



Atlas Minerals & Chemicals, Inc.



DATA SHEET

4-53PI (5-22)
Supersedes 4-53PI (7-17)

ATLASTIC® 55 SHEET

DESCRIPTION

ATLASTIC 55 SHEET is a reinforced, modified asphaltic, corrosion resistant membrane designed for high temperature industrial applications. It is installed exclusively by ATLAS® Authorized Applicators.

TYPICAL USES

Installed in conjunction with a chemical resistant brick lining, ATLASTIC 55 SHEET provides membrane protection for process vessels used in the chloro-alkali, phosphoric, sulfuric, fertilizer and pigment processing industries. Easy to apply, the pliable sheet conforms to radiused and irregular steel shell configurations found in absorbers, drying towers, scrubbers, batch / attack tanks and incinerators. Depending upon the brick lining design, ATLASTIC 55 SHEET can be used at process solution temperatures up to 325°F (163°C).

METHOD OF INSTALLATION

ATLASTIC 55 SHEET is installed exclusively by ATLAS Authorized Applicators.

CHEMICAL RESISTANCE

ATLASTIC 55 SHEET is resistant to water solutions of alkalies, salts and non-oxidizing acids. Refer to the chemical resistance chart for specific information.

PACKAGING AND COVERAGE

ATLASTIC 55 PRIMER

5-gallon pail (35 lb. [15.9 kg.])
Coverage: Approx. 500 sq. ft. (46.5 m²) per pail

ATLAS CARBON POWDER

5-gallon pail (38 lb. [17.2 kg.])
When conductive primer is required, add 1.5 lb. (680 g.) per 1-gallon of ATLASTIC 55 PRIMER

ATLASTIC 55 SHEET

3/8" x 26-3/4" x 39-3/4" sheet
Coverage: Approx. 7.4 sq. ft. (0.7 m²) per sheet

ATLASTIC 55 ROD

42" L x 3/8" triangular rod

PHYSICAL PROPERTIES (unreinforced asphalt)

| PROPERTY | TEST METHOD | TYPICAL VALUE |
|---|-------------|-----------------------|
| Softening Point | ASTM D36 | 280-320°F (138-160°C) |
| Flash Point | ASTM D92 | >550°F (288°C) |
| Fire Point | ASTM D92 | >600°F (316°C) |
| Ash | — | < 0.5% |
| Penetration @ 77°F (25°C), 100 g. – 5 seconds | ASTM D5 | 15-25 |
| Ductility @ 75°F (24°C) | — | 0.8 – 1.5 cm. |
| Specific Gravity @ 75°F (24°C) | ASTM D71 | 0.95 to 1.1 |

SURFACE PREPARATION

ATLASTIC 55 SHEET can be applied to steel and concrete 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.

Steel: Surfaces must be free of grease, oil or other contaminants. To remove grease or oil, clean surface with solvent. Final wiping should be done with clean solvent and clean rags. Grit blast to a 3 to 4 mil profile. A NACE #1 white metal finish is recommended. After grit blasting, remove all residue with a commercial type vacuum. Finished surface should be free of rust, mill scale, paint and any other contaminants.

Concrete: Concrete must be hard, smooth, free of depressions, honeycomb, high spots and be under cover to provide protection from weather. The concrete should be sufficiently dry and prepared with a light to medium grit blast finish per American Concrete Institute (ACI) recommended practice 303, Guide to Cast-in-Place Architectural Concrete Practice. For additional information, refer to Surface Preparation, Data Sheet PS-30 and Specification for Concrete Floor Slabs, Data Sheet 3-12DN.

MIXING AND APPLICATION OF THE ATLASTIC 55 PRIMER

ATLASTIC 55 PRIMER is a one component product. Stir the ATLASTIC 55 PRIMER prior to application by brush or roller.

Steel: Apply one uniform, continuous coat of ATLASTIC 55 PRIMER. Allow to dry until tack-free.

NOTE: ATLAS makes it a practice to continuously update and enhance our CCM (Corrosion Resistant Construction Materials) products. For the most recent version of any Data Sheet, please visit our Web site at www.atlasmin.com.

Concrete: Apply the first coat of ATLASTIC 55 PRIMER. Thoroughly work it into the pores of the concrete. Do not allow puddling. Allow to dry until tack-free. Refer to the "Typical Drying Times" chart. After the first coat is tack-free, apply a second coat of ATLASTIC 55 PRIMER, by brush or roller, or conductive primer, by brush. When conductive primer is required, add 1.5 lb. (680 g.) of ATLAS CARBON POWDER to 1-gallon of ATLASTIC 55 PRIMER. Mix using a hand drill equipped with a "Jiffy" type mixer at a mixing speed between 300 and 500 RPM to thoroughly disperse. If the material is not used immediately, **stir again before using.** Allow to dry until tack-free.

TYPICAL DRYING TIMES OF THE ATLASTIC 55 PRIMER

| Temperature | Drying Time |
|-------------|-------------|
| 60°F (16°C) | 5 hours |
| 70°F (21°C) | 4 hours |
| 80°F (27°C) | 3 hours |

INSTALLATION OF THE ATLASTIC 55 SHEET

The ATLASTIC 55 SHEET is bonded to the substrate by softening the back surface of the sheet with a propane torch as it comes in contact with the primed surface.

Note: When placing the sheet, the dull side is placed onto the substrate.

- Place the ATLASTIC 55 SHEET onto the primed surface and hold it in place. One side of the sheet is pulled back and heated by moving a propane torch over the back surface to soften the sheet. As this occurs, the ATLASTIC 55 SHEET is rolled onto the substrate and pressed in place. When this procedure is properly accomplished, a bead of liquefied ATLASTIC 55 will "flow" just ahead of the sheet as it is being pressed in place and prevent any air entrapment between the substrate and the sheet.
- After the first sheet has been placed, abut the edge of the next sheet to the adjoining sheet and apply as described in Step (a). Seam the two sheets by heating a trowel and using it to bevel the butt joint between the sheets to a 30 to 40 degree angle.
- An ATLASTIC 55 ROD is applied over the seam by heating all three surfaces with a moving propane torch to fuse all surfaces together.
- Iron the joint flat with a heated trowel.
- If air pockets occur, break them with a hot knife or trowel. Apply heat with a propane torch on the back side of the sheet and press into place to remove the air and iron flat to fuse together.

After the lining has been completely installed and visually inspected, it should be spark tested using a voltage of approximately 25,000 volts. If any pinholes are found, they should be repaired by heating and ironing flat with a heated trowel. Larger leaks can be repaired by use of ATLASTIC 55 SHEET cut to fit. Repairs must be flattened to the

same plane as surrounding sheets to prevent high points that could interfere with the masonry lining.

CLEANING OF TOOLS AND EQUIPMENT

Xylene, mineral spirits or hi-flash naphtha may be used for cleaning of tools and equipment.

Dispose of residues and wastes in accordance with the directions in the 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). In unopened original containers, the materials referred to in this Data Sheet have a shelf life of approximately one year.

PRODUCT SPECIFICATION

The membrane shall be ATLASTIC 55 SHEET 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 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 ATLASTIC® 55 SHEET (4-53PI)

| | 80°F | 150°F |
|--------------------------------------|------|-------|
| Acetaldehyde | C | C |
| Acetic Acid, to 10% | C | N |
| Acetic Acid, Glacial | N | N |
| Alum or Aluminum Sulfate | R | R |
| Aluminum Chloride, Nitrate, Sulfate | R | R |
| Ammonium Chloride, Nitrate, Sulfate | R | R |
| Ammonium Hydroxide | R | C |
| Amyl Acetate | N | N |
| Amyl Alcohol | R | R |
| Aniline | N | N |
| Aqua Regia | N | N |
| Barium Chloride, Nitrate, Sulfate | R | R |
| Barium Hydroxide | R | R |
| Barium Sulfide | C | N |
| Benzene | N | N |
| Benzene Sulfonic Acid, 10% | R | R |
| Benzoic Acid | R | R |
| Boric Acid | R | R |
| Bromine Water | N | N |
| Butyl Acetate | N | N |
| Butyl Alcohol | R | R |
| Butyric Acid | N | N |
| Cadmium Chloride, Nitrate, Sulfate | R | R |
| Calcium Bisulfite, Chloride, Nitrate | R | R |
| Calcium Hydroxide | R | C |
| Carbon Disulfide | N | N |
| Carbon Tetrachloride | N | N |
| Chlorine Dioxide, Water Solution | N | N |
| Chlorine, Dry | R | R |
| Chlorine, Wet | R | C |
| Chlorine Water | C | - |
| Chloroacetic Acid, to 10% | N | N |
| Chlorobenzene | N | N |
| Chloroform | N | N |
| Chromic Acid, to 10% | R | C |
| Chromic Acid, 10% to 50% | C | C |
| Chromic Acid, above 50% | N | N |
| Citric Acid, to 10% | R | R |
| Copper Chloride, Nitrate, Sulfate | R | R |
| Dichloroacetic Acid, 10% | N | N |
| Dichlorobenzene | N | N |
| Diethyl Ether | N | N |
| Ethyl Acetate | N | N |
| Ethyl Alcohol | R | R |
| Ethyl Sulfate | N | N |
| Ethylene Dichloride | N | N |
| Ethylene Glycol | R | R |
| Fluosilicic Acid | C | C |

| | 80°F | 150°F |
|--------------------------------------|------|-------|
| Formaldehyde | C | C |
| Formic Acid | C | N |
| Gasoline | N | N |
| Glycerine | R | R |
| Gold Cyanide | R | R |
| Hexane | N | N |
| Hydrobromic Acid | R | R |
| Hydrochloric Acid | R | R |
| Hydrocyanic Acid | R | R |
| Hydrofluoric Acid | C | C |
| Hydrofluosilicic Acid | C | C |
| Hydrogen Peroxide | C | C |
| Hydrogen Sulfide Gas, Dry or Wet | R | R |
| Iron Chloride | R | C |
| Iron Nitrate, Sulfate | R | R |
| Isopropyl Ether | N | N |
| Kerosene | N | - |
| Lactic Acid | R | R |
| Lead Acetate, Nitrate | R | R |
| Linseed Oil | N | N |
| Magnesium Chloride, Nitrate, Sulfate | R | R |
| Magnesium Hydroxide | R | R |
| Maleic Acid | R | C |
| Mercuric Acetate | R | R |
| Methyl Acetate | N | N |
| Methyl Alcohol | R | R |
| Methyl Ethyl Ketone | N | N |
| Methyl Sulfate | N | N |
| Mineral Oil | N | N |
| Mineral Spirits | N | N |
| Muriatic Acid | R | R |
| Nickel Chloride, Nitrate, Sulfate | R | R |
| Nitric Acid, to 5% | R | R |
| Nitric Acid, 5% to 20% | R | C |
| Nitric Acid, above 20% | N | N |
| Nitrobenzene | N | N |
| Oleic Acid | C | N |
| Oxalic Acid | R | R |
| Perchloric Acid | N | N |
| Phenol, to 5% | N | N |
| Phosphoric Acid | R | R |
| Phosphorous Acid | R | R |
| Phosphorous Trichloride | R | R |
| Phthalic Acid | R | R |
| Picric Acid | N | N |
| Potassium Bicarbonate, Carbonate | R | R |
| Potassium Chloride, Nitrate, Sulfate | R | R |
| Potassium Cyanide | R | R |

| | 80°F | 150°F |
|--------------------------------------|------|-------|
| Potassium Ferricyanide, Ferrocyanide | R | R |
| Potassium Hydroxide, to 30% | R | C |
| Potassium Hydroxide, above 30% | C | N |
| Pyridine | N | N |
| Rochelle Salt | R | R |
| Salicylic Acid | R | R |
| Silver Nitrate | R | R |
| Sodium Acetate | R | R |
| Sodium Bicarbonate, Carbonate | R | R |
| Sodium Chloride, Nitrate, Sulfate | R | R |
| Sodium Cyanide | R | R |
| Sodium Hydroxide, to 30% | R | C |
| Sodium Hydroxide, above 30% | C | N |
| Sodium Hypochlorite, to 3% | C | C |
| Sodium Hypochlorite, above 15% | N | N |
| Sodium Sulfide | C | C |
| Sodium Sulfite, Thiosulfate | R | R |
| Soya Oil | N | N |
| Stearic Acid | C | N |
| Sulfur Dioxide Gas, Dry or Wet | R | R |
| Sulfur Trioxide Gas, Dry or Wet | R | R |
| Sulfuric Acid, to 50% | R | R |
| Sulfuric Acid, above 50% | N | N |
| Sulfurous Acid | R | R |
| Tannic Acid | R | R |
| Tartaric Acid | R | R |
| Tin Chloride, Sulfate | R | R |
| Toluene | N | N |
| Trichloroethylene | N | N |
| Trisodium Phosphate | R | C* |
| Tung Oil | N | N |
| Urea | R | R |
| Xylene | N | N |
| Zinc Chloride, Nitrate, Sulfate | R | R |

KEY (7-17)

R - Recommended

N - Not Recommended

C - Conditional; May be serviceable if the contaminant is immediately removed or washed off the surface.

* - For flooring application only.

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.