

Technical Data Sheet

Product Name: HighLine 510

Technical Data

Mix Ratio, By Volume: 1A:1B
Pot Life @ 150°F (66°C): 4-8 seconds
Tack Free Time: 45-60 seconds
Recoat Time: 0-6 hours
Viscosity at 150-160°F (65.5-71°C), Brookfield:
Side A: 50 ± 20 cps
Side B: 50 ± 20 cps
Density (Sides A & B combined): 8.81 lbs/gal
Specific Gravity (Sides A & B Combined): 1.10
Flash Point: >200°F (93°C)
Hardness, ASTM D-2240: 55 ± 5 Shore D
Tensile, ASTM 412-C: 3500 ± 200 psi
Elongation, ASTM 412-C: 450% ± 50%
Tear, ASTM 624-C: 450 ± 50 pli
Service Temperature: -40-250°F (-40-121°C)
Water Vapor Permeability, ASTM E-96: 0.361 perm-inch
VOC Content: 0 gm/lit
Recommended Applied Thickness: > 2mm
Return to Service, Foot Traffic: 1-4 hours
Return to Service, Full Service: > 24 hours
Taber Abrasion Resistance, ASTM D4050: 6 mg loss (CS17 wheel, 1000 Cycles, 1 kg load) (maximum)
Water Absorption, ASTM D471: < 0.5% (maximum 73°F/23°C, 24 hours)
Crack Bridging, ASTM C836: Pass (-13°F/-25°C, 1.6 mm crack, 25 cycles)
Impact Resistance @ 77°F/25°C, ASTM G14: > 200 lbs
Inter-Coat Adhesion (without recoat time): Excellent
Concrete (shot blasted profile), substrate failure occurred: > 500 psi
Concrete (primed), substrate failure occurred: > 500 psi
Steel (90 um blast profile): > 900 psi
Lineal Shrinkage: 1-2%
Flexibility (1/8" 3mm Mendrel Bend Test), ASTM D1737: Pass
Resistance to Weathering, ASTM G-23: No cracking or blistering. Color change, gloss reduction and chalking are noted (Type QUV Weatherometer-3000 hours exposure)

Description

HighLine 510 is a fast setting, rapid curing, 100% solids, flexible, aromatic, two component spray urea 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 (-29°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. HighLine 510 offers a tack free time of less than 60 seconds and exhibits 450% elongation upon curing with 50 Shore D Hardness.

Its features are:

- ◆ Zero VOC
- ◆ Excellent Thermal Stability
- ◆ Low Temperature Flexibility
- ◆ Good Chemical Resistance
- ◆ Seamless
- ◆ Odorless
- ◆ Meets USDA Criteria
- ◆ Coats Carbon or Mild Steel Metals without Primer
- ◆ Installed with or without reinforcement in transitional areas

Some of the typical uses are:

- ◆ Airports
- ◆ Refineries
- ◆ Fertilizer Plants
- ◆ Mining Operations
- ◆ Food Processing Plants
- ◆ Marine Environments
- ◆ Secondary Containment
- ◆ Walkways & Balconies
- ◆ Power Plants
- ◆ Structural Steel
- ◆ Warehouse Floors
- ◆ Cold Storage Facilities
- ◆ Landfill Containment
- ◆ Paper and Pulp Mills
- ◆ Parking Garage Decks
- ◆ Water & Waste Water Treatment
- ◆ Industrial & Manufacturing Facilities

Agitation

ArmorThane HighLine 510 may not be diluted under any circumstances. Thoroughly mix HighLine 510 Side B (Resin side) with air driven power equipment until a homogeneous mixture and color is obtained.

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

DO NOT OVERAGITATE. If resin is agitated for excessive periods, catalyst levels may be reduced through exposure to air. Therefore, only agitate enough to thoroughly mix the resin. Components within the resin will begin to settle after approximately 6 hours. Therefore, resin will need to be agitated every day it will be used.

HighLine 510 Side A ISO requires no agitation.

Pigmentation

HighLine 510 Side B Resin requires that 100 grams of ArmorThane pigment be added to every one US gallon.

Application

HighLine 510 is spray applied, using the ArmorThane HighLine 2511 or 4011 plural component spray system.

Both HighLine 510 Side A and Side B materials should be preconditioned at 75-80°F (24-27°C) before application.

HighLine 510 materials should be sprayed at a minimum of 2000 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 510 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

Coverage

ArmorThane HighLine 510 may be applied at any rate to achieve desired thickness. Theoretical coverage for 1 mil thickness is one gallon per 1600 square feet.

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.

Please refer the Technical Bulletins in the ArmorThane Operations Manual for specific instructions for the substrate.

For project-specific questions, please contact the ArmorThane Technical Department.

Packaging

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

Storage

ArmorThane HighLine 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 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.

Limitations

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

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

THIS PRODUCT CONTAINS ISOCYANATE AND CURATIVE MATERIAL

THIS PRODUCT IS FOR COMMERCIAL USE ONLY, AND SHOULD ONLY BE APPLIED BY TRAINED PERSONNEL. NOT FOR SALE OR USE BY GENERAL PUBLIC.

ArmorThane USA Inc. and/or ArmorThane Coatings Inc. make no representations or warranties as to the results of the use of the products and assume no obligation in connection therewith. Any written, oral, testing, or technical application advice is to the best of ArmorThane's knowledge and believed to be correct. It is to be considered only an indication without obligation. Customer is reminded that he must satisfy himself that the product supplied by ArmorThane is suitable for his purpose and conditions of use. Application, uses, and transformation of the products which are beyond our control, are exclusive responsibility of the customer/applicator. Liability of ArmorThane for all claims, whether arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material only.

World Rights Reserved. No part of this publication may be stored in a retrieval system, transmitted, or reproduced in any way, including but not limited to photocopy, photograph, magnetic, or other record, without the prior agreement and written permission of ArmorThane.

The information is produced in good faith and is true to the best of our knowledge. No warranty or guarantee is given or implied. Use of this information is at the user's risk. Only qualified, trained employees are permitted in the application of ArmorThane products. Since there is a wide range and variety of applications for this product, it is impossible to assume responsibility for any errors in regard to application, coverage, workmanship, overspray, or injuries resulting from the use of ArmorThane HighLine 510.

A PUBLICATION OF ARMORTHANE © 2010