



Atlas Minerals & Chemicals, Inc.



DATA SHEET

3-116PI (6-03²)
Supersedes 3-116PI (4-98)

REZKLAD® E-HP

DESCRIPTION

REZKLAD E-HP is a high performance trowel applied polymer floor system. It is formulated to be applied without a primer and does not require a topcoat sealer. REZKLAD E-HP will bond to damp concrete surfaces.

TYPICAL USES

REZKLAD E-HP is designed for the chemical exposure and operating conditions of the food processing, beverage, pharmaceutical and metal treatment industries. REZKLAD E-HP is ideal for production areas, chemical storage rooms, traffic aisles and containment areas exposed to organic acids, mild alkalies, solvents or high concentrations of inorganic acids. REZKLAD E-HP is an excellent product for new construction or upgrading existing floors in operating facilities. It can be applied at temperatures as low as 45°F (7°C) and over damp concrete surfaces.

REZKLAD E-HP has a dense, non-porous surface which does not support the growth of bacteria and is resistant to hot water wash downs. REZKLAD E-HP provides a strong, durable, wear and impact resistant floor well suited for areas subjected to pallets, forklifts and high frequency traffic. REZKLAD E-HP is certifiable for use in USDA. inspected facilities.

CHEMICAL RESISTANCE

REZKLAD E-HP is resistant to organic acids, including 10% acetic, 10% lactic and 10% citric, and organic solvents, such as toluene, xylene and benzene. It is also resistant to dilute alkalies and high concentrations of inorganic acids, including hydrochloric acid, phosphoric acid, 98% sulfuric acid, 30% nitric acid and 10% chromic acid. Refer to the chemical resistance chart for specific information.

AVAILABLE COLORS

Standard colors of REZKLAD E-HP are gray and red.

PACKAGING

REZKLAD E-HP

37 lb. (16.8 kg.) Unit Consisting of:

- One - 1/2-gal. can of Resin (4 lb. 12 oz. [2.2 kg.]
- One - 1-qt. can of Hardener (2 lb. [907 g.]
- One - bag of Powder (30 lb. 4 oz. [13.7 kg.]

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
Density	ASTM C905	132 lb./cu. ft. (2.11 g./cc.)
Bond Strength, 7 days @ 77°F (25°C)		Concrete fails
Tensile Strength, 7 days @ 77°F (25°C)	ASTM C307	2,200 psi. (15.2 MPa)
Compressive Strength, 7 days @ 77°F (25°C)	ASTM C579	15,000 psi. (103 MPa)
Flexural Strength, 7 days @ 77°F (25°C)	ASTM C580	4,200 psi. (29.0 MPa)
Flexural Modulus of Elasticity	ASTM C580	1.8 x 10 ⁶ psi. (12,400 MPa)
Coefficient of Thermal Exp., in./in./°F (cm./cm./°C)	ASTM C531	3.41 x 10 ⁻⁵ (6.14 x 10 ⁻⁵)
Water Absorption	ASTM C413	< 0.1%
Temperature Resistance Continual Intermittent		160°F (71°C) 212°F (100°C)
Linear Shrinkage	ASTM C531	< 0.1%
Hardness, Shore D		85-90
Abrasion Resistance, Taber CS-17 wh., 1 kg., 1,000 cyc.	ASTM C501	54 mg. weight loss
Flammability Extent of Burn	ASTM D635	Self-extinguishing 9 mm.
Impact Resistance, 1/4" (6.4 mm.) thick, unbonded	Gardner Tester	20 in. lb.
Heat Deflection Temperature	ASTM D648	123°F (51°C)

370 lb. 8 oz. (168.1 kg.) Unit Consisting of:

- One - 5-gal. pail of Resin (48 lb. [21.8 kg.]
- One - 5-gal. pail of Hardener (20 lb. [9.1 kg.]
- Ten - bags of Powder (30 lb. 4 oz. [13.7 kg.] ea.

TEMPERATURE DURING APPLICATION

Store REZKLAD E-HP at 70°F (21°C) to 80°F (27°C) for 24 hours prior to use. The best working characteristics of the materials will be attained when the temperature of the substrate, air and REZKLAD E-HP are between 65°F (18°C) and 85°F (29°C). Minimum temperature for installation is 45°F (7°C). At temperatures below 45°F (7°C), the product will not set or cure properly.

SURFACE PREPARATION

Mechanical grit blasting or acid washing are recommended methods for preparing the concrete surface. A finish similar to the profile of 100 to 120 grit sandpaper is suggested.

The substrate must be structurally sound, clean and free of all contaminants, such as sealers, curing compounds, coatings, oil, dirt and dust. Previously applied coatings or paint must be removed.

New concrete: The surface must be sufficiently cured to comply with specified concrete physical properties.

Damp concrete: The surface may be damp, but must be free of all standing water. Remove puddled or standing water by sweeping, squeegee, sponge or blowing off with compressed air.

ESTIMATING OF THE REZKLAD E-HP

Thickness	37 lb. (16.8 kg.) Unit	370 lb. 8 oz. (168.1 kg.) Unit
1/4"	13 sq. ft.	134 sq. ft.

MIXING OF THE REZKLAD E-HP

Installation temperatures between 45°F (7°C) and 65°F (18°C) may require a reduction in the amount of REZKLAD G Powder from 30 lb. 4 oz. (13.7 kg.) to a minimum of 22 lb. 11 oz. (22.7 kg.). This is a 25% reduction by volume.

Note: The amount of the powder may be varied slightly to obtain desired consistency. Decreasing the powder component will decrease the estimated unit coverage.

37 lb. (16.8 kg.) Unit:

Mixing of the components should be with a KOL type mixer with a 5-gallon capacity. The mixing speed should be between 60 and 75 RPM.

- Combine the contents of the 1/2-gallon can (4 lb. 12 oz. [2.2 kg.]) of REZKLAD E-HP Resin with the 1-quart can (2 lb. [907 g.]) of REZKLAD E-HP Hardener in the 5-gallon capacity mechanical mixer. Mix thoroughly for approximately two minutes.
- Slowly add the 30 lb. 4 oz. (13.7 kg.) bag of REZKLAD G Powder.
- Mix the combined components for approximately two minutes or until all the powder is thoroughly dispersed.

MIX RATIO CHART - REZKLAD E-HP

REZKLAD E-HP	Weight	Volume
REZKLAD E-HP Resin	4 lb. 12 oz. (2.2 kg.)	62 fl. oz. (1.8 liters)
REZKLAD E-HP Hardener	2 lb. (907 g.)	31 fl. oz. (0.92 liters)
REZKLAD G Powder	30 lb. 4 oz. (13.7 kg.)	30 lb. 4 oz. (13.7 kg.) bag
Batch Size	37 lb. (16.8 kg.)	0.28 cu. ft. (7.9 liters)

TYPICAL WORKING & SETTING TIMES OF THE REZKLAD E-HP

Temperature	Working Time	Support Foot Traffic
45°F (7°C)	35-40 minutes	24 hours
60°F (16°C)	30-35 minutes	16 hours
75°F (24°C)	20-30 minutes	12 hours
85°F (29°C)	15-20 minutes	8 hours

370 lb. 8 oz. (168.1 kg.) Unit:

Mixing of the components should be with a KOL type mixer with a 5-gallon capacity. The mixing speed should be between 60 and 75 RPM.

- Combine 62 fluid ounces (1.8 liters) of REZKLAD E-HP Resin and 31 fluid ounces (0.92 liters) REZKLAD E-HP Hardener in the 5-gallon capacity mechanical mixer. Mix thoroughly for approximately two minutes.
- Slowly add the 30 lb. 4 oz. (13.7 kg.) bag of REZKLAD G Powder.
- Mix the combined components for approximately two minutes or until all the powder is thoroughly dispersed.

APPLICATION OF THE REZKLAD E-HP

REZKLAD E-HP does not require a primer or a topcoat.

- Place freshly mixed REZKLAD E-HP on the prepared concrete.
- Screed the REZKLAD E-HP to approximately 1/4" (6.4 mm.) with a trowel, rake or screed bar.
- Compact and smooth the surface with a concrete finishing trowel.
- The concrete should be checked periodically to ensure that the REZKLAD E-HP is wetting out the surface. This is achieved by checking the concrete after scraping back some of the applied product. Concrete stained by the color of the product indicates proper wetting out of the substrate.

The resulting trowel surface cures to a dense resin-rich finish suitable for most operating conditions. Refer to the "Optional Surface Finishes" for variations of surface texture.

REZKLAD E-HP is designed for horizontal surfaces only, and is not intended for vertical application for cove base on walls.

OPTIONAL SURFACE FINISHES

The installation temperature of the REZKLAD E-HI BUILD 110 should be between 65°F (18°C) and 85°F (29°C).

SMOOTH: REZKLAD E-HI BUILD 110 can be applied to achieve a smoother, less textured surface.

SLIP-RESISTANT: More textured surfaces can be achieved by one of the following methods:

Light Finish:

- a. Within 5 to 10 minutes of finish trowelling, broadcast to excess ATLAS AGGREGATE No. 8 into the wet REZKLAD E-HP.
- b. When REZKLAD E-HP can support foot traffic, sweep or vacuum to remove unbonded aggregate.
- c. Apply a coat of REZKLAD E-HI BUILD 110 within 48 hours after application of the ATLAS AGGREGATE No. 8 using a short nap roller or squeegee.

Medium Finish: Do not apply REZKLAD E-HI BUILD 110 as described in Step (c.).

PACKAGING AND COVERAGE

REZKLAD E-HI BUILD 110

1-Gallon Unit (14 lb. 1 oz. [6.4 kg.]) Consisting of:

One - 1-gal. can of Resin (12 lb. [5.4 kg.]

One - 1-qt. can of Hardener (3 lb. 10 oz. [1.6 kg.]

Coverage: Approx. 500 sq. ft. (46.5 m²) if roller applied over REZKLAD E-HP; Approx. 170 sq. ft. (15.8 m²) if squeegee applied or approximately 145 sq. ft. (13.5 m²) if roller applied over REZKLAD E-HP with ATLAS AGGREGATE No. 8 broadcast to excess

5-Gallon Unit (70 lb. 5 oz. [31.9 kg.]) Consisting of:

One - 5-gal. pail of Resin (60 lb. [27.2 kg.]

Five - 1-qt. cans of Hardener (3 lb. 10 oz. [1.6 kg.]) ea.

Coverage: Approx. 2,500 sq. ft. (232 m²) if roller applied over REZKLAD E-HP; Approx. 850 sq. ft. (79.0 m²) if squeegee applied or approximately 725 sq. ft. (67.4 m²) if roller applied over REZKLAD E-HP with ATLAS AGGREGATE No. 8 broadcast to excess

ATLAS AGGREGATE No. 8

One - bag (100 lb. [45.4 kg.]

Coverage: Approx. 350 sq. ft. (32.5 m²) per bag broadcast to excess

MIXING OF THE REZKLAD E-HI BUILD 110

Mixing of the components should be done with a hand drill equipped with a "Jiffy" type mixer at a mixing speed between 300 and 500 RPM.

- a. Combine 12 lb. (5.4 kg.) or 126 fluid ounces (3.6 liters) of REZKLAD E-HI BUILD 110 Resin with 3 lb. 10 oz. (1.6 kg.) or 54 fluid ounces (1.6 liters) of REZKLAD E-HI BUILD 110 Hardener in the 5-gallon capacity mechanical mixer.
- b. Mix thoroughly for approximately two minutes.

CLEANING OF TOOLS AND EQUIPMENT

Steel wool, soap and warm water will remove the materials referred to in this Data Sheet from mixing tools and equipment if cleaning is done immediately after use. Solvents, such as methyl ethyl ketone, toluene or xylene, will have to be used after the material has begun to harden. Fully hardened material will have to be removed by mechanical

means. Dispose of residues and wastes in accordance with the directions in the Material Safety Data Sheets and government regulations.

STORAGE AND SHELF LIFE

Store all materials in a cool, dry environment. Keep all materials out of direct sunlight. Ideal storage temperature is 75°F (24°C). Protect from freezing. In unopened original containers, the materials referred to in this Data Sheet have a shelf life of approximately one year.

PRODUCT SPECIFICATION

The floor system shall be REZKLAD E-HP as manufactured by Atlas Minerals & Chemicals, Inc. and shall be certifiable for use in USDA inspected facilities. The flooring system shall be capable of being applied without a primer over damp concrete and not require a topcoat sealer. The floor system shall be resistant to organic acids, organic solvents and high concentrations of inorganic acids.

PRECAUTIONS

Contact with certain concentrated acids may cause the surface of REZKLAD E-HP to change color. This color change will not affect the chemical resistance. The materials referred to in this Data Sheet are for Industrial Use Only. They contain materials that present handling and potential health hazards. Consult Material Safety Data Sheets and the container labels for complete precautionary information.

TECHNICAL SERVICES

ATLAS maintains a staff of Technical Service Representatives who are available to assist you with the use of ATLAS products. In the event of difficulties with the application of ATLAS materials, the installation should be stopped immediately and ATLAS' Technical Service Department consulted for assistance.

WARRANTY

ATLAS warrants that its products will be free from defects in workmanship and materials under normal use for a period of one (1) year from the date of shipment by ATLAS (provided the products are installed before the expiration of the shelf life). THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR THE PURPOSE FOR THIS PRODUCT WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. ATLAS' LIABILITY FOR ALLEGED BREACH OF THIS WARRANTY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT (BUT NOT INCLUDING REMOVAL OF THE DEFECTIVE PRODUCT OR INSTALLATION OF REPLACEMENT PRODUCTS). ATLAS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES DURING THE WARRANTY PERIOD OR THEREAFTER. **ATLAS' WARRANTY IS VOIDED IF PAYMENT FOR PRODUCT IS NOT RECEIVED IN FULL.**

CHEMICAL RESISTANCE OF REZKLAD® E-HP (3-116PI)

Acetic Acid, to 5%	E
Acetic Acid, 5% to 10%	F
Acetic Acid, above 10%	N
Acetone	C
Alum or Aluminum Sulfate	E
Ammonium Chloride, Nitrate, Sulfate	E
Ammonium Hydroxide, to 10%	E
Ammonium Hydroxide, 10% to 30%	G
Aniline	N
Animal Oils	C
Bakery Products	E
Barium Chloride, Sulfate	E
Beer	E
Benzene	C
Benzene Sulfonic Acid, 10%	G
Benzoic Acid	E
Black Liquor	E
Boric Acid	E
Bromine Water	N
Butter	G
Butyl Acetate	G
Butyl Alcohol	G
Butyric Acid	F
Calcium Chloride, Nitrate, Sulfate	E
Calcium Hydroxide	E
Calcium Hypochlorite	E
Carbonated Water	E
Casein	G
Cheese, all	G
Chlorine, Dry	F
Chlorine, Wet	F
Chlorine Water	E
Chloroacetic Acid, to 10%	C
Chloroform	N
Chromic Acid, to 10%	G
Chromic Acid, above 10%	C
Cider	F
Citric Acid, to 10%	G
Citrus Fruits	G
Coffee	E
Copper Chloride, Nitrate, Sulfate	E
Corn Oil	G
Corn Syrup	G
Egg Yolk	E
Ethyl Acetate	F
Ethyl Alcohol	E
Ethyl Ether	F
Ethylene Dichloride	N
Ethylene Glycol	G
Fatty Acids	G
Ferric Chloride, Nitrate, Sulfate	G
Fluosilicic Acid	C
Formaldehyde	E
Formic Acid, 10%	F
Fruit Extracts	G
Fruit Juices	G
Gasoline	E
Glucose	F
Glycerine	G
Grape Juice	G
Horse Radish	E
Hydrobromic Acid, to 20%	G
Hydrochloric Acid, to 20%	E
Hydrochloric Acid, 20% to 37%	F
Hydrofluoric Acid, to 20%	C
Hydrofluoric Acid, 20% to 70%	N
Hydrofluosilicic Acid	C
Hydrogen Peroxide	G
Hypochlorous Acid, to 5%	F
Ice Cream	E
Jams & Jellies	F
Jet Fuel	E
Kerosene	E
Ketchup	G
Lactic Acid, to 5%	E
Lactic Acid, 5% to 10%	G
Lactic Acid, above 10%	F
Lard	E
Linseed Oil	F
Lux Liquid	E
Magnesium Chloride, Nitrate, Sulfate	E
Magnesium Hydroxide	E
Maleic Acid, 25%	F
Malt	G
Malt Liquors	G
Margarine	C
Methyl Alcohol	E
Methyl Ethyl Ketone	C
Methylene Chloride	N
Milk	E
Mineral Oil	E
Mineral Spirits	E
Molasses	F
Muriatic Acid	E
Mustard	G
Nickel Chloride, Nitrate, Sulfate	E
Nitric Acid, to 10%	E
Nitric Acid, 10% to 20%	G
Nitric Acid, 20% to 30%	C
Nitric Acid, above 30%	N
Oleic Acid	E
Olive Oil	E
Oxalic Acid	G
Pectin	E
Perchloroethylene	C
Petroleum	E
Phenol, to 5%	C
Phosphoric Acid, to 50%	E
Phosphoric Acid, above 50%	G
Pickles	E
Picric Acid, to 5%	E
Potassium Bicarbonate, Carbonate	E
Potassium Chloride, Nitrate, Sulfate	E
Potassium Hydroxide, to 25%	E
Potassium Hydroxide, 25% to 50%	F
Salad Oils	E
Salicylic Acid	G
Shortening	E
Silver Nitrate	G
Skydrol	G
Smokehouse Residues	F
Sodium Bicarbonate, Carbonate	E
Sodium Bisulfate, Sulfate	E
Sodium Chloride, Nitrate, Phosphate	E
Sodium Hydroxide, to 25%	E
Sodium Hydroxide, 25% to 50%	F
Sodium Hypochlorite	E
Sodium Sulfide, Sulfite	G
Sodium Thiosulfate	E
Soft Drink Concentrates	C
Soft Drinks	E
Soups	E
Soya Oil	C
Stearic Acid	E
Sugar, Saturated Solution	E
Sulfuric Acid, to 80%	E
Sulfuric Acid, 80% to 93%	G
Sulfuric Acid, 93% to 98%	F
Sulfurous Acid	E
Syrup	C
Tannic Acid	G
Tartaric Acid	G
Tea	E
Toluene	E
Toluene Sulfonic Acid, 10%	G
Tomato Juice	G
Trichloroethylene	C
Trisodium Phosphate	G
Tung Oil	F
Turpentine	G
Urea	E
Urine	G
Vegetable Oil	E
Vinegar	E
Water, Distilled	E
Water, Fresh	E
Water and Sewage	G
Wine	G
Xylene	E
Yeast	E
Zinc Chloride, Nitrate, Sulfate	E
(6-03 ²)	

KEY

- E - Excellent
- G - Good
- F - Fair
- N - Not Recommended
- C - Conditional; May be serviceable if the contaminant is immediately removed or washed off the surface.

Note - The information presented in the chemical resistance tables is based on judgments derived from laboratory testing and field service performance. The tables have been prepared as a guide to performance. No guarantee of results is made or implied and no liability in connection with this information is assumed. In actual service, floors and walls protected with REZKLAD E-HP are subjected to splash and spillage, as well as dilution effects of wash water, mixing with other solutions, wetting and drying cycles, temperature cycling and cleaning procedures. Contact with certain concentrated acids may cause the surface of REZKLAD E-HP to change color. This color change will not affect the chemical resistance. For immersion service, contact ATLAS for recommendation. The information presented herein should be supplemented by in-service testing. The data furnished in the tables may be revised on the basis of further testing.