

# **FREEDOM** **M** *Chemical® Corporation*

## FREEDOMTUFF® PRODUCT INFORMATION BULLETIN

**FREEDOMTUFF® 6646** is a next generation high solids, high build, fast drying epoxy phenalkamide designed to protect steel and concrete in industrial exposures. Ideal for maintenance painting and fabrication shop applications. This high solids content ensures adequate protection of sharp edges, corners, and welds. This product can be applied to galvanizing and marginally prepared steel surfaces.

### ADVANTAGES

- ✦ High Solids, <100 g/L VOC
- ✦ High strength
- ✦ Meets USDA criteria
- ✦ No noxious odors
- ✦ USGBC LEED, EQ Credit 4.2 AND 4.3: Low-emitting VOC Compliant Materials

### RECOMMENDED USES

- ✦ Lagoon Walls
- ✦ Tank and vessel exteriors
- ✦ Power plants
- ✦ Pulp and paper
- ✦ Offshore platforms

### PROFESSIONAL USE ONLY

Read and understand all the information contained in the Product Information Bulletin's, SDS's and product labels prior to starting any project. Nothing contained in any of Freedom® Chemical Corporation's materials relieves the end user of the obligation to read and follow the warnings and instructions for each of Freedom® Chemical Corporation's products.

### 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 established that correct surface preparation is the most important factor affecting the total success of surface treatment. Surfaces will be clean, 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 shot blasted to a CSP 4-6.

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

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.

### PACKAGING 4:1 RATIO

4 Gallons Part-A and 1 Gallon Part-B

### COLOR

Clear - Due to its chemical composition FT-6646 will discolor.

### COVERAGE RATES

	Minimum	Maximum
Wet mils (microns)	6.0 (150)	11.0 (275)
Dry mils (microns)	5.0 (125)	10.0 (250)
~Coverage sq ft/gal	143	286

### YIELD

Theoretical coverage sq ft/gal 1,428  
@ 1 mil / 25 microns dft

### MIXING PROCEDURES

Mix entire/full package containers, do not measure or mix partial containers of multi-component materials.

### Average Drying Times @ 8.0 mils wet (200 microns):

	@ 50°F/10°C	@ 77°F/25°C	@ 100°F/38°C
To touch:	7 hours	3 hours	35 minutes
To handle:	14 hours	9 hours	3 hours
To recoat:			
minimum:	6 hours	3 hours	1 hour
maximum:	5 days	4 days	3 days
To cure:	TBD	7 days	TBD

If maximum recoat time is exceeded, abrade surface before recoating.  
Drying time is temperature, humidity, and film thickness dependent.

Pot Life: 2-3 hours 1.25 hours 25 minutes  
Sweat-In: None required

	@ 35°F/1.7°C 50% RH	@ 50°F/10°C 50% RH
To touch:	6 hours	4 hours
To handle:	12.5 hours	9 hours
To recoat:		
minimum:	6 hours	6 hours
maximum:	30 days	30 days
To cure:	10 days	7 days

### APPLICATION

For optimum results proceed with application while air and substrate temperatures are between 40° F (4.44° C) and 95° F (35° C). Insure that the outside temperature is at least 6° (-14.44) above the dew point and rising, start application while the outside temperature is descending.

### Airless Spray:

Pump.....52:1  
Pressure.....3120 psi (unreduced);  
2080 psi (reduced 5% nBOH)  
Tip .....0.517  
Filter .....250 micron  
Reduction .....up to 5% by volume if necessary

## Brush

Brush.....China Bristle

Reduction .....up to 5% by volume if necessary

## Roller

Cover .....3/8" woven with solvent resistant core

Reduction .....up to 5% by volume if necessary

## 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 determining qualification for warranty.

## DISPOSAL

All spilled material, unused contents, empty containers and secondary containment spills/leaks must be cleaned up and disposed of in accordance with local, state and federal regulations.

## STORAGE

FreedomTuff® 6646 has a shelf life of 1 year from the date of manufacture, in factory-sealed containers.

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

Avoid freezing temperatures.

Rotate stock regularly.

Do not open until ready to use and keep containers sealed tightly.

## LIMITATIONS

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

Freedom Chemical® Corporation assumes no liability for substrate defects.

## TESTING

Substrate adhesion test should be performed seven days after application. All testing should be performed by a qualified testing agency. Freedom® Chemical Corporation is not responsible for testing.

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

FreedomTuff® 6646 is not UV Stable.

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## WARNING/CAUTION

FreedomTuff® 6646 contains epoxy resins and organic amines. Part A may cause skin sensitization or other allergic responses. Avoid inhalation of vapor and make sure area is well ventilated. Prevent contact with skin and eyes, immediately skin and flush eyes with water for at least fifteen (15) minutes and contact a physician. Discard contaminated clothing and shoes. Wear protective clothing, goggles, gloves and/or barrier creams.

## FREEDOMTUFF® 6646 TYPICAL PROPERTIES

MIX RATIO BY VOLUME	N/A	4A:1B
ABRASION RESISTANCE	ASTM D-4060	154 MG LOSS 1000 CYCLES
ADHESION	ASTM D-4541	3000 + PSI
CATHODIC DISBONDMENT	ASTM G8	7 MM
CORROSION WEATHERING	ASTM D-5894 5050 HOURS	10/10/8/8
DIRECT IMPACT RESISTANCE	ASTM D-2794	>34 IN/LBS
DRY HEAT RESISTANCE	ASTM D-2485	250 F
FLEXIBILITY	ASTM D-522	PASS
SALT FOG RESISTANCE	ASTM B-117	10/10/8/8 5000 HOURS

*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 or guaranty that the product will conform to this description. Product specifications and performance will vary depending on application methodologies, raw materials and other factors. All published information and specifications are subject to change without notification. Technical data shown in product data sheets are typical but reflect laboratory test procedures conducted in laboratory conditions. Actual field performance and test results will depend on installation methods and site conditions. Field test results will vary due to critical job site factors. All recommendations, statements and technical data contained in this data sheet are 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 or guaranty of any kind. Satisfactory results depend upon many factors beyond the control of Freedom® Chemical Corporation. User shall rely on their own information and tests to determine suitability of the product for the intended use and user assumes all risk, loss, damage, expense and liability resulting from their direct use, indirect use or consequential to their use of the product. Freedom® Chemical Corporation shall not be liable to the buyer or any third party for any injury, loss or damage directly or indirectly resulting from use or inability to use the product. 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© January 2019 Freedom® Chemical Corporation. All Rights Reserved.

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