



CHEMPRUF 1420 Lining System

DESCRIPTION

CHEMPRUF 1420 Lining System is a glass flake reinforced lining system applied at a thickness of 60 mils (1.5 mm.) to 90 mils (2.3 mm.). Applied to concrete and steel substrates, the CHEMPRUF 1420 Lining System is composed of an **epoxy vinyl ester** resin and inert fillers with glass flake reinforcement. The lining system can be used in immersion service to 160°F (71°C) and in intermittent service to 180°F (82°C).

The CHEMPRUF 1420 Lining System is designed for primary or secondary containment applications for tanks, trenches, containment dikes, absorbers, scrubbers and floors. The CHEMPRUF 1420 Lining System may be used as a lining or as a membrane in conjunction with chemically resistant brick sheathing. When used as a membrane, the lining can be used at higher process temperatures. **CHEMPRUF 1420 Lining System complies with FDA regulations for resinous and polymeric linings.**

CHEMICAL RESISTANCE

CHEMPRUF 1420 Lining System provides excellent resistance to a wide range of corrosives, both acidic and alkaline, including chlorine dioxide, wet chlorine and sodium hypochlorite. It's an excellent choice for service in food processing operations where exposures to organic acids, fats, oils, cleaners and disinfectants. Refer to the CHEMPRUF 1000 SERIES Chemical Resistance Chart, 4-1000, for specific information.

CHEMPRUF 1420 Lining System is a 30 mil (0.8 mm.) to 45 mil (1.1 mm.) trowel applied flake filled basecoat and topcoat of CHEMPRUF 1420 with a roll applied finisher of CHEMPRUF 420 or CHEMPRUF 142.

CHEMPRUF 1420 LINING SYSTEM Consists of: PRIMER

CHEMPRUF VE Primer, a two-component, brush or roller applied penetrating primer.

BASECOAT / TOPCOAT

CHEMPRUF 1420, an epoxy vinyl ester, flake filled basecoat and topcoat each trowel applied at 30 mils (0.8 mm.) to 45 mils (1.1 mm.).

SMOOTHING LIQUID

CHEMPRUF VE Smoothing Liquid, a one-component, roller applied material used to smooth the basecoat and topcoat surface.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
Tensile Strength, 7 days @ 77°F (25°C)	ASTM D638	1,500 psi. (10.3 MPa)
Compressive Strength, 7 days @ 77°F (25°C)	ASTM C579	8,700 psi. (60.0 MPa)
Flexural Strength, 7 days @ 77°F (25°C)	ASTM C580	3,200 psi. (22.1 MPa)
Flexural Modulus of Elasticity	ASTM C580	7.29 x 10 ⁵ psi. (5,000 MPa)
Heat Deflection Temperature	ASTM D648	185°F (85°C)
Temperature Resistance Immersion Continual, °F (°C) Immersion Intermittent, °F (°C) Dry Heat, °F (°C)		160°F (71°C) 180°F (82°C) 290°F (143°C)
Hardness, Barcol		38
Cure Rate @ 77°F (25°C), Max. Chemical Resistance		7 days

FINISHER

CHEMPRUF 420, a two-component epoxy vinyl ester brush or roller applied sealer.

CHEMPRUF 142, a two-component flake filled epoxy vinyl ester brush or roller applied sealer.

AVAILABLE COLORS

CHEMPRUF 1420 is available in white and gray.

CHEMPRUF 420 is available in white and gray.

CHEMPRUF 142 is available in white and gray.

ADDITIONAL INFORMATION

For specific information pertaining to Surface Preparation, Packaging or Mixing and Application, refer to the following ATLAS literature:

- Surface Preparation Data Sheet (PS-30)
- CHEMPRUF 1420 Lining System Installation Instructions (I-4-1420)
- CHEMPRUF 142 Data Sheet (4-142PI)
- Lining System Termination Drawing (4-3000DG)
- Termination at Drain Drawing (4-3001DG)
- Control Joint & Structural Crack Drawing (4-3003DG)
- Horizontal / Vertical Transition Drawing (4-3004DG)
- Pipe Outlets Drawing (4-3005DG)

SURFACE PREPARATION

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: The prepared concrete substrate shall have a minimum tensile strength of 250 psi. (1.72 MPa). Concrete surface must be sufficiently cured and comply with moisture testing as prescribed by ACI Test Method 515 R-16 "Dryness of Surface". Concrete surfaces should be grit blasted to a finish similar to the profile of 100 to 120 grit sandpaper. Cracks in the concrete substrate 1/16" (1.6 mm.) wide or greater must be opened to a minimum 1/4" (6.4 cm.) cleaned, primed and filled with CHEMPRUF 1420.

Carbon Steel: Metal surfaces should be grit blasted to a SSPC-SP5 or NACE #1 white metal blast cleaned surface finish. Profile height must be 3 (0.076 mm.) to 4 mils (0.102 mm.).

TEMPERATURE DURING APPLICATION

Store all materials referred to in this Data Sheet at 70°F (21°C) to 80°F (27°C) for 24 hours prior to use. Minimum temperature for installation is 65°F (18°C). Do not apply when the relative humidity is greater than 75% or the substrate temperature is less than 5°F (3°C) above the dew point.

APPLICATION

1. Apply CHEMPRUF VE Primer with a brush or roller.
2. Trowel apply a 30 mil (0.8 mm.) to 45 mil (1.1 mm.) WFT basecoat of CHEMPRUF 1420. Roll the surface with a short nap paint roller wetted with CHEMPRUF VE Smoothing Liquid to orient the flake filler, compact the basecoat and to remove trowel marks. Allow to harden.
3. Trowel apply a 30 mil (0.8 mm.) to 45 mil (1.1 mm.) WFT topcoat of CHEMPRUF 1420. Roll the surface with a short nap paint roller wetted with CHEMPRUF VE Smoothing Liquid to orient the flake filler, compact the topcoat and to remove trowel marks. Allow to harden.
4. Apply CHEMPRUF 420 or CHEMPRUF 142 with a short nap roller. Depending on service conditions, two coats may be required.

Protect uncured primer, basecoat, topcoat and finisher coat(s) from moisture contamination until minimum cure time is attained.

INSPECTION

1. Inspect lining for imperfections after basecoat has hardened. Repair defects and imperfections prior to application of the topcoat.
2. When specified or required, spark test for pinholes using 100 volts per mil (0.025 mm.) of lining thickness. Spark testing of CHEMPRUF 1420 Lining System applied to concrete substrates requires CHEMPRUF VE Primer with ATLAS® Carbon Powder.

MEMBRANE

When the CHEMPRUF 1420 Lining System is to be used as a membrane with chemical resistant masonry

sheathing, a release agent, such as silicone or paste wax, must be applied to the surface of the lining system. Apply the release agent after the CHEMPRUF 1420 Lining System has attained the minimum drying time. The use of a release agent allows the masonry sheathing to move independent of the lining system.

PRODUCT SPECIFICATION

The lining system shall be CHEMPRUF 1420 Lining System as manufactured by Atlas Minerals & Chemicals, Inc.

CHEMPRUF 1420 Lining System, an epoxy vinyl ester resin flake filled basecoat and topcoat, each trowel applied at a nominal thickness of 30 mils (0.8 mm.) to 45 mils (1.1 mm.). Service conditions as determined by the manufacturer may require the application of CHEMPRUF 420 or CHEMPRUF 142.

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 and out of direct sunlight. Store all CHEMPRUF Resins and Hardeners at a temperature between 40°F (4°C) and 60°F (16°C) and protect from freezing. In unopened original containers, CHEMPRUF VE Primer Resin and Hardener, CHEMPRUF 1420 Resin and Hardener, CHEMPRUF 420 Resin and Hardener and CHEMPRUF VE Smoothing Liquid have a shelf life of approximately six months. ATLAS Carbon Powder can be stored indefinitely.

MAINTENANCE

Should the liner be damaged in any way, it can be repaired by thoroughly cleaning and reapplying the CHEMPRUF 1420 Lining System.

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.**