Atlas Minerals & Chemicals, Inc.

DATA SHEET

7-604PI (3-02)
Supersedes 7-604PI (8-01)

REZKLAD E-HI BUILD 110

DESCRIPTION
REZKLAD E-HI BUILD 110 is a high performance novolac epoxy coating for floors and walls. The durable coating is designed for application to concrete and carbon steel substrates. REZKLAD E-HI BUILD 110 is roller, squeegee or brush applied at thicknesses of 5 mils (0.13 mm.) to 15 mils (0.38 mm.) per coat.

TYPICAL USES
REZKLAD E-HI BUILD 110 is an easy-to-apply, self-leveling coating based on novolac epoxy resins and specialty hardeners chosen to yield outstanding chemical resistance. The properties of REZKLAD E-HI BUILD 110 make it ideal for use as a coating for dikes around chemical storage tanks and as a floor coating system in light to medium traffic areas in chemical process facilities, laboratories, metal processing operations and in certain parts of food and beverage processing plants. REZKLAD E-HI BUILD 110 is certifiable for use in USDA inspected facilities.

CHEMICAL RESISTANCE
REZKLAD E-HI BUILD 110 is resistant to organic solvents, such as acetone, benzene, toluene, xylene, methanol, butanol, methyl ethyl ketone and 1,1,1-trichloroethane. It is also resistant to splashes and spills of highly corrosive materials, such as 98% sulfuric acid, 30% nitric acid and 20% chromic acid, as well as oxidizing agents, such as hydrogen peroxide and sodium hypochlorite. Refer to the chemical resistance chart for specific information. Typical of novolac epoxy systems, contact with certain concentrated acids and water wash downs may cause the surface of the REZKLAD E-HI BUILD 110 to change color. This color change will not affect the chemical resistance.
Note: ATLAS chemical resistance data is derived from testing in total immersion service.

METHOD OF INSTALLATION
REZKLAD E-HI BUILD 110 is designed to be applied with a roller, squeegee or brush over concrete or carbon steel substrates. REZKLAD E-HI BUILD 110 is typically applied from 10 mils (0.25 mm.) to 15 mils (0.38 mm.) per coat on horizontal surfaces and 5 mils (0.13 mm.) to 10 mils (0.25 mm.) on vertical surfaces. Slip resistant floor finishes are achieved by broadcasting ATLAS AGGREGATE into the wet basecoat and sealed with a second coat of REZKLAD E-HI BUILD 110.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
% Solids	ATM No. 14	90-92
Temperature Resistance, as a Coating over Concrete* Continual Intermittent		 140°F (60°C) 200°F (93°C)
Abrasion Resistance, Taber CS-17 wh., 1 kg., 1,000 cyc. Smooth Finish Broadcast to Excess	ASTM C501	 150 85
Hardness, Shore D-2	ASTM D2240	80-85

*When applied over an epoxy monolithic floor topping, temperature resistance may vary.

AVAILABLE COLORS
Standard colors of REZKLAD E-HI BUILD 110 are gray, red and tan. Custom colors are available upon request.

PACKAGING AND COVERAGE
REZKLAD E-CONCRETE PRIMER
1/2-Gallon Unit (3 lb. 7 oz. [1.6 kg.]) Consisting of:
One - 1/2-gal. can of Resin (2 lb. 8 oz. [1.1 kg.])
One - 1-pt. can of Hardener (15 oz. [425 g.])
Coverage: Approx. 100 sq. ft. (9.3 m^2) per unit

1-1/2-Gal. Unit (12 lb. 2 oz. [5.5 kg.]) Consisting of:
One - 1-gal. can of Resin (9 lb. [4.1 kg.])
One - 1/2-gal. can of Hardener (3 lb. 2 oz. [1.4 kg.])
Coverage: Approx. 350 sq. ft. (32.5 m^2) per unit

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 (2 lb. 1 oz. [936 g.])

6-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 (2 lb. 1 oz. [936 g.]) ea.

COVERAGE OF THE REZKLAD E-HI BUILD 110

Unit Size	5 mils	10 mils	Over Aggregate
1-Gallon	390 sq. ft.	195 sq. ft.	150 sq. ft.
6-Gallon	1,950 sq. ft.	975 sq. ft.	750 sq. ft.

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ATLAS AGGREGATE No. 8 (Fine Finish)
One - bag (100 lb. [45.4 kg.])
Coverage broadcast to excess: Approx. 500 sq. ft. (46.5 m^2) per bag
Coverage light broadcast: Approx. 2,000 sq. ft. (186 m^2) per bag

ATLAS AGGREGATE No. 2 (Coarse Finish)
One - bag (100 lb. [45.4 kg.])
Coverage broadcast to excess: Approx. 500 sq. ft. (46.5 m^2) per bag
Coverage light broadcast: Approx. 2,000 sq. ft. (186 m^2) per bag

SURFACE PREPARATION
REZKLAD E-HI BUILD 110 can be applied to concrete and metal surfaces. The substrate must be structurally sound, clean, dry and free of all contaminants, such as sealers, curing compounds, coatings, oil, dirt, dust and water. Previously applied coatings or paint must be removed.
Concrete: Finished concrete must be free of ridges, protrusions, fins, mortar splatter and have a tight laitance-free steel trowel finish. Abrasive grit blasting is recommended. Where impractical, chemical preparation by acid washing is acceptable. A finish similar to the profile of 100 to 120 grit sandpaper is suggested.
Metals: Metal surfaces should be grit blasted to a NACE #1 white metal blast cleaned surface finish. When grit blasting is not practical, clean by wire brushing or with abrasive paper and wash with degreasing solvent such as xylene.
For additional information, refer to Surface Preparation, Data Sheet PS-30.

TEMPERATURE DURING APPLICATION
Store REZKLAD E-HI BUILD 110 and REZKLAD E-CONCRETE PRIMER 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, REZKLAD E-HI BUILD 110 and REZKLAD E-CONCRETE PRIMER are between 65°F (18°C) and 85°F (29°C).
Minimum temperature for installation is 65°F (18°C). At temperatures below 65°F (18°C), the product may not set or cure properly.
Do not apply when relative humidity is greater than 75% or on substrates that can flex.

TYPICAL WORKING & DRYING TIMES OF THE REZKLAD E-CONCRETE PRIMER

Temperature	Working Time	Minimum Drying Time	Maximum Drying Time
65°F (18°C)	35 min.	12 hours	48 hours
75°F (24°C)	25 min.	8 hours	48 hours
85°F (29°C)	15 min.	6 hours	24 hours

REZKLAD E-CONCRETE PRIMER
REZKLAD E-CONCRETE PRIMER is not required if the REZKLAD E-HI BUILD 110 is to be applied to properly prepared new and cured concrete substrates or grit blasted carbon steel substrates as described in Surface Preparation, Data Sheet PS-30. REZKLAD E-CONCRETE PRIMER must be applied to all other conditions of concrete substrates after proper surface preparation.

MIXING AND APPLICATION OF THE REZKLAD E-CONCRETE PRIMER
Stir the contents of the individual resin and hardener containers prior to blending. 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. During mixing, move the mixing blade in circular and up and down motions scraping all sides and the bottom of the mixing container.
a. Combine the contents of the cans of REZKLAD E-CONCRETE PRIMER Resin and Hardener in a suitable mixing container. Mix thoroughly for one minute.
b. Apply REZKLAD E-CONCRETE PRIMER with a brush or short nap roller making sure to work it into the pores of the concrete. Do not allow puddling.
c. The primed surface should be tacky or dry before applying REZKLAD E-HI BUILD 110. If the primer is allowed to dry for longer than the maximum drying time, the surface must be sanded and the area reprimed before proceeding.

MIXING OF THE REZKLAD E-HI BUILD 110
Stir the contents of the individual resin and hardener containers prior to blending. Mixing of the components should be done by hand with a paint stirrer or with a hand drill equipped with a “Jiffy” type mixer at a mixing speed between 300 and 500 RPM. During mixing, move the mixing blade in circular and up and down motions scraping all sides and the bottom of the mixing container.

MIX RATIO CHART - REZKLAD E-CONCRETE PRIMER

REZKLAD E-CONCRETE PRIMER	Weight	Volume
REZKLAD E-CONCRETE PRIMER Resin	2 lb. 8 oz. (1.1 kg.)	34.6 fl. oz. (1.0 liters)
REZKLAD E-CONCRETE PRIMER Hardener	15 oz. (425 g.)	13.7 fl. oz. (0.41 liters)
Batch Size	3 lb. 7 oz. (1.6 kg.)	48.3 fl. oz. (1.4 liters)

TYPICAL WORKING & DRYING TIMES OF THE REZKLAD E-HI BUILD 110

Temperature	Working Time	Support Foot Traffic	Maximum Drying Time*
65°F (18°C)	40 min.	18 hours	48 hours
75°F (24°C)	30 min.	10 hours	36 hours
85°F (29°C)	20 min.	8 hours	24 hours

*Maximum Drying Time listed is for drying time between recoats

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

a. Combine the contents of the 1-gallon can (12 lb. [5.4 kg.]) of REZKLAD E-HI BUILD 110 Resin with the 1-quart can (2 lb. 1 oz. [936 g.]) of REZKLAD E-HI BUILD 110 Hardener in a clean, dry plastic or metal container.
b. Mix thoroughly for approximately two minutes.

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

The following mixing instructions are for a batch size of 1.2 gallons (4.6 liters) or 14 lb. 1 oz. (6.4 kg.). Proportionally increase or decrease component quantities to attain larger or smaller batch sizes.

a. Combine 126 fluid ounces (3.7 liters) of REZKLAD E-HI BUILD 110 Resin with 31 fluid ounces (0.9 liters) REZKLAD E-HI BUILD 110 Hardener in a suitable mixing container.
b. Mix thoroughly for two minutes as described above.

MIX RATIO OF THE REZKLAD E-HI BUILD 110

	by Weight	by Volume
Rezklad E-Hi Build 110 Resin	100	100
Rezklad E-Hi Build 110 Hardener	17	25

APPLICATION OF THE REZKLAD E-HI BUILD 110

REZKLAD E-CONCRETE PRIMER is not required if the REZKLAD E-HI BUILD 110 is to be applied to properly prepared new and cured concrete substrates or grit blasted carbon steel substrates as described in Surface Preparation, Data Sheet PS-30. REZKLAD E-CONCRETE PRIMER must be applied to all other conditions of concrete substrates after proper surface preparation.

Apply a topcoat or slip resistant surface of REZKLAD E-HI BUILD 110 within 48 hours of the application of the epoxy monolithic floor topping. If REZKLAD E-HI BUILD 110 is to be applied over the epoxy monolithic floor topping that has been installed for more than 48 hours, the topping surface must first be sanded, cleaned and primed with REZKLAD E-CONCRETE PRIMER. Apply the primer as described in "Mixing and Application of the REZKLAD E-CONCRETE PRIMER".

Topcoat over an Epoxy Monolithic Floor Topping*:

a. Apply a 5 mil (13 mm.) coat of REZKLAD E-HI BUILD 110. Spread with a flat rubber squeegee or the edge of a steel trowel.
b. Immediately back roll with a short nap roller.
c. Fill any pinholes or other defects with a second application of REZKLAD E-HI BUILD 110.

Slip Resistant Surface over an Epoxy Monolithic Floor Topping*:

a. Apply a 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a medium nap roller.
b. Within 10 minutes, broadcast ATLAS AGGREGATE into the wet REZKLAD E-HI BUILD 110. The aggregate can be broadcast in a range from light to excess. The amount of aggregate and size of aggregate will determine the finished texture.
c. After the REZKLAD E-HI BUILD 110 can support foot traffic, vacuum or sweep to remove any unbonded aggregate.
d. Apply a second 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a flat rubber squeegee or short nap roller.

Smooth Coating (no aggregate) over Concrete or Steel*:

a. Determine substrate conditions. If recommended, apply REZKLAD E-CONCRETE PRIMER with a short nap roller as described in "Mixing and Application of the REZKLAD E-CONCRETE PRIMER".
b. Apply a 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a medium nap roller.
c. After REZKLAD E-HI BUILD 110 can support foot traffic, apply a second 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a flat rubber squeegee or short nap roller.

Slip Resistant Coating over Concrete or Steel*:

a. Determine substrate conditions. If recommended, apply REZKLAD E-CONCRETE PRIMER with a short nap roller as described in "Mixing and Application of the REZKLAD E-CONCRETE PRIMER".

MIX RATIO CHART - REZKLAD E-HI BUILD 110

REZKLAD E-HI BUILD 110	Weight	Volume
REZKLAD E-HI BUILD 110 Resin	12 lb. (5.4 kg.)	126 fl. oz. (3.7 liters)
REZKLAD E-HI BUILD 110 Hardener	2 lb. 1 oz. (936 g.)	31 fl. oz. (0.9 liters)
Batch Size	14 lb. 1 oz. (6.4 kg.)	157 fl. oz. (4.6 liters)

b. Apply a 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a medium nap roller.
c. Within 10 minutes, broadcast ATLAS AGGREGATE into the wet REZKLAD E-HI BUILD 110. The aggregate can be broadcast in a range from light to excess. The amount of aggregate and size of aggregate will determine the finished texture.
d. After the REZKLAD E-HI BUILD 110 can support foot traffic, vacuum or sweep to remove any unbonded aggregate.
e. Apply a second 10 mil (0.25 mm.) to 15 mil (0.38 mm.) coat of REZKLAD E-HI BUILD 110 with a flat rubber squeegee or short nap roller.

***Note:** If REZKLAD E-CONCRETE PRIMER or REZKLAD E-HI BUILD 110 are allowed to dry for longer than the maximum drying time, the surface must be sanded and cleaned before proceeding to the next step.

OPTIONAL SURFACE FINISHES

SMOOTH: If a smoother, less textured surface is required, apply additional coats of REZKLAD E-HI BUILD 110 with a short nap roller until desired finish is attained.

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 system shall be REZKLAD E-HI BUILD 110 as manufactured by Atlas Minerals & Chemicals, Inc. The manufacturer shall be ISO 9001 registered for the manufacture and sale of corrosion resistant products.

PRECAUTIONS

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-HI BUILD 110 (7-604PI)

Acetic Acid, to 10%	E
Acetic Acid, 10% to 50%	C
Acetone	G
Alum or Aluminum Sulfate	E
Ammonium Chloride, Nitrate, Sulfate	E
Ammonium Hydroxide, to 30%	E
Aniline	C
Animal Oils	C
Bakery Products	C
Barium Chloride, Sulfate	E
Beer	E
Benzene	E
Benzene Sulfonic Acid, 10%	E
Benzoic Acid	E
Black Liquor	E
Boric Acid	E
Bromine Water	C
Butter	C
Butyl Acetate	E
Butyl Alcohol	E
Butyric Acid	C
Calcium Chloride, Nitrate, Sulfate	E
Calcium Hydroxide	E
Calcium Hypochlorite	F
Carbonated Water	E
Casein	G
Cheese, all	G
Chlorine, Dry	F
Chlorine, Wet	C
Chlorine Water	E
Chloroacetic Acid, to 10%	C
Chloroform	C
Chromic Acid, to 20%	E
Cider	F
Citric Acid, to 10%	E
Citrus Fruits	F
Coffee	E
Copper Chloride, Nitrate, Sulfate	E
Corn Oil	C
Corn Syrup	C
Egg Yolk	E
Ethyl Acetate	F
Ethyl Alcohol	E
Ethyl Ether	E
Ethylene Dichloride	C
Ethylene Glycol	E
Fatty Acids	C
Ferric Chloride, Nitrate, Sulfate	E

Fluosilicic Acid	C
Formaldehyde	G
Formic Acid, 10%	F
Fruit Extracts	F
Fruit Juices	F
Gasoline	E
Glucose	F
Glycerine	G
Grape Juice	F
Horse Radish	F
Hydrobromic Acid, to 20%	E
Hydrochloric Acid, to 37%	E
Hydrofluoric Acid, to 20%	C
Hydrofluoric Acid, 20% to 70%	N
Hydrofluosilicic Acid	C
Hydrogen Peroxide	G
Hypochlorous Acid, to 5%	E
Ice Cream	E
Jams & Jellies	F
Jet Fuel	E
Kerosene	E
Ketchup	F
Lactic Acid, to 10%	E
Lactic Acid, above 10%	F
Lard	C
Linseed Oil	F
Lux Liquid	E
Magnesium Chloride, Nitrate, Sulfate	E
Magnesium Hydroxide	E
Maleic Acid, 25%	C
Malt	F
Malt Liquors	F
Margarine	C
Methyl Alcohol	G
Methyl Ethyl Ketone	G
Methylene Chloride	N
Milk	E
Mineral Oil	E
Mineral Spirits	E
Molasses	F
Muriatic Acid	E
Mustard	F
Nickel Chloride, Nitrate, Sulfate	E
Nitric Acid, to 30%	E
Oleic Acid	C
Olive Oil	C
Oxalic Acid	G
Pectin	E

Perchloroethylene	E
Petroleum	E
Phenol, to 5%	C
Phosphoric Acid, to 25%	E
Phosphoric Acid, above 25%	G
Pickles	E
Picric Acid, to 5%	E
Potassium Bicarbonate, Carbonate	E
Potassium Chloride, Nitrate, Sulfate	E
Potassium Hydroxide, to 50%	E
Salad Oils	C
Salicylic Acid	G
Shortening	C
Silver Nitrate	E
Skydrol	E
Smokehouse Residues	F
Sodium Bicarbonate, Carbonate	E
Sodium Bisulfate, Sulfate	E
Sodium Chloride, Nitrate, Phosphate	E
Sodium Hydroxide, to 50%	E
Sodium Hypochlorite	G
Sodium Sulfide, Sulfite	E
Sodium Thiosulfate	E
Soft Drink Concentrates	F
Soft Drinks	G
Soups	E
Soya Oil	C
Stearic Acid	F
Sugar, Saturated Solution	F
Sulfuric Acid, to 80%	E
Sulfuric Acid, to 98%	G
Sulfurous Acid	E
Syrup	F
Tannic Acid	F
Tartaric Acid	F
Tea	E
Toluene	E
Toluene Sulfonic Acid	G
Tomato Juice	F
1,1,1-Trichloroethane	E
Trichloroethylene	G
Trisodium Phosphate	E
Tung Oil	C
Turpentine	G
Urea	E
Urine	E
Vegetable Oil	C
Vinegar	E

Water, Distilled	E
Water, Fresh	E
Water and Sewage	G
Wine	E
Xylene	E
Yeast	C
Zinc Chloride, Nitrate, Sulfate	E

(3-02)

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 in total immersion service.

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-HI BUILD 110 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-HI BUILD 110 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.