Fast Armor Polyurea

TECHNICAL DATA SHEET

Product Number: No. 8240

Polyurea Primer and Base Coat for Quick Turnaround

DESCRIPTION

Fast Armor Polyurea is a high-performance polyurea primer, base coat and coating. It is a low viscosity, low odor, 99% solids. Featuring outstanding adhesion, abrasion, impact and chemical resistance. It is designed especially for challenging flooring and wall surfacing environments in a wide range of temperature and climatic conditions, including but not limited to, commercial, industrial and institutional facilities. It is VOC compliant in all states and provinces in North America.

TYPICAL FLOOR AND WALL USES

- Animal Care and Housing
- Airport Hangars
- Automotive Show Room and Garage
- Commercial Bakeries and Kitchens
- Food, Beverage and Spirits Processing
- Garage and Residential
- Hospital and Health Care Facility
- Laboratories and Research
- Locker Rooms and Rest Rooms
- Manufacturing and Warehouse
- Mechanical Equipment Room
- Pharmaceutical and Cosmetics
- Warehouse and Loading Docks
- Waste Water Treatment

BENEFITS

- Complies with USDA, FDA, Food Safety Modernization Act.
- Slip Resistance (ADA)
- LEED® and Green Seal® requirements.
- VOC and EPA Compliant all states and provinces in North America. Cures to an inert finish.
- Strong and Tough Floor
- Excellent Chemical and Abrasion Resistance
- Designed for new floors and for resurfacing old floors

LIMITATIONS

- This product is best suited for applications in temperatures between 60^{0}F to 90^{0}F (16^{0}C to 32^{0}C).
- Higher temperatures or higher RH will result inshortened working time and faster drying time.
- Color may vary due to batch to batch variation,always “box” different batches to avoid it.

COLORS

White Base, pigmented Sand Tan and Medium Gray only.

COVERAGE RATE PER GALLON

- Primer: 160 to 200 sq. ft. (14.9 to 18.9 sq. m.) 8 to 10 mils (WFT)
- Coating: 100 to 160 sq. ft. (9.3 to 14.9 sq. m) 10 to 16 mils (WFT)
- Receiving Coat for Color Flakes: 120 to 160 sq. ft. (11.15 to 14.9 sq. m.) 10 to 13 mils (WFT)

HANDLING and SAFETY

Warning! Eye and skin irritant. May cause dermatitis and sensitization. Always read and follow the product SDS. Avoid contact with eyes, skin and clothing. Avoid breathing vapors, mist and spray. Use with good ventilation.

CONCRETE

Concrete must be structurally sound and free of curing agents, coatings, sealers, densifiers and other bond breakers.

New Concrete:

- Place concrete per ACI 302.2R Guide for Concrete Slabs that Receive Moisture-Sensitive Floor Materials.
- Water Cement Ratio 0.4 to 0.5, and an approximate 4,000 psi (28 MPa) strength level.
- Requiring a positive side moisture barrier in direct contact with the concrete meeting ASTM E1745 Standard Specification for Plastic Water Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
- The moisture barrier needs to be placed per ASTM E1643 Standard Practice for Selection, Design, Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs, Class A 15 mils (0.38mm)

Existing Concrete:
If field tests or laboratory analysis reveals concrete flooring slabs contain contaminants from previously applied unreacted silicate materials, such as, sodium silicates, potassium silicates or lithium silicates that will interfere with the bond, contact an Armor Polymers representative.

- Contaminants include, but are not limited to, organic hydrocarbon materials, calcium chlorides, sodium silicates, potassium silicates, lithium silicates and aluminum stearates.
- Concrete flooring slabs can lose their structural strength over time, caused by conditions beyond the control of Armor Polymers and the installation contractor.
- If the concrete substrate deteriorates sufficiently, it will no longer support the bond of the remediation flooring system.

Such conditions are detailed in ACI 201.2R "Guide to Durable Concrete" published by the American Concrete Institute.

Physical Properties at 77^0F (25^0C)	
VOC (Volatile Organic Compounds), (VOC Calculated Per ASTM D3960)	< 10 g/l
Standard Viscosity White Base, Mixed Polyol and Isocyanate	1000 – 1300 cps
Mix Density White Base, Mixed Polyol and Isocyanate	9.4 lbs./gal
Pot Life,100 Grams Mass, Pot Life is Reduced by Increases in Mass and Temperature	18 - 20 Minutes
Mix Ratio, by Volume, Polyol and Isocyanate	2:1
Dry to Touch, Tack Free Time	2 Hours
Cure Information, Relative Humidity 55%	Dry Time 2 Hours
If the relative humidity is higher the cure time will be quicker.	Mar Free 5 Hours
If the relative humidity is lower the cure time will be slower.	Recoat Max 12 Hours
	Foot Traffic 10 Hours
Shelf Life (shipped and stored) at 40^0F to 100^0F (4.4^0C to 38^0C)	1 Years
Packaging 3 and 15 gal. (11.4 and 56.8 liters)	

Mechanical Properties at 77^0F (25^0C)	
Surface Preparation ICRI 310.2R Concrete Surface Profile (CSP 2 and above) Depending on System to be Installed and Condition of Concrete.	
Compressive Modulus of Elasticity, ASTM D695	48,000 psi
Tensile Strength, ASTM D412	3,200 psi
Tensile Elongation, ASTM D412	140%
Tear Resistance, ASTM D1004	320 psi
Adhesion, ASTM C1583, Concrete Failure	>400 psi
Hardness (Shore D), ASTM D2240	50 - 55
Water Absorption, ASTM D570	0.15%
Radiant Flux, ASTM E648	Class 1
Flammability, ASTM D635	Self-Extinguishing Bonded to Concrete
Abrasion Resistance, ASTM D4060 Resin & Hardener 1,000 cycles, Wheel No. CS17, 1000 gr. Load	0.03 gr.
Microbial (fungi) Resistance, ASTM G21 (Without the Anti-Microbial Agent)	Pass #1
Indentation Load, ASTM D2794 and MIL-D-3134, Para. 4.7.4.2.1, EPC, 7 Day Cure, Method: 1 in. diameter steel ram steadily applies a load of 2,000 lbs. for 30 min. on the test specimen that is placed on concrete.	0.04 in. indentation No Cracking or Disbonding
Indentation Impact, ASTM D2794 and MIL-D-3134, Para. 4.7.3 EPC, 7 Day Cure, Method 2 lb. steel ball is dropped twice from a height of 8 ft.	0.012 in. indentation No Cracking or Disbonding
Dynamic Coefficient of Friction, ASNI 326.3. Depends on texture of system selected, ranging from smooth to aggressive. BOT 3000E	>0.45(inclines) >0.42(level)

Moisture Vapor Emission Rate, ASTM F1869*	3 lbs.
Moisture Relative Humidity, ASTM F2170*	80% RH
*If moisture or relative humidity exceeds the limits consult the Armor Polymers representative.	

Note: Although testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or it is not functioning properly and/or concrete is contamination from oils, chemical spills, densifiers, excessive salts or other bond breakers.

CHEMICAL RESISTANCE DATA

See **Armor Polymers Technical Bulletin: No. 9 Chemical Resistance Guidelines and Chart.**

CHECK CONCRETE MOISTURE

Concrete must be dry before application of this floor coating material. Concrete moisture tests are required, either ASTM F1869 (calcium chloride) or ASTM F2170 (in situ RH probe). Refer to appropriate Technical Data Sheet limits.

CHECK TEMPERATURE and HUMIDITY

Floor and material temperature must be at or above the published Technical Data Sheet. Dew Point must be 5^0F (3^0F) or more below the surface temperature. Do not apply if humidity is at or above 85%. See **Armor Polymers Technical Bulletin: No. 7 Temperature and Relative Humidity Limits.**

SURFACE PREPARATION

Surface preparation in accordance with: ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair. The pH of the concrete substrate should be at 9 or above. All bond-breaking material must be removed. See **Armor Polymers Technical Bulletin: No. 1 Concrete Surface Preparation.**

APPLICATION EQUIPMENT

Depending on system applied: Disposable 3" brush for cutting in, variable low speed drill (450 rpm) with Jiffy® type impeller mixing paddle, 3/8 inch nap non-shedding phenolic core roller and frame, and V-notched rubber squeegee.

OPTIONAL ANTIMICROBIAL

The antimicrobial additive Silver® (sodium hydrogen zirconium phosphate) is a non-heavy metal biocide that can be added during the manufacturing process. (EPA Regulation Number 11631.2. and US Patent Number US 9,247,736 B2). The antimicrobial agent can be added to the top coat only for an economical application or it can be added to each step of the application, primer, body coat and top coat, which is recommended for abusive environments. See **Armor Polymers Technical Bulletin: No. 11 Understanding Silver® the Optional Antimicrobial Additive.**

MIXING

For ease of mixing and placement, the temperature of the "A" and "B" components should be between 70^0F to 80^0F (21^0C to 27^0C). Pre-mix the "A" and "B" component to insure all raw material and pigments are dispersed uniformly. Box pigmented products if using different numbers for uniformity of color. See **Armor Polymers Technical Bulleting: No. 10 Mixing Guidelines.**

APPLICATION

After mixing all contents as instructed, immediately pour all liquid material on to the properly prepared concrete substrate or next polyurea lift in ribbons and squeegee the material out evenly. Check for desired wet film thickness with a WFT Gauge. Back-roll and cross rolling of material is critical. If broadcasting aggregate, broadcast into the wet material. Place trowel mortar mix within installation sequence. Lock coat, grout coat or top coat. Place all steps per **Armor Polymers Installation Instruction.**

SKID-RESISTANCE

Skid-Resistance – Field (in situ) Wet Dynamic Coefficient of Friction (DCOF), ANSI A326.3. See **Armor Polymers Technical Bulletin: No. 4 Coefficient of Friction.**

SHELF LIFE

Shelf life is 1 year from the date of manufacturer, provide the containers are unopened.

TRANSPORTATION and STORAGE

All products should be properly shipped and stored above the floor on pallets or shelves, and in an area that has a constant minimum temperature of 50˚F (10˚C) and a maximum temperature of 90˚F (32˚C). Do NOT allow materials to freeze.

CLEAN-UP

Clean-up mixing station, tools and equipment as required. Use acetone, a VOC exempt solvent, for cleaning up. Observe all legal, and health and safety precautions when handling or storing solvents and materials, particularly in confined spaces. Make sure the working areas are well ventilated at all times during placement and curing time.

DISPOSAL

Dispose of empty packaging and other waste in accordance with federal, state, provinces and local regulations.

MAINTENANCE

Inspect the installed floor by spot cleaning and spot repairing the damaged or cracked areas. To prolong life of the flooring system, a daily maintenance program is highly recommended to ensure the floor is safe for its intended purposes. See **Armor Polymers Technical Bulletin: No. 8 Care and Maintenance.**

TECHNICAL SUPPORT

For questions, contact an Armor Polymers representative.

DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and tests. The accuracy and completeness of such tests are not guaranteed and are not to be construed as a warranty, expressed or implied. It is the responsibility of the user to document information and tests to determine the intent of the product for ones' own use. The application, job conditions and user assumes all risks and liability resulting from use of the product. We do not suggest or guarantee any hazards listed herein are the only ones, which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use the product. Recommendations or statements, whether in written or verbal, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and Armor Polymers makes no claim that these tests or any other tests accurately represent all environments. Not responsible for any typographical errors.

LIMITED WARRANTY

Armor Polymers warrants its products to be free of manufacturing defects and meets all Armor Polymers current published physical properties. Armor Polymers' sole responsibility shall be to replace the portion of any product proved to be defective. There are no other warranties by Armor Polymers of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Armor Polymers shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. Armor Polymers shall not be responsible for the use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee pertaining to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator will be issued. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. Armor Polymers reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. KEEP CONTAINERS TIGHTLY CLOSED.