



Chemical® Corporation

FT-4100-WB® Polyurethane Top Coat

Technical Data Sheet

PRODUCT DESCRIPTION

Freedom Chemical Corporation's FreedomTuff® 4100-WB is waterborne aliphatic polyurethane with good UV and color retention designed for commercial, industrial and manufacturing atmospheres. FreedomTuff® 4100-WB is a single component spray or roller applied for use on concrete, urethanes, polyureas and metal surfaces. Its quick set time is convenient for applications in temperatures down to 50° F - 122° F, (10° C - 50° C).

ADVANTAGES

- ✦ Excellent Abrasion Resistance
- ✦ Good Color Retention
- ✦ Good Gloss Retention
- ✦ Meets SCAQMD Requirements
- ✦ Odorless
- ✦ UV Stable

RECOMMENDED USES

- ✦ Cold Storage Facilities
- ✦ Commercial, Industrial and Manufacturing Facilities
- ✦ Concrete, Wood and Steel
- ✦ Food Processing Facilities
- ✦ High Traffic Areas
- ✦ Marine Environments
- ✦ Refineries
- ✦ Top Coat over Polyureas and Polyurethanes

SURFACE PREPARATION

Surface preparation is the essential first stage treatment of a substrate before the application of any coating. The performance of a coating is significantly influenced by its ability to adhere properly to the substrate material. It is generally well established that correct surface preparation is the most important factor affecting the total success of surface treatment. The presence of even small amounts of surface contaminants, oil, grease, oxides etc. can physically impair and prevent coating adhesion to the substrate.

Be sure that surfaces are clean, dry, and sound and given sufficient profile to obtain adequate product adhesion.

Remove all dust, efflorescence, laitance, salts, curing compounds, dirt, oil, form release agents, and other foreign matter.

Perform an adhesion test prior to starting any coating project.

Concrete should be cured for a minimum of 28 days prior to product application and have at least 3000 psi compressive and 220 psi tensile strength.

ASTM D 4258-Standard practice for cleaning concrete.
ASTM D 4259-Standard practice for abrading concrete.
ASTM D 4260-Standard practice for etching concrete.
ASTM D 4262 and ASTM F 710-Standard practice for preparing concrete floors to receive resilient flooring, section 5.3 ph.

ASTM F 1869-10 Standard test method for measuring moisture vapor emission rate of concrete.

ASTM F 2170-09 Standard test method for determining relative humidity in concrete floor slabs using situ probes.

ICRI 03732: CSP 3-5-Concrete surface preparation.

SSPC-SP 5/NACE No.1, White Metal Blast Cleaning.

SSPC-SP 6/NACE No. 3, Commercial Blast Cleaning.

SSPC-SP 7/NACE No. 4, Brush-Off Blast Cleaning.

SSPC-SP 8, Pickling.

SSPC-SP 10/NACE No.2, Near-White Blast Cleaning.

SSPC-SP 11, Power Tool Cleaning to Bare Metal.

SSPC-SP 12/NACE No. 5, Surface Preparation and Cleaning of Metals by Water Jetting prior to Recoating.

SSPC-SP 13/NACE No. 6, Surface Preparation of Concrete.

SSPC-SP 14/NACE No. 8, Industrial Blast Cleaning.

COLOR

Clear, Grey, White and Black - Non Standard colors are available with a minimum order of 100 gallons (379 liters).

COVERAGE RATE

1 gallon (3.785 liters) per 300 - 400 square feet (27.869 – 37.16m²) and can be applied in one or more passes.

PACKAGING

1 gallon (3.785 liters) and 5 Gallon pails (18.927 liters).

MIXING PROCEDURES

Do not dilute FT-4100-WB under any circumstances.

Adequately mix FT-4100-WB with air driven power tools until the mixture and color is consistent.

Keep FT-4100-WB covered to extend working life.

APPLICATION

FT-4100-WB can be applied by a phenolic core roller, or high pressure sprayer.

Application thickness 4 to 8 mils (0.1016 to 0.2032 millimeters) wet.

Substrate temperature should be greater than 55° F (10° C). Insure that the outside temperature is between 55° F (10° C) and 122° F (50° C) at least 6° (-14.44° C) above the dew point and rising.

CURING

At 75° F (24° C) and 50% humidity, allow each coat to dry a minimum of 30 minutes.

Note: Weather can affect curing time.

Allow 72 hours before permitting heavy traffic.

EQUIPMENT CLEAN UP

Immediately clean equipment with an environmentally safe solvent, as permitted by local regulations. Cured or dried material may need to be removed by mechanical means.

SPECIFICATION AND FIELD ASSISTANCE

Contact Freedom Chemical Corporation for specification assistance.

Optional: Substrate adhesion test should be performed seven days after application of FT-4100-WB.

STORAGE

FT-4100-WB has a shelf life of 1 year shelf life from the date of manufacture, in factory-sealed containers.

Never store directly on concrete surface, always store on pallets.

Storage temperature is between 59° F - 77° F (15° C - 25° C), avoid freezing temperatures.

Rotate stock regularly.

LIMITATIONS

The end user should check the suitability of this product prior to its application.

Excess moisture vapor in concrete slabs may result in primer and/or coating to delaminate, discolor or cause improper curing.

Recoat FT-4100-WB within 0.5 – 24 hours of previous coat.

Do not open until ready to use.

Freedom Chemical assumes no liability for substrate defects.

Substrates that have previously been coated are subject to absorption, which may affect the adhesion of a new coating.

High temperatures and humidity can significantly affect pot life and the cure time.

Low temperatures and humidity can extend the cure time.

WARNING

FT-4100-WB contains Isocyanates.

TECHNICAL DATA

DRYING TIME (2 MIL WET FILM ON GLASS @ 75° F (24° C) @ 50% R.H).....	30 MINUTES
CURE TIME.....	24 HOURS
RECOAT TIME.....	0.5 – 24 HOURS
SHORE HARDNESS, ASTM D-2240.....	45 D
TENSILE, ASTM D-412.....	3561 PSI
TOUGHNESS, ASTM D-412.....	5674 PSI
ELONGATION, ASTM D-412.....	261%
TEAR, ASTM D-412.....	647 PLI
VOLATILE ORGANIC COMPOUNDS (ASTM D-2369-81).....	<1.5 G/L
APPLIED THICKNESS: 4 TO 8 MILS (0.1016 TO 0.2032 MILLIMETERS) WET	
RETURN TO SERVICE: FOOT TRAFFIC.....	8 HOURS
RETURN TO SERVICE: FULL SERVICE.....	72 HOURS
SPECIFIC GRAVITY	1.141 G/CM ³
TOTAL SOLIDS BY VOLUME, ASTM D-2397 (PIGMENTED).....	38%
VISCOSITY AT 77° F (25° C).....	1200-1550 CPS

NOTE: PHYSICAL PROPERTIES MAY VARY ON THE TYPE OF APPLICATION EQUIPMENT USED.
THE END USER SHOULD CHECK THE SUITABILITY OF THIS PRODUCT PRIOR TO ITS USE.

Incredible Stuff, Friendly People and Exceptional Service™

LIMITED WARRANTY: Read all information in the product data sheets, and material safety data sheets (MSDS) before applying material. Product information and instructions are subject to change without notice. Contact your Freedom Chemical Corporation agent or visit our website for current product information and instructions. Products manufactured by Freedom Chemical Corporation are free of defects and will meet Freedom Chemical Corporations current published physical properties. There are no other warranties given by Freedom Chemical Corporation of any kind implied, or expressed, including any warranty of fitness for a particular purpose, and/or merchantability in connection with this product.

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