FREEDOMTUFF® PRODUCT INFORMATION BULLETIN

FREEDOMTUFF® 2245-HCR is a two-component spray applied 100% pure aromatic polyurea coating that has a high chemical resistance and is used on vertical and horizontal surfaces and forms a continuous seamless membrane of a desired thickness on concrete, metal, fiberglass and geotextile fabrics. Its quick gel and set time allow for single or multiple applications without appreciable sagging and is relatively insensitive to moisture, allowing application in most temperatures.

ADVANTAGES

- Chemical Resistance excellent – see chart
- Meets the NACE 6A198 and PDA standards of a pure polyurea
- No noxious odors
- No primer for carbon or mild steel metals
- Thermal stability – excellent
- USGBC LEED, EQ Credit 4.2: Low-emitting VOC Compliant Materials
- Withstands constant water immersion

USES

- Beverage/Food Processing/Cold Storage Facilities
- Sewage Treatment Facilities
- Gas/Oil - Primary and Secondary Containment
- Industrial/Manufacturing Facilities

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.

PREPARATION

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.

Shot Blast concrete between CSP 3 - 7.

Profile steel between 4-6 mils.

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

COLOR

Black, Grey and Neutral –add color to side B only. Non-standard colors available upon request.

FreedomTuff® aromatic polyurea's are UV stable – but are known to darken or change color when exposed to UV and/or sunlight. This discoloration has shown to have little to no effect on the integrity of aromatic polyureas.

COVERAGE RATE

Freedom® Chemical Corporation's coverage rates for all products are approximate and vary based on type of substrate, substrate porosity and roughness.

1 gallon (3.79 liters) of FreedomTuff® polyurea will cover approximately 1600 square feet 1 mil (0.025mm) thick and can be applied in one or more passes to achieve a desired thickness.

PACKAGING

52 gallons (196.84) Part-A (Isocyanate) and 52 gallons (196.84 liters) Part-B (Resin) packaged in 55 gallons (208.19 liter) drums.

PRIMER

Select appropriate primer from individual Product Information Bulletin's. FreedomTuff® primer is required on all substrates, except on properly prepared steel.

MIXING

Do not mix partial containers of multi-component materials.

Do not dilute under any circumstances.

Adequately blend FreedomTuff ® polyurea's Part-B (Resin) with air driven power tools until the mixture and color is consistent making sure not to encapsulate any air.

APPLICATION

For optimum results proceed with application while air and substrate temperatures are between 32° F (0° C) and 104° F (40° C) 6° (-14.44° C) above the dew point and rising.

FreedomTuff® polyurea's are applied using a plural component, high pressure 1:1 ratio heated, spray equipment.

Prior to application: Precondition both Part-A and Part-B to 75° F - 80° F (24° C - 27° C) before applying.

Fit Part-A with a desiccant drying device.

Proportioner Conditions:

- Capacity minimum 20 lbs. per minute
- Static pressure 2800 – 3000 psi
- Spraying pressure 2500 psi minimum
- Pressure balance 100 variance desirable
- 300 psi variance maximum
- Temperatures preheaters & hose 165°F (73.89° C)

FreedomTuff® polyurea's should be sprayed in a smooth pattern, to establish uniform thickness and appearance (crosshatch pattern).

When a FreedomTuff® polyurea is applied in sections, each application must overlap the previous one within 0 – 6 hours by a minimum four (4") to a neat straight line.

Recoat window is within 0-6 hours of application, if not recoated within 0-6 hours, sand, prime and re-apply FreedomTuff® Polyureas.

If a top coat is required, it must be applied within six (6) hours of application, FreedomTuff® coating.

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.

CONTAINMENT SPILLS AND LEAKS
All secondary containment spills and leaks must be cleaned up in accordance with local, state and federal regulations.

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

LIMITATIONS
Do not place coating over metal pan decks vented or unvented, split slab membranes, or other locations containing trapped moisture without prior written approval from Freedom ® Chemical Corporation.

The end user should check the suitability of this product and the substrate prior to its application. Freedom® Chemical Corporation 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.

FreedomTuff® Polyurea's have a shelf life of 1 year from the date of manufacture, in factory-sealed containers.

Excess moisture vapor in concrete slabs may result in the polyurea to delaminate, discolor or cause improper curing.

PRODUCT QUALITY AND STORAGE
Shipping and storage temperatures for Part-A and Part-B is between 65º F - 90º F (18º C - 32.22º C) at or below 50% Relative Humidity, avoiding freezing temperatures. If shipping or storage temperatures should fall below 65°F (18°C), some crystallization could result. Unless proper action is taken to re-form the original solution, subsequent dimerization will proceed quickly and will deteriorate the assay of the product.

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

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

TESTING
Perform an adhesion test prior to starting any coating project.

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.

FREEDOMTUFF® 2245-HCR TYPICAL PROPERTIES

MIX RATIO BY VOLUME	N/A	1A:1B
HARDNESS: SHORE D	ASTM D-2240	53
TEAR RESISTANCE, DIE C	ASTM D-624	403 PIL
TENSILE STRENGTH	ASTM D-412	2591 PSI
ELONGATION	ASTM D-412	218%
SOLIDS	ASTM D-2697	100%
VISCOSITY AT 75°F (24°C)	BROOKFIELD	PART A 800–1200 CPS PART B 300–600 CPS
VOLATILE ORGANIC COMPOUNDS	ASTM D-2369-81	0 LB/GALLON, 0 GRAMS/LITER
GEL TIME @ 150° (66° C)	(THICKNESS AND SUBSTRATE TEMP. SENSITIVITY)	3 SECONDS
TACK FREE TIME	(THICKNESS AND SUBSTRATE TEMP. SENSITIVITY)	7 SECONDS

CHEMICAL RESISTANCE ASTM D-1308 AND ASTM D-543-95 7 DAY IMMERSION @ 77° F (25° C)

ACETIC ACID 60%	ACETONE	BLEACH	CITRIC ACID 50%
DENATURED ALCOHOL	FLUORISILICIC ACID .5%	FORMIC ACID 60%	GASOLINE
HYDROCHLORIC ACID 40%	ISOPROPYL ALCOHOL 99%	JET FUEL /WITH 8 HOUR WASH DOWN	METHANOL
NITRIC ACID 20%	OIL	PHOSPHORIC ACID 60%	SULFURIC ACID 30% AND 60%

Incredible Stuff, Exceptional Service, and Friendly People™

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