



Atlas Minerals & Chemicals, Inc.



# DATA SHEET

4-05PI (8-00<sup>2</sup>)

Supersedes 4-05PI (1-98)

## UREKLAD® CT-80

### DESCRIPTION AND TYPICAL USES

UREKLAD CT-80 is a polyurethane elastomer liquid coating and membrane system for protection of steel and concrete. When used as a membrane in tanks or sumps, brick must be used to protect the membrane from high heat or physical abuse. When used as a membrane for floors, it may be covered with brick or tile. UREKLAD CT-80 is a two component material. Mixed and applied as a liquid, it cures by chemical reaction to form an elastomeric sheet. Multiple applications of UREKLAD CT-80 are necessary to ensure a minimum 80 mils thickness for use as a membrane for brick / paver flooring installations and 120 mils for immersion service. UREKLAD CT-80 is certifiable for use in USDA inspected facilities.

### CHEMICAL RESISTANCE

UREKLAD CT-80 is formulated to withstand corrosive attack and abrasion, making it ideal for use as a tank lining for abrasive slurries. UREKLAD CT-80 is not recommended for outdoor exposure since it is not a UV stabilized system. Refer to the chemical resistance chart for specific information.

### PACKAGING AND COVERAGE

#### UREKLAD PRIMER

##### 1-Quart Unit (2 lb. 10 oz. [1.2 kg.]) Consisting of:

One - 1-qt. can of Component A (1 lb. 15 oz. [879 g.])

One - 1-pt. can of Component B (11 oz. [312 g.])

Coverage: Approx. 96 sq. ft. (8.9 m<sup>2</sup>) per unit

##### 1-1/2-Gal. Unit (10 lb. 10 oz. [4.8 kg.]) Consisting of:

One - 1-gal. can of Component A (7 lb. 14 oz. [3.6 kg.])

One - 1/2-gal. can of Component B (2 lb. 12 oz. [1.2 kg.])

Coverage: Approx. 400 sq. ft. (37.2 m<sup>2</sup>) per unit

#### UREKLAD LOW ODOR PRIMER

##### Consists of:

One - 5-gal. pail of UREKLAD 180 Component A (22 lb. 14 oz. [10.4 kg.])

One - 1-gal. can of UREKLAD 180 Component B (9 lb. 3 oz. [4.2 kg.])

33 lb. (15.0 kg.) ATLAS® AGGREGATE No. 5\* (equal to three one-gallon cans)

Coverage: Approx. 475 sq. ft. (44.2 m<sup>2</sup>) per unit

\*Order separately in 100 lb. (45.4 kg.) bags

## PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
Density	ASTM C905	66 lb./cu. ft. (1.06 g./cc.)
Tensile Strength, 7 days @ 77°F (25°C)	ASTM D638	950 psi. (6.55 MPa)
Temperature Resistance Continual Intermittent		160°F (71°C) 180°F (82°C)
Hardness, Shore A		90-95
Abrasion Resistance, Taber CS-17 wh., 1 kg., 1,000 cyc.	ASTM C501	40 mg. weight loss
Elongation	ASTM D638	75%

### UREKLAD CT-80

#### 5-Gal. Unit (33 lb. 4 oz. [15.1 kg.]) Consisting of:

One - 5-gal. pail of Component A (23 lb. 12 oz. [10.8 kg.])

One - 1-gal. can of Component B (9 lb. 8 oz. [4.3 kg.])

Coverage: Approx. 600 sq. ft. (55.8 m<sup>2</sup>) per unit @ 10 mils; Approx. 150 sq. ft. (14.0 m<sup>2</sup>) per unit @ 40 mils

### ATLAS AGGREGATE No. 5

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

Coverage: Approx. 1,350 sq. ft. (125 m<sup>2</sup>) per bag when used in UREKLAD LOW ODOR PRIMER

### ATLAS AGGREGATE No. 8

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

Coverage: Approx. 1,000 sq. ft. (92.9 m<sup>2</sup>) per bag when used in UREKLAD PRIMER when topping membrane with brick or tile

### UREKLAD CLEANING SOLVENT

1-gal. can (6 lb. 8 oz. [2.9 kg.])

5-gal. pail (32 lb. 8 oz. [14.7 kg.])

### UREKLAD REINFORCING MAT

12-15 mils polyester fabric sheet (39" [1 m.] wide roll)

Coverage: Approx. 1.1 sq. ft. (0.1 m<sup>2</sup>) per sq. ft. per layer

### SURFACE PREPARATION

Abrasive grit blasting is required for preparing concrete and steel surfaces. Be sure to follow equipment manufacturer's safety precautions and regulations regarding silica dust in the atmosphere. Concrete surfaces must be prepared to achieve profiles as described and depicted in the American Concrete

Institute (ACI) 303 R-24 for brush, light, medium and heavy grit blast finish as specified for the specific installation. Steel surfaces must be grit blasted to achieve Steel Structures Painting Council SP-5 or NACE #1 white metal blast cleaned surface finish. Profile height must be 2 mils to 3 mils. The substrate must be structurally sound, clean and dry. For additional information, refer to Surface Preparation, Data Sheet PS-30.

Substrate, ambient and material temperature during application must be between 65°F (18°C) and 85°F (29°C). Do not apply when relative humidity is greater than 75%.

#### MIXING AND APPLICATION OF THE PRIMERS

All substrates must be primed with either UREKLAD PRIMER or UREKLAD LOW ODOR PRIMER.

#### UREKLAD PRIMER

Combine UREKLAD PRIMER Components A and B and stir thoroughly for one minute using a “Jiffy” mixer. Apply UREKLAD PRIMER with a brush or short nap roller in thin coats. Avoid pooling. If pooling occurs, redistribute or remove excess material. Surface areas where UREKLAD PRIMER has been completely absorbed, leaving a dull finish, must receive a second coat. UREKLAD PRIMER has a working life of approximately four hours at 77°F (25°C). The drying time between coats or before application of UREKLAD CT-80 depends upon temperature. Refer to the “Typical Drying Times” chart. The maximum drying time between applications must not exceed 24 hours. If 24 hours is exceeded, sand to abrade the surface, remove dust and solvent wipe with UREKLAD CLEANING SOLVENT before repriming.

#### TYPICAL DRYING TIMES OF THE UREKLAD PRIMER

Air/Substrate Temperature	Drying Time
65°F (18°C)	3 hours
77°F (25°C)	2 hours
95°F (35°C)	1 hour

#### UREKLAD LOW ODOR PRIMER

UREKLAD LOW ODOR PRIMER consists of UREKLAD 180 Component A and Component B and ATLAS AGGREGATE No. 5. Stir components before removal of materials for mixing. Combine Components A and B and mix until uniform at least two minutes using a hand drill (300 to 500 RPM) fitted with a “Jiffy” mixer. Lead the mixer along the sides and bottom of the can to ensure thorough mixing of the contents. Pour the mixture into a second mixing container scraping the sides and bottom of the first container to completely remove contents. Continue mixing while adding three 1-gallon cans, 33 lb. (15.0 kg.), of ATLAS

AGGREGATE No. 5. Mix until uniform, approximately two minutes. Pour the mixed material onto the surface and apply a tight scrape coat using the edge of a steel trowel. UREKLAD LOW ODOR PRIMER has a working life of 30 to 40 minutes at 77°F (25°C). Refer to the “Typical Drying Times” chart. The maximum drying time between applications must not exceed 24 hours. If 24 hours is exceeded, sand to abrade the surface, remove dust and solvent wipe with UREKLAD CLEANING SOLVENT before proceeding with application of UREKLAD CT-80.

#### TYPICAL DRYING TIMES OF THE UREKLAD LOW ODOR PRIMER

Air/Substrate Temperature	Drying Time
65°F (18°C)	12 hours
77°F (25°C)	5 hours
95°F (35°C)	3 hours

#### MIXING & APPLICATION OF THE UREKLAD CT-80

Mixing and application must be performed in a dry atmosphere. When installing at temperatures between 60°F (16°C) and 85°F (29°C), the materials should be stored at 68°F (20°C) and 78°F (25°C) for 48 hours prior to use. Stir components before using. Pour the entire contents of the Component B container into the Component A container. Mix for two minutes using a hand drill (300 to 500 RPM) equipped with a “Jiffy” mixer or Indco, Inc. General Purpose mixer, Cat. No. GPM342. For mixing in 5-gallon containers, use Cat. No. GPM311. Lead the mixer along the sides and bottom of the container, scraping sides and bottom to ensure mixing of the contents. Pour the mixture into another pail, scraping sides and bottom to remove contents. **Stir again before** installing the material. When using less than full units, mix 2.5 parts UREKLAD CT-80 Component A to one part UREKLAD CT-80 Component B, by weight. Begin applying UREKLAD CT-80 after the primer has dried and within 24 hours of application of the primer. Apply using a roller or notched trowel. For horizontal applications, do not exceed 40 mils per coat and apply a minimum of two coats. For vertical applications, UREKLAD REINFORCING MAT is required. Apply one coat of UREKLAD CT-80 onto the primed surface (10 mils to 15 mils). Place precut mat into the wet UREKLAD CT-80 using a clean short nap roller to ensure even wetting of the cloth. Adjoining sheets must overlap a minimum of two inches. Allow to set at least six hours before applying the next layer of UREKLAD CT-80 and UREKLAD REINFORCING MAT. Each layer will be approximately 30 mils. Apply the number of layers necessary to achieve specified thickness. The final coat of UREKLAD CT-80 is applied without a mat layer and has a dry film thickness of approximately 10 mils. Time

## TYPICAL WORKING & SETTING TIMES OF THE UREKLAD CT-80

Temperature	Working Time	Vertical Setting Time	Horizontal Setting Time
77°F (25°C)	30-40 min.	6 hours	12 hours
85°F (29°C)	12 min.	3 hours	5 hours

between coats must not exceed 24 hours. If 24 hours is exceeded, sand the surface, vacuum and solvent wipe with UREKLAD CLEANING SOLVENT before recoating. Full chemical resistance is achieved after seven days at 77°F (25°C).

### TESTING

**On Steel:** Spark test at 4,000 volts per 40 mils (1 mm.) thickness. 1/8" (3.2 mm.) membrane should be tested at a maximum of 12,500 volts.

**On Concrete:** If spark testing is required on concrete, UREKLAD ST PRIMER must be used as the primer.

### TOPPING UREKLAD CT-80 WITH BRICK OR TILE

When brick or tile sheathing is to be applied over UREKLAD CT-80, the finished membrane must be primed. Apply UREKLAD PRIMER, five to 24 hours following the installation of UREKLAD CT-80. Refer to the "Typical Working & Setting Times" chart. Approximately 3 lb. (1.4 kg.) of UREKLAD PRIMER is needed per 100 sq. ft. (9.3 m<sup>2</sup>). Lightly scatter ATLAS AGGREGATE No. 8 into the freshly applied UREKLAD PRIMER at a rate of approximately 10 lb. (4.5 kg.) per 100 sq. ft. (9.3 m<sup>2</sup>). Allow the UREKLAD PRIMER to dry as specified in the "Typical Drying Times" chart. Proceed with setting tile or brick when tack-free.

**Repair:** Cut out the damaged portion. Bevel the material around the perimeter of the cut. Sand the adjacent area about 1/2" (13 mm.) beyond the cut. Clean away debris and wipe with UREKLAD CLEANING SOLVENT. After approximately one hour, begin applying multiple thin coats of UREKLAD CT-80 until the required thickness is achieved. It is essential that newly applied repair material not extend beyond the sanded surface.

### CLEANING OF TOOLS AND EQUIPMENT

Clean tools and equipment immediately with UREKLAD CLEANING SOLVENT. 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 68°F (20°C). DO NOT subject to temperatures above 86°F (30°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 UREKLAD CT-80 as manufactured by Atlas Minerals & Chemicals, Inc.

### 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.**

**Note:** Atlas makes it a practice to continuously update and enhance our CCM (Corrosion Resistant Construction Materials) products. This may result in slight discrepancies between our printed Data Sheets and the current version. For the most recent version of any Data Sheet, please visit our Web site at [www.atlasmin.com](http://www.atlasmin.com)

## CHEMICAL RESISTANCE OF UREKLAD® CT-80 (4-05PI)

	80°F	140°F
Acetaldehyde	N	N
Acetic Acid, to 10%	R	C
Acetic Acid, Glacial	N	N
Alum or Aluminum Sulfate	R	R
Aluminum Chloride, Nitrate	R	R
Ammonium Chloride, Nitrate, Sulfate	R	C
Ammonium Hydroxide, to 10%	R	C
Amyl Acetate	N	N
Amyl Alcohol	N	N
Aniline	N	N
Aqua Regia	N	N
Barium Chloride	R	R
Barium Hydroxide	R	R
Barium Nitrate	R	C
Barium Sulfide	R	R
Benzene	N	N
Benzene Sulfonic Acid, 10%	R	C
Benzoic Acid	R	C
Boric Acid	R	R
Bromine Water	C	N
Butyl Acetate	N	N
Butyl Alcohol	C	N
Butyric Acid	C	N
Cadmium Chloride, Sulfate	R	R
Cadmium Nitrate	R	C
Calcium Bisulfite	R	R
Calcium Chloride, Nitrate, Sulfate	R	R
Calcium Hydroxide	R	R
Carbon Disulfide	N	N
Carbon Tetrachloride	N	N
Chlorine Dioxide, Water Solution	N	N
Chlorine, Dry or Wet	C	N
Chlorine Water	C	-
Chloroacetic Acid, to 10%	C	N
Chlorobenzene	N	N
Chloroform	N	N
Chromic Acid, to 5%	R	N
Chromic Acid, 5% to 10%	C	N
Chromic Acid, above 10%	N	N
Citric Acid, to 10%	R	C
Copper Chloride, Nitrate, Sulfate	R	R
Dichloroacetic Acid, 10%	C	N
Dichlorobenzene	N	N
Diethyl Ether	N	N
Ethyl Acetate	N	N
Ethyl Alcohol	C	N
Ethyl Sulfate	N	N
Ethylene Dichloride	N	N

	80°F	140°F
Ethylene Glycol	R	R
Fluosilicic Acid, to 20%	R	R
Formaldehyde	R	C
Formic Acid	C	N
Gasoline	C	N
Glycerine	R	R
Gold Cyanide	R	R
Hexane	C	N
Hydrobromic Acid, to 20%	C	C
Hydrochloric Acid, to 20%	R	C
Hydrocyanic Acid, to 20%	R	C
Hydrofluoric Acid, to 20%	R	C
Hydrofluosilicic Acid	R	R
Hydrogen Peroxide	C	N
Hydrogen Sulfide Gas, Dry or Wet	R	R
Iron Chloride	R	C
Iron Nitrate, Sulfate	R	R
Isopropyl Ether	N	N
Kerosene	C	N
Lactic Acid, to 10%	R	C
Lead Acetate	N	N
Lead Nitrate	R	R
Linseed Oil	R	C
Magnesium Chloride, Nitrate, Sulfate	R	R
Magnesium Hydroxide	R	R
Maleic Acid	R	C
Mercuric Acetate	N	N
Methyl Acetate	N	N
Methyl Alcohol	C	N
Methyl Ethyl Ketone	N	N
Methyl Sulfate	N	N
Mineral Oil	R	C
Mineral Spirits	R	C
Muriatic Acid	R	C
Nickel Chloride, Nitrate, Sulfate	R	R
Nitric Acid, to 5%	C	C
Nitric Acid, above 5%	N	N
Nitrobenzene	N	N
Oleic Acid	R	C
Oxalic Acid	R	C
Perchloric Acid	N	N
Phenol, to 5%	C	N
Phosphoric Acid, to 40%	R	C
Phosphorous Acid	N	N
Phosphorous Trichloride	N	N
Phthalic Acid	C	N
Potassium Bicarbonate, Carbonate	R	R
Potassium Chloride, Nitrate, Sulfate	R	R

	80°F	140°F
Potassium Cyanide	R	R
Potassium Ferricyanide, Ferrocyanide	R	R
Potassium Hydroxide, to 30%	R	R
Potassium Hydroxide, above 30%	R	C
Pyridine	N	N
Rochelle Salt	R	R
Sallylic Acid	R	C
Silver Nitrate	R	C
Sodium Acetate	N	N
Sodium Bicarbonate, Carbonate	R	R
Sodium Chloride, Nitrate, Sulfate	R	R
Sodium Cyanide	R	R
Sodium Hydroxide, to 30%	R	R
Sodium Hydroxide, above 30%	R	C
Sodium Hypochlorite, to 3%	R	C
Sodium Hypochlorite, above 15%	N	N
Sodium Sulfide, Thiosulfate	R	R
Sodium Sulfite	R	C
Soya Oil	R	C
Stearic Acid	R	C
Sulfur Dioxide Gas, Dry or Wet	C	N
Sulfur Trioxide Gas, Dry or Wet	C	N
Sulfuric Acid, to 20%	R	C
Sulfuric Acid, 20% to 50%	C	N
Sulfuric Acid, above 50%	N	N
Sulfurous Acid	C	N
Tannic Acid	R	C
Tartaric Acid	R	C
Tin Chloride, Sulfate	R	R
Toluene	N	N
Trichloroethylene	N	N
Trisodium Phosphate	R	R
Tung Oil	R	C
Urea	R	R
Xylene	N	N
Zinc Chloride, Nitrate, Sulfate	R	R

**KEY**

(8-002)

R - Recommended

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. 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.