*Technical Data Sheet*

# Product Name: HighLine 410

## *Technical Data*

**Mix** Ratio, By Volume: 1A:1B
**Pot Life:** 10-15 seconds
**Tack Free Time:** 60-120 seconds
**Recoat Time:** 0-6 hours
**Viscosity at 150-160°F (65.5-71°C), Brookfield:**
Side A: 120 ± 20 cps
Side B: 40 ± 20 cps
**Density (Sides A & B combined):** 8.50 lbs/gal
**Flash Point:** >200°F (93°C)
**Hardness, ASTM D-2240:** 50 ± 5 Shore D
**Tensile Strength, ASTM 412:** 3300 ± 300 psi
**Elongation, ASTM 412:** 220 ± 20%
**Tear, ASTM 412:** 400 ± 20 pli
**Service Temperature:** -40-300°F (-40-149°C)
**VOC Content:** 0 gm/lit
**Recommended Applied Thickness:** > 2 mm
**Return To Service:**
Foot Traffic: 2-4 hours
Full Service: 12-24 hours
**Taber Abrasion Resistance, ASTM D4060** (CS17 wheel, 1000 cycles, 1 kg load)(maximum): 33 mg loss
**Water Absorption , ASTM D471** (maximum 73°F (23°C), 24 hours): < 0.5%
**Crack Bridging, ASTM C836** (maximum -13°F (-25°C), 1.6 mm crack, 25 cycles): Pass
**Pull-Off Strength (minimum), ASTM D4541:** Inter-Coat **Adhesion** (within 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** (Type QUV Weatherometer-2000 hrs exposure): No cracking, blistering. Gloss reduction and minor chalking are noted.

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

## *Description*

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 220% elongation upon curing with 50 Shore D hardness.

Its features are:

- Excellent Color Retention
- Excellent Thermal Stability
- Low Temperature Flexibility
- Zero VOC (100% Solids)
- Interior or Exterior Applications
- Good Chemical Resistance
- Odorless
- Seamless
- Meets USDA Criteria
- Coats Carbon or Mild Steel Metals without Primer
- Installed With or Without Reinforcement in Transitional Areas

Typical Uses of HighLine 410 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 |
| Paper & Pulp Mills | Parking Garage Decks |
| Water & Waste Water Treatment | Industrial & Manufacturing Facilities |

## *Agitation*

HighLine 410 may not be diluted under any circumstances. Thoroughly mix HighLine 410 Side B (resin side) with air driven power equipment until a homogeneous mixture and color are obtained:

**Agitate 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.**

## *Pigmentation*

HighLine 410 Side B Resin requires that 100 grams of ArmorThane pigment be added to every one US gallon.

## *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, multi-directional passes to improve uniform thickness and appearance.

## *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

## *Storage*

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.

## *Packaging*

- 100 gallon drum kit: 50 gallons per drum Side A and 50 gallons per drum Side B

## *LImitations*

Do not open until ready to use.

Both Side A and Side B drums 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.**

**This product 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**

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