



## PRODUCT DESCRIPTION

**Diathon®** is an advanced acrylic elastomer coating that combines high solids emulsion polymers and potent biocides to provide superior durability, reflectivity, weather-proofing, and mildew resistance. Non-migrating fire retardant chemicals are permanently locked into the cured coating to assure long-term performance. **Diathon®** is unique among acrylic elastomers in that elongation and tensile strength properties are both maintained at lower temperatures.

## WARRANTY

OCP's Standard Warranty to the Building Owner is available for 5-year, 10-year or 15-year periods at no cost. Refer to Application Instructions for minimum thickness requirements to qualify for warranty programs.

System Warranty programs are also available at an additional cost. Consult OCP's System Warranty Explanation Form and **Diathon®** Application Instructions for details.

## PACKAGING & SHELF LIFE

5 gallon (19 liter) bucket  
55 gallon (208 liter) drum

Shelf life 24 months if unopened containers stored between 40°F and 70°F.

## BASIC USES & GENERAL INFORMATION

**Diathon®** was specifically developed for protecting sprayed polyurethane foam insulation from degradation caused by normal weathering, aging and ultraviolet exposure. **Diathon®** has the unique property of being an elastomeric coating that is able to uniformly cover the profile of textured substrates. It has excellent adhesion to polyurethane foam, concrete, masonry, primed metal, primed wood and asphalt. **Diathon®** is used for protection of sprayed polyurethane foam on new roofs, existing roofs, and hot or ambient storage tanks.

**Diathon®** is available in standard White, Tan, Light Tan and Solar Gray colors, which are certified to meet ENERGY STAR®, Cool Roof Rating Council (CRRC) and LEED reflectance and emissivity criteria. White and Light Tan also meets California Title 24

requirements. All other colors are custom matched by OCP for the specific application. Color chips or samples must be furnished to OCP for all custom colors. It is recommended that dark colors be tinted in KYMAX topcoat only.

If a faster drying white topcoat is desired, **Diathon®** is available in a Quick-Set version (**Diathon® QS**). The QS formulation provides a more rapid skin-over time than standard **Diathon®**, which helps to prevent wash-off from a light rain or dew in 30 to 60 minutes, depending upon ambient temperature & humidity. **Diathon®** is also available in a High-Tensile version (**Diathon® HT**), which provides approximately twice the tensile strength, tear strength and elongation properties.

## PHYSICAL PROPERTIES

DIATHON® TOP COAT	
Solids by Weight	66% (± 2) [ASTM D1644]
Solids by Volume	55% (± 3) [ASTM D2697]
Tensile Strength	224 psi (± 20) @ 75°F (24°C) [ASTM D2370]
Elongation	226% (± 20) @ 75°F (24°C) [ASTM D2370] *Diathon® is unique in that it maintains its elongation values at freezing temperatures, as well as after extended weathering.
Hardness	55-65 Shore A [ASTM D2240]
Permeance	5.7 U.S. Perms @ 20 mils (508 microns) [ASTM D1653]
Permeability	0.11 Perm Inches [ASTM E96]
ASTM D6083	Independently tested and certified to exceed ASTM D6083 standards.
EPA ENERGY STAR® Program	Independently tested and certified to surpass ENERGY STAR and CRRC guidelines for energy efficiency.
High Temperature Stability	Did not age-harden or slump at temperatures up to 200°F (93°C). [ASTM D794]
Elongation Retained After Aging	After 1,000 hours exposure, passed the requirements of ASTM D6083/ASTM D2370 - minimum 100% @ 73°F (23°C).
Bond Strength	No adhesive failure between the coating and PUF substrate. Diathon® remained totally bonded to the polyurethane foam under all stress conditions. [ASTM C297]
Ponded Water Adhesion	After 30 days of continuous testing, Diathon® showed no significant loss of adhesion. No blistering or other deleterious effects were observed.

Dry Time for Foot Traffic Resistance:*	3 hours at 75°F (24°C), 50% R.H. Medium Gray @ 16 wet mils (406 microns) 5 hours at 75°F (24°C), 50% R.H. White @ 16 wet mils (406 microns) *Dry times will increase with lower temperature and/or higher humidity.
Temperature Limits for Normal Service Conditions	-30°F to 200°F (-35°C to 93°C)
Resistance to Accelerated Weathering	After 3,000 hours of continuous exposure, showed no deleterious effects, no surface checking or cracking, no delamination and no color fade. [ASTM D6083, ASTM D4798]
Resistance to Wind Driven Rain	After 40 hours of continuous testing, no apparent moisture penetrated the coating. [Tested in accordance with Federal Specification TTC-555 B]
Resistance to Foot Traffic [Tested in accordance with FM 4470]	No tearing, cracking, rupturing or permanent deformation of the Diathon® coating, or exposure of the polyurethane foam was observed. Test exceeds the stresses of normal roof maintenance traffic.
Low Temperature Flexibility	Capable of withstanding 180° bends over a 3/16" (5 mm) mandrel @ -21°F (-30°C). [Federal Test Method no. 141a-6221]
Cold Temperature Flex after Weathering	After 1,000 hours exposure, retained ability to withstand multiple 1/2" (1.2 cm) mandrel bends without cracking at -15°F (-18°C). [ASTM D6083, ASTM D522]
Simulated Hail Damage [FM 4470 - Severe]	Coated foam panels passed multiple impacts with no evidence of membrane failure. Test was repeated following 1,000 hours exposure; no changes noted.

## APPROVALS

Underwriters Laboratories (UL) UL 790 Class A *	Over many different types of UL classified spray-applied polyurethane foams. Refer to UL Roofing Materials and Systems Directory or UL website for foam manufacturers and types, foam thicknesses and densities, inclines and coating requirements of rated roof systems.
Factory Mutual (FM)	Approved (a) as a Class 1 Insulated Steel or Concrete Deck Roof System for new construction, and (b) as a Class 1 Re-Cover Application System when installed over existing Class 1 built-up roofing. Subject to the conditions of approval as described in the FM Approval Guide, or job Identification no. 2NIA3.AM.
UL Construction Nos. 74, 136, 181 & 206—U.S. Navy White House Test/UL Standard 1256 **	UL fire classification with a variety of polyurethane foams sprayed over metal decking. Refer to UL Roofing Materials and Systems Directory or UL website under Roof Deck Construction for illustration & description of each rated roof system.
California State Fire Marshal	Conforms to Class "A" requirements with various spray-applied polyurethane foam systems.
Building Code acceptance	Diathon®/Polyurethane Foam Roofing Systems are accepted by all major model building code authorities for Class "A" and Class "B" constructions. These building code authorities also accept UL Construction no. 136 as an approved roof system over metal decks without a thermal ignition barrier.
International Code Council (ICC) approval	Approved as a fire-retardant roof coating over many different types of spray-applied polyurethane foam on non-combustible substrates, existing fire-retardant BUR & new wood substrates. See ICC ES reports 2298 and 2489 for specifications and conditions of use concerning material presented in this document.
Miami-Dade County NOA	12-0521.05 Exp April 1, 2019

## ADVANTAGES & 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®** 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®**'s superior performance is assured through the use of advanced elastomeric acrylic polymers.

**No Plasticizers:** There are no migratory plasticizers in **Diathon®**. 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®**.

**Uniform Film Build:** The thixotropic consistency of **Diathon®** 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 the **Diathon®** coating. The non-leaching qualities of the specific fire retardants chosen by QCP add another dimension to **Diathon®**'s impressive list of protective qualities.

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

**Non-Polluting:** **Diathon®** contains no solvents. It conforms to all federal, state and local air pollution standards and VOC requirements.

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

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

## LIMITATIONS & PRECAUTIONS

Do not apply **Diathon®** 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®** requires complete evaporation of water to cure. Cool temperatures and high humidity retard 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®** will freeze and become unusable at temperatures below 32°F (0°C). Do not ship or store unless protection from freezing is available.

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

For additional information, refer to OSHA guidelines and **Diathon®** Material Safety Data Sheet.

## SAFETY & HANDLING

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

*\*Cements and Coatings for Built-Up Roof Coverings Classified by Underwriters Laboratories Inc.® as to an external fire expo- sure only. See UL Roofing Materials and Systems Directory.*

*\*\*Roof Coatings Classified by Underwriters Laboratories Inc.® as roof deck construction material with resistance to an internal fire exposure only for use in Construction nos. 74, 136, 181 & 206. See UL Roofing Materials and Systems Directory*



## Quest Construction Products

1465 Pipefitter Street  
N Charleston, SC 29405  
855-817-3082  
www.quest-cp.com

Our products are guaranteed to meet established quality control standards, information contained in our technical data is based on laboratory and field testing, but is subject to change without prior notice. No guarantee of accuracy are given or implied, nor does Quest Construction Products assume any responsibility for coverage, performance on injuries resulting from storage, handling or use of our products. Liability, if any, is limited to product replacement or, if applicable, to the terms stated within the executed project warranty.