Americrete
Decorative Overlays • Sealers • Waterproofing

Technical Data Information

A-5600 Armor Shield — *Water Base Chemical Resistant Urethane*

Description

Armor Shield is a two component, high solids, water base, aliphatic polyurethane. The UV resistant, mar resistant, chemical resistant nature of this product will cause it to outperform most other types of sealers or topcoats without the unwanted smell of solvents. It is available in a 6 hour cure formula.

Uses

Americrete Armor Shield is designed for professional use only and is specified as the finish coat for use in moderate to severe chemical environments or in heavy traffic areas. Apply Armor Shield as a coating over Americrete water base and 100% solids epoxy primers as well as over all of our epoxy floor coatings. Armor Shield is also used as a sealer on a variety of other substrates such as plain concrete, Texture Crete and Acid Stained Concrete Flooring. Use Armor Shield on Decorative Floors, Restaurant Floors, Food Processing Facilities.

Advantages

- **VOC Compliant**
- **Chemical Resistant**
- **Color and Gloss Retention**
- **Impact & Abrasion Resistant**
- **No Solvent Smell**
- **Water based formula**

Coverage

600-800 sf per gal as sealer per two gallon kit.

Packaging

1½ gallon kits premeasured with Hardener A in ½ gallon and Resin B in 1 gallon cans sealer (MUST thin with ½ gallon of water) MAKE'S TWO GALLONS.
15 gallon kits premeasured in three 5 gallon pails

Colors

Clear

Inspection

Concrete must be clean, dry, and free of grease, paint, oil, dust, curing agents, or any foreign material that will prevent proper adhesion. The concrete should be at least 2500 psi and feel like 30-grit sandpaper. The concrete should be porous and be able to absorb water. A minimum of 28 days cured is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170). All moisture should be kept away a min. of 72hrs before application and a min. of 72 hours after installation. This includes sprinklers, rain, fog, dew, etc.

Before starting flooring work, test existing concrete slab to make sure there is no efflorescence or high levels of alkalinity. Alkalinity refers to a high pH reading which means the floor is not neutral. A high alkaline environment can cause salts to creep up through the cement called efflorescence. These salts have a tendency to prevent or destroy the bonding of coatings to the concrete. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floors pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for a floor coating's installation. The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained. A rate of 3.5lbs/1000 ft²/24hr period or less is an acceptable amount of vapor pressure for an epoxy flooring installation. If the reading is any higher, please consult your Americrete Salesman for further instructions.

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or all together failure of the coating system. Testing is the responsibility of the applicator. Americrete bears no responsibility for failures due to any of the above conditions.

Surface Preparation

Over Concrete: Shot blasting is the preferred method for preparing concrete when applying epoxy and urethane floor systems. When using other methods prepare the surface so that the surface is porous and contaminant free so the product can soak in and properly bond.

As a sealer over concrete: When applying Armor Shield directly over concrete as a clear sealer, the surface may be lightly abraded. Make sure no contaminants or prior sealers are present.

Over Epoxy or Armor Shield: Apply directly over new epoxy or Urethane within 24 hours of initial application. When applying over existing epoxy or Armor Shield that has been cured for longer than 24 hours, sand the surface with 100 grit sand paper, remove debris and wipe with acetone just before new application.

Mixing

As Coating over Concrete, Epoxy, or Armor Shield: Before application, Americrete Armor Shield A-Side and B-Side should be pre-mixed in their individual containers. Add 2 part of the A-Side to 1 parts of the B-Side while mixing, using a mechanical mixer (Jiffy Mixer) at low to medium speeds. For proper leveling purposes, add two quart of water **(25%) to 1½ gallon mix. Mix until a homogeneous mixture and streak-free appearance is attained (approximately 3 minutes). Use care to scrape the sides of the container to ensure that no unmixed material remains. Makes a two gallon kit.**

As a sealer over concrete: When applying as a clear sealer directly on concrete, acrylic cement, or acid stained concrete, it is recommended to thin the Armor Shield with a *maximum total* of ½ gallon water per 1½ gallon kit. Thinning will aid in penetration, help avoid puddles and help avoid bubbles and unevenness. Make sure to proper neutralize floor if acid stained.

Application

The Armor Shield material may be squeegee, rolled or brushed. Apply product within 24 hours after previous coating is applied. Immediately after mixing, spread a strip of the batch onto the surface along the edges where it will be cut in using a brush or trowel. Leave remaining material in bucket and spread evenly using a 3/8" non-shedding nap roller cover beginning near the

cut in area. Apply quickly and avoid over rolling, as product will begin to "tack-up" as it begins to cure.

Re-coat if needed *within* 24 hours of application to insure adhesion. If a delay occurs, it is recommended that the surface be sanded and wiped clean with acetone before reapplication.

Maintenance:

Cleaning the Armor Shield is best done by mopping surface with mild soap and water or a mild detergent.
For best appearance, Americrete recommends resealing the surface every 3-4 years. Reseal by lightly sanding existing coating, cleaning surface, and applying Armor Shield over dry surface using above application specifications

Limitations

- **Do not apply in temperatures below 50°F or above 90°F.**
- **Do not apply unless temperature is 5° above the dew point or if rain is expected within 24 hours.**
- **Do not apply on damp or moist surface as product will whiten and may cause delamination.**
- **Opened material must be used within 2 days.**
- **1 gallon must cover at least 300 sf to properly cure.**
- **Please read MSDS sheet before use.**

Clean Up

Equipment should be cleaned with environmentally safe solvent immediately after use.

Technical Data

	Test Method	Results	
Shelf Life		6 months	
Mixing Ratio by Volume A:B		1:2	
Dry Film Thickness per Coat:	ASTM D-3363	3-5 mils	
Tear Resistance DleC	ASTM D-1004-66	270 pli	
Tensile Strength	ASTM D-412	3980 psi	
Ultimate Elongation	ASTM D-412	30%	
Gloss (60 deg)	ASTM D-823	90	
Volume Solids	ASTM D-2697	52% by volume	
VOC	ASTM D 2369-81	<50 g/l	
Pot Life (75±3oF)		60 minutes	
Recoat Time		7 hrs (min) -24 hrs (max)	
Taber Abrasion	ASTM D-4060-84	33.9 mg Loss, C17 Wheel, 1000g Load, 1000 Cycles	
Impact Resistance	ASTM D-2794-84	Inch-pounds Direct 160 Reverse 160	
Pencil Hardness	ASTM D-3363-84	2-H	
Pendulum Hardness	After 1 Day	43 Seconds	
	After 7 Days	168 Seconds	
Viscosity at 75 F(24 C) 50% RH		A-SIDE	600 cps
		B-SIDE	1500 cps
Weight		A-SIDE	9.1 lbs/gal
		B-SIDE	9.0 lbs/gal
Flash Point		A-SIDE	<365 F
		B-SIDE	n/a
14 Days Cured	**4 hrs**	**24hrs**	
10% Acetic Acid	No Effect	No Effect	
10% Sulfuric Acid	No Effect	No Effect	
10% Hydrochloric Acid	No Effect	No Effect	
14% Ammonium Hydroxide	No Effect	No Effect	
50% Sodium Hydroxide	No Effect	No Effect	
IPA - Iso-Propyl Alcohol	No Effect	No Effect	
MEK - Methyl Ethyl Ketone	No Effect	No Effect	
Deionized (Water)	No Effect	No Effect	
10% Betadine	No Effect	No Effect	
10% Bleach	No Effect	No Effect	
Gasoline	No Effect	No Effect	