaning Concentrate (UCC)** or other similar detergent to thoroughly flush equipment. Purge the water from the system using mineral spirits or Glycol Ether. Leave the solvent in the lines and equipment until next use. It is not recommended practice to leave **Diathon® HT Roof Coating** in the pump or hoses.