ArmorThane HighLine 410 is a fast setting, rapid curing, 100% solids, flexible, aliphatic, two component spray polyurea with excellent color retention. It can be applied to suitably prepared interior or exterior concrete and metal surfaces. Its extremely fast gel time makes it suitable for applications 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 410 offers a tack free time of less than two minutes and exhibits excellent elongation.

Typical Physical Properties

- **Mix Ratio By Volume:** 1A:1B
- **Tack Free Time:** 60-120 Seconds
- **Density (Sides A & B combined):** 8.50 lbs/gal
- **Hardness, ASTM D-2240:** 50 ± 5 Shore D
- **Elongation, ASTM 412:** 220 ± 20%
- **Service Temperature:** -40 to 300°F (-40 to 149°C)
- **Recommended Applied Thickness:** >2 mm
- **Return to Service, Foot Traffic:** 2-4 hours
- **Viscosity at 150-160°F (65-71°C), Brookfield:**
  - Side A: 120 ± 20 cps
  - Side B: 40 ± 20 cps
- **Water Absorption, ASTM D471:** <0.5% (maximum 73°F (23°C), 24 hours)
- **Adhesion (within recoat time):** Excellent
- **Concrete (primed), substrate failure occurred:** >500 psi
- **Lineal Shrinkage:** 1-2%
- **Resistance to Weathering, ASTM G-23:** No cracking or blistering. Gloss reduction and minor chalking are noted. (Type QUV Weatherometer ~ 2000 hour exposure)

*Please note different spray equipment and parameters will affect physical properties. User should perform their own independent testing as properties are approximate.

Mixing

Volume mix ratio is 1 part Side A to 1 part Side B.
Application Process

Agitation: HighLine 410 may not be diluted under any circumstance. HighLine 410 Side B (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 for one minute for every 1 US gallon of Side B 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. This means the resin will need to be agitated every day it will be used.

HighLine 410 Side A (iso) does not require agitation.

Pigmentation: HighLine 410 Side B 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.

Application: HighLine 410 is spray applied, using the ArmorThane HighLine 2511 or 4011 plural component spray system.

Both HighLine 410 Side A and Side B materials should be preconditioned at 80-90°F (27-32°C) before application. Recommended surface temperature must be at least 5°F above the dew point.

HighLine 410 materials should be sprayed at temperatures above 150°F (66°C). Adequate pressure and temperature should be maintained at all times.

HighLine 410 should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.

Limitations: Do not open until ready to use. Both Side A and Side B drums must be fitted with a desiccant device during use.

Packaging

ArmorThane HighLine 410 comes in 100 gallon drum kits: 50 gallons per drum Side A and 50 gallons per drum Side B.
Safety and Handling

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

THIS PRODUCT CONTAINS ISOXYANATE AND CURATIVE MATERIAL.

HighLine 410 is considered Dangerous Goods. DOT Regulations classify it as:

Side A: TOXIC Liquid, organic, N.O.S. (Isophorone Diisocyanate), Class 6.1, UN 2810, PG III, TOXIC
Side B: AMINES, liquid, corrosive, N.O.S. (polyoxypropylenediamine), Class 8, UN 2735, PG III, CORROSIVE

ArmorThane HighLine 410 has a shelf life of six months from date of manufacture in original, 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.

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

<table>
<thead>
<tr>
<th>Airports</th>
<th>Fertilizer Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Processing Plants</td>
<td>Secondary Containment</td>
</tr>
<tr>
<td>Power Plants</td>
<td>Warehouse Floors</td>
</tr>
<tr>
<td>Paper and Pulp Mills</td>
<td>Water and Waste Water Treatment</td>
</tr>
<tr>
<td>Refineries</td>
<td>Mining Operations</td>
</tr>
<tr>
<td>Marine Environments</td>
<td>Walkways and Balconies</td>
</tr>
<tr>
<td>Structural Steel</td>
<td>Cold Storage Facilities</td>
</tr>
<tr>
<td>Parking Garage Decks</td>
<td>Industrial and Manufacturing Facilities</td>
</tr>
</tbody>
</table>

Features

<table>
<thead>
<tr>
<th>Excellent Color Retention</th>
<th>Excellent Thermal Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Temperature Flexibility</td>
<td>Zero VOC (100% solids)</td>
</tr>
<tr>
<td>Interior or Exterior Applications</td>
<td>Good Chemical Resistance</td>
</tr>
<tr>
<td>Odorless</td>
<td>Seamless</td>
</tr>
<tr>
<td>Meets USDA Criteria</td>
<td>Coats Carbon or Mild Steel Metals Without Primer</td>
</tr>
<tr>
<td>Installed With or Without Reinforcement in Transitional Areas</td>
<td></td>
</tr>
</tbody>
</table>
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