

Technical Data Sheet

HighLine 510H

Description

ArmorThane HighLine 510H is a fast setting, rapid curing, 100% solids, flexible, aromatic, two component spray polyurea that can be applied to suitably prepared concrete and metal surfaces. Its extremely fast gel time makes it suitable for application down to 20°F (-6°C). It may be applied in single or multiple applications without appreciable sagging and is relatively insensitive to moisture and temperature, allowing application in most temperatures and environments. HighLine 510H offers a tack free time of less than 60 seconds and exhibits excellent elongation.

Typical Physical Properties

Mix Ratio By Volume: 1A:1B

Tack Free Time: 45-60 seconds

Density (Sides A & B combined): 8.81 lbs/gal

Tensile, ASTM 412-C: 2800 ± 200 psi

Tear, ASTM 624-C: 400 ± 50 pli

VOC Content: 0 gm/lit

Return to Service, Foot Traffic: 1-4 hours

Resistance to Weathering, ASTM G-23: No cracking or blistering. Color change, gloss reduction and chalking are noted. (Type QUV Weatherometer – 3000 hour exposure)

Taber Abrasion Resistance, ASTM D4050: 20 mg loss (CS17 wheel, 1000 cycles, 1 kg load) (maximum)

Crack Bridging, ASTM C836: Pass (-13°F (-25°C), 1.6 mm crack, 25 cycles)

Inter-Coat Adhesion (within recoat time): Excellent

Concrete (primed), substrate failure occurred: >500 psi

Lineal Shrinkage: 1-2%

*Please note, a different spray machine and parameter will change these properties. User should perform their own independent testing as properties are approximate.

Pot Life @ 150°F (66°C): 4-8 seconds

Recoat Time: 0-6 hours

Specific Gravity (Sides A & B combined): 1.10

Hardness, ASTM D-2240: 55 ± 5 Shore D

Elongation, ASTM 412-C: 400% ± 50

Service Temperature: -40 to 250°F (-40 to 121°C)

Recommended Applied Thickness: >2 mm

Return to Service, Full Service: >24 hours

Water Permeability, ASTM E-96: 0.05 perm-inch

Water Absorption, ASTM D471: <0.5% (maximum 73°F (23°C), 24 hours)

Impact Resistance @ 77°F (25°C), ASTM G14: >200 lbs

Concrete (shot blasted profile), substrate failure occurred: >500 psi

Steel (90 um blast profile): >900 psi

Flexibility (1/8" 3mm Mendrel Bend Test), ASTM D1737: Pass

Application Process

Agitation: ArmorThane HighLine 510H may not be diluted under any circumstances. HighLine 510H Side B (Polyol Resin) is made up of many components. As a result, prior to using the resin, it must be agitated so that all of the components mix thoroughly together. The rule of thumb for agitation is:

Agitate one minute for every 1 US gallon of Polyol Resin, or until mixed thoroughly.

HighLine 510H Side A (ISO) does not need to be agitated.

Pigmentation: HighLine 510H Side B (Polyol Resin) requires that 100 grams of ArmorThane pigment be added to every one US gallon.

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. ArmorThane recognizes the potential for unique substrates from one project to another. Refer to the technical bulletins in the ArmorThane Operations Manual concerning the preparation method for the substrate. For project-specific questions, please contact the ArmorThane Technical Department.

Coverage: HighLine 510H may be applied at any rate to achieve desired thickness.

Application: HighLine 510H is spray applied, using the ArmorThane HighLine plural component spray system.

Both HighLine 510H Side A and Side B materials should be preconditioned at 70-80°F (21-27°C) before application.

HighLine 510H materials should be sprayed at a minimum of 2800 psi and at temperatures above 150°F (66°C). Adequate pressure and temperature should be maintained at all times. Recommended surface temperature must be at least 5°F above the dew point.

HighLine 510H should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

Limitations: Due to its aromatic composition, ArmorThane HighLine 510H will tend to yellow or darken in color after exposure to UV light. HighLine 510H may be topcoated with ArmorThane UV Topcoat or UV ColorCoat for a color-fast glossy finish.

Packaging

HighLine 510H comes in 100 gallon kits: 50 gallons of Side A and 50 gallons of Side B.

Safety and Handling

Do not handle until the Safety Data Sheets (SDS) for each component have been read and understood. Regulations require that all employees be trained on Safety Data Sheets for all chemicals with which they come into contact.

THIS PRODUCT CONTAINS ISOCYANATE AND CURATIVE MATERIAL.

ArmorThane HighLine 510H has a shelf life of one year from date of manufacture, in factory-sealed containers.

Avoid exposure to freezing temperatures for an extended period of time. Store drums on wooden pallets to avoid direct contact with the ground. Both HighLine 510H Side A and Side B are recommended to be stored above 60°F (16°C).

If stored for a long period of time, rotate drums (both Side A and Side B) regularly. Do not open drums until ready to use.

Typical Uses

Airports
Fertilizer Plants
Food Processing Plants
Secondary Containment
Power Plants
Warehouse Floors
Landfill Containment
Parking Garage Decks
Industrial and Manufacturing Facilities

Refineries
Mining Operations
Marine Environments
Walkways and Balconies
Structural Steel
Cold Storage Facilities
Paper and Pulp Mills
Water and Waste Water Treatment

Features

Zero VOC
Low Temperature Flexibility
Seamless
Meets USDA/Agriculture Canada Criteria
Installed With or Without Reinforcement in Transitional Areas

Excellent Thermal Stability
Good Chemical Resistance
Odorless
Coats Carbon or Mild Steel Metals Without Primer

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