



## PRODUCT INFORMATION BULLETIN

**UTS™** is an instant setting, two-component spray applied composite coating, on vertical or horizontal surfaces and forms a seamless membrane of a desired thickness to meet design requirements, 100% solids, solvent free and odorless. The **UTS™** is a combination of *FreedomTuff®* Primer, *FreedomTuff® 2100-HC™* hard coat with glass and *FreedomTuff® 2245-CR™* top coat that are spray applied aromatic polyureas, which allows a quick return to service. Designed specifically to handle anticipated movement and yet durable and tough enough to withstand the requirements of Manhole Rehabilitation and Wastewater Treatment Facilities. The **UTS™** is used on primarily on concrete surfaces. Insure that the substrate and outside air temperature is between 40° F (4.4° C) and 104° F (40° C) at least 6° (-14.44° C) above the dew point and rising.

### ADVANTAGES

- ✦ Abrasion resistance - excellent
- ✦ Can withstand constant water immersion
- ✦ Chemical resistance – excellent
- ✦ Complies with VOC and SCAQMD requirements
- ✦ No noxious odors

### USES

- ✦ Manhole Rehabilitation
- ✦ Wastewater Treatment Facilities

### PREPARATION

**NOTE:** Read and understand all the information contained in the Product Information Bulletin's and SDS's prior to starting any project. Freedom® Chemical Corporation's products are for professional use only.

Concrete should be cured for 28 days (less than 28 days a Moisture Vapor Reducing primer maybe required) prior to product application and have at least 3000 psi compressive and 220 psi tensile strength.

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 established that correct surface preparation is the most important factor affecting the total success of surface treatment. Surfaces will be clean, dry, and sound, the presence of even small amounts of surface contaminants, dust, efflorescence, laitance, salts, curing compounds, dirt, oil, form release agents, and other foreign matter can physically impair and prevent coating adhesion to the substrate.

Concrete should be water blasted to a ICRI CSP 4-6 profile using 4000 psi at 3.5 gallons per minute with a turbo head jet nozzle or high pressure water jetting (refer to SSPC-SP 13/NACE No.6).

Grinding is permitted only in areas that are inaccessible to shot blasting equipment.

### COVERAGE RATE

Freedom® Chemical Corporation's coverage rates for all products are approximate and vary based on type of substrate, substrate porosity, and roughness and size of broadcast aggregate. See Product Information Bulletin's.

### PACKAGING

See Product Information Bulletin's.

### PRIMER

Select appropriate primer from individual Product Information Bulletin. FreedomTuff® primer is required on all substrates, except on properly prepared steel (immersion requires primer).

### MIXING

See Product Information Bulletin's.

Do not mix partial containers of multi-component materials.

Do not dilute under any circumstances.

### APPLICATION

Insure that the substrate and outside air temperature is between 40° F (4.4° C) and 104° F (40° C) at least 6° (-14.44° C) above the dew point and rising.

### STEP ONE:

Repair all bug-hole's and concrete prior to starting the *UT System™*.

Cut in keyways per specification.

**STEP TWO:** Apply one (1) coat Freedom Chemical® Corporation's *FreedomTuff®* primer over the entire surface, apply the first coat at a rate of 1 gallon (3.78 liters) per 300 square feet (27.8709 m<sup>2</sup>), in sufficient quantity to obtain a theoretical 5 mils (127 microns) dry film thickness, let *FreedomTuff®* primer become tack free.

Allow primer to become tack free prior to application of *UTS™*.

Do not apply more primer to substrate than can be coated with *FreedomTuff® 2100-HC* within eighteen (18) hours of application. If primer is not coated within the allotted time, sand and re-apply primer.

Premix both the *FreedomTuff® 2100-HC* and *FreedomTuff® 2245-CR* Part-B (Polyol) side for 15 minutes before inserting transfer pumps, making sure not to encapsulate any air until the mixtures are consistent.

**STEP THREE:** Process material using a plural component, high pressure 1:1 ratio heated, spray equipment.

- Component feed: 2 gallons minimum per minute.
- Mixing module 0.01 – AR2929
- Pre-heater temperature 150° F - 170° F (65.5° C – 76.6° C).
- Whip temperature 160°F – 170 °F (71.1° C - 76 °.6 C)
- Dispense pressure 2200 – 2900psi

**STEP FOUR:** Spray apply *FreedomTuff*® 2100-HC at a minimum of 20 gallons (75.7082 liters) per 100 square feet to the substrate, to achieve a theoretical dry film thickness of 320 dry mils (8128 microns) over the entire surface. Glass is added at this point; thickness is measured without glass (or per design requirements).

**STEP FIVE:** Prior to application of *FreedomTuff*® 2245-CR precondition both Part-A and Part-B to 75° F (23.88° C)-80° F (26.66° C) before applying.  
Fit Part-A with a desiccant drying device.

Apply *FreedomTuff*® 2245-CR using a plural component, high pressure 1:1 ratio heated, spray equipment.

Proportioner Conditions:

- Capacity minimum 2 gallons per minute
- Static pressure 2800 – 3000psi
- Spraying pressure 2500psi minimum
- Pressure balance 100 variance desirable
- 300 psi variance maximum
- Temperatures preheaters & hose 170° F (76.66° C) each

**STEP SIX:** Spray apply *FreedomTuff*® 22045-CR at a minimum of 5 gallons (18.9271 liters) per 100 square feet to the substrate, to achieve a theoretical dry film thickness of 80 dry mils (2032 microns) over the entire surface.

*FreedomTuff*® 2100-HC and *FreedomTuff*® 2245-CR should be sprayed in a smooth pattern, to establish uniform thickness and appearance (crosshatch pattern).

Re-coat *FreedomTuff*® 2100-HC and *FreedomTuff*® 2245-CR within 0 – 6 hours of previous coat.

## DRY FILM THICKNESS

Freedom® Chemical Corporation's *UTS*™ with primer is a theoretical dry film thickness of 400 mils± (10160 microns) or per design requirements.

## SPECIFICATION AND FIELD ASSISTANCE

Contact Freedom® Chemical Corporation for assistance.

Jobsite visits by Freedom® Chemical Corporation's employees or its independent agents are solely for the purpose of determining qualification for warranty.

## DISPOSAL

Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.

## PRODUCT INFORMATION

See Product Information Bulletins for substrate preparation, packaging, coverage rates, primer, mixing and application information for each product selected.

## TESTING

Test the entire surface of the protective liner by spark testing at 100 volts per dry mil of lining thickness as per NACE Standard RPO 18B or ASTM D-1562 (steel) or ASTM D-4787 (concrete). Mark and repair.

Substrate adhesion test should be performed seven days after application.

## WARNING

The products listed in this Product Information Bulletin contain Isocyanates and Epoxy Resins.

*Incredible Stuff, Exceptional Service, and Friendly People™*

Read all the information in this product information bulletin, and material safety data sheet (MSDS) before applying any material. The information contained herein is for purposes of identifying the product and does not constitute a warranty that the product will conform to this description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors. Guidelines, recommendations, statements, and information contained herein is based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either expressed or implied. It is the user's responsibility to satisfy themselves, by their own information and tests, to determine suitability of the product for their own intended use, application and job situation and the user assumes all risk and liability resulting from their own use of the product. We do not suggest or guarantee that any hazards listed herein are the only ones that may exist. Neither seller nor manufacturer shall be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether verbal or in writing, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of Freedom® Chemical Corporation. Typical properties and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Performance results were obtained in a controlled environment and Freedom® Chemical Corporation makes no claim that these tests or any other tests accurately represent all environments. Products manufactured by Freedom® Chemical Corporation are free of defects for a period of one (1) year, liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the materials in question. † Freedom® Chemical and FreedomTuff® are trademarks registered in the US Patent and Trademark Office. ‡ The marks of Freedom® Chemical Corporation, its divisions, slogans, emblems, other marks appearing in this document are the trademarks and/or service marks of Freedom® Chemical Corporation, its subsidiaries, affiliates or licensors Copyright © March 2015 Freedom® Chemical Corporation. All Rights Reserved. All published information is subject to change without notice.