

Defender AR40

Aromatic Polyurea Coating



USGBC LEED, EQ Credit 4: Low-emitting VOC Compliant Materials



Description

Defender AR40 is a fast-set, spray-applied, two-component polyurea that is 100% solids and contains zero VOCs.

Technical Data

Application Properties

Mix Ratio, by volume A to B	1A:1B (55 gallon drums = 110 gallon kit)
Viscosity	Part A=350 cps / Part B = 650 cps
Gel Time	11 seconds
Tack Free Time	22 seconds

*Values

Physical Properties

Product Color - Part A	Non-pigmented
Product Color - Part B	Cucumber, Tan, Gray or Royal Blue
Hardness, D-2240	D52
Tensile Strength, D-412 100%	3850 psi
Modulus, D-412 200%	1460 psi
Modulus, D-412 300%	1960 psi
Modulus, D-412	2650 psi
Tear Resistance/DIE-C, D-624	570 pli
Ultimate Elongation, D-412	425%
Taber Abrasion, mg loss, CS17	17.0
Flexibility, 1/8" mandrel	Pass

Values were obtained in a laboratory setting for comparison purposes only, and should not be considered exact specifications.

Features

Excellent Protection, Impact and Abrasion Resistance

Defender AR40 is formulated for excellent corrosion protection and chemical resistance. It maintains excellent impact resistance even in subfreezing weather, and has high abrasion resistance for harsh environments.

Impressive Properties

Defender AR40 is odorless with nontoxic vapors, and boasts a seamless monolithic waterproof membrane that is tough and durable.

100% Solids, Zero VOCs

Defender AR40 is a 100% solids polyurea and is formulated with zero VOCs. It is UL certified ANSI in specific colors.

*Be sure to consult with an **umi coatings** representative for equipment and application training.*

Mixing Instructions

Defender AR40 must be mixed by agitating the resin blend (Part B) component thoroughly first with a drum mixer before use to disperse the pigment and assure homogeneity. Do not agitate in open air and moisture.

Application Instructions

Defender AR40 must be applied through a two-component, high-pressure proportioning unit. Material and hoses should be heated to 150°F, with pressures at a minimum of 2200 psi.

Safety

This product is for industrial use only. Avoid contact with eyes and skin. Do not inhale or ingest. When spraying, wear a respirator or a fresh air hood. Spraying indoors requires forced ventilation. Consult the SDS in its entirety prior to using **Defender AR40**.



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Equipment Needed

Mix Chamber Specified = **Problem P2 - Mix Chamber Standard**

Spray Tips Specified = **Round 00 or 01**



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Pressure and Heat

Spray Pressure = **Between 2000 and 2500 psi**

Heater Setting for A and B = **150°F to 160°F**

Hose Heat = **150°F to 160°F**

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Packaging, Storage and Shelf Life

Defender AR40 is available in 55 gallon drums (equaling a 110 gallon kit). It should be stored in sealed containers between 60°F and 90°F. Shelf life is 12 months when stored in factory sealed containers under normal conditions.

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Minimum recommended surface preparation:

Steel: Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10 / NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (3 mils / 75 microns). Prime any bare steel the same day as it is cleaned or before flash rusting occurs, as required.

Concrete & Masonry: SSPC-SP13 / NACE 6 or ICRI No. 310.2R-2013, CSP 3-5. Surfaces should be thoroughly clean and dry. Concrete and mortar must be cured at least 28 days @ 75°F (24°C). Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, form release agents, moisture curing membranes, loose cement and hardeners. Fill bug holes, air pockets and other voids with recommended repair material.

Moisture Content: Use calcium chloride test: 3 lb./24 hr./1,000 ft². Concrete shall be 5% maximum as per ASTM F2170 & ASTM F2420. Substrate and air temperature must be 5°F above dew point and rising before material application.

Check for soluble salts on surfaces to be coated. If amount of soluble salts exceeds recommended limits, treat accordingly. Repeat process until acceptable limits are reached. Maximum amounts of soluble salts (micrograms per square centimeter): Chlorides—3 immersion, 7 non-immersion. Nitrates—5 immersion, 10 non-immersion. Sulfates—10 immersion, 20 non-immersion.

If required, holiday test in accordance with ASTM D5162 for steel, or ASTM D4787 for concrete.

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