



# B-TUFF® 921

A Two Component, Fast Curing, Low Odor, NSF Approved, Liquid-Applied Base Membrane and Potable Water Tank Lining Material

## 1.01 DESCRIPTION

B-Tuff® 921 is a two component, fast curing, low odor, NSF approved, liquid applied, asphalt extended, aromatic-polyurethane base membrane that adheres to most substrates, to form a waterproof membrane. Please use the correct product grade that complies with VOC regulations as per federal, state, statutory bodies, county and city regulations/codes at the place of installation of product.

## 1.02 FEATURES

- Bridges Cracks & Joints
- Economical
- Impervious to Water & Various Aqueous Chemicals
- Proven Protection
- Seamless Waterproof Membrane
- UV Stable (Color Fades)
- VOC Compliant

## 1.03 TYPICAL USES

- Corrosion Protection
- Containment
- Waterproofing
- Potable Water Containment/Storage
- Pond Liners
- Tank Liners

## 1.04 COMMON SUBSTRATES

- Asphalt
- Concrete
- Glass
- Metal
- Steel
- Wood

## 1.05 COLOR

Black – fades to dull black

Note: In application where NSF-61 approval is not required, B-Tuff® 921 may be topcoated with pigmented Topshield® EST for a UV-stable color.

## 1.06 PACKAGING

4.5-gallon kit (17 liter): 2-gallon jar containing net 0.45 gallon (1.70 liters) of Side-A and 5-gallon pail containing net 4.05 gallons (15.30 liter) of Side-B.

## 1.07 SURFACE PREPARATION

Refer to General and Safety Guidelines for complete information. Concrete surfaces require a medium sandpaper finish equal to or greater than an ICRI CSP #3. Surface preparation may be completed by shot blasting or the use of Poly-Tuff Profile and Etch cleaner. Peel and adhesion tests are recommended. Install a 100-200 sqft (9.30-18.58 sqm) mock up of the system to be installed and approve for aesthetics,

## TECHNICAL DATA (Based on draw down films)

ANSI/NSF 61 Approved up to		140°F (60°C)
Elastomeric Waterproofing,	ASTM C-836	Exceed
	ASTM C-957	Exceed
Total Solids by Volume, ASTM D-2697		89% ± 2%
Volatile Organic Compounds, ASTM D-2369-81		87 gm/liter
Mullen Burst Strength, ASTM D-75 (1.50 mil or 38 microns)		155 psi (no break) (1.07 MPa)
Tensile Strength, ASTM D-412, 100 mil sheet (254 microns)		900 ± 100 psi (6.21 MPa)
Tear, ASTM D-624		150 ± 50 psi (26 ± 8 kN/m)
Extension to Break, ASTM D-412		450 ± 100%
Membrane Weight, 60 mils (1.5mm WFT or 38 microns)		Approx. 30 lbs/100 sqft (1.48 kgs/sqm)
Recovery from 100% extension,	After 5 minutes	98%
	After 24 hours	100%
Crack Bridging,	10 cycles @ -15°F (-26.1°C) After Heating Aging	> 1/8" (0.3175 cm) > 1/4" (0.65 cm)
Weathering, ASTM D-822		Pass 5000 hrs
Softening Point, Ring Ball, ASTM D-36		>400°F (205°C)
Deflection Temp., ASTM D-648		Pass
Service Temperature		-60 to 200°F (-51-93.3°C)
Hardness, ASTM D-2240 @ 77°F (25°C) Shore A		60 ± 5
Permeability to Water Vapor, ASTM D-96 method E, 100°F (37.5°C), 100 mil sheet (254 microns)		0.06 perm
Abrasion Resistance - Wt. Loss Taber Abraser CS-17 Wheel, 1000 gr./1000 re., ASTM D-4060		7.2 mg loss
Electrical Resistivity, ASTM D-257, 50% R.H. @ 75°C (23°C), 2" (50 mm) disc, 100 mil (2.5 mm) thickness		3.86 x 10 <sup>14</sup> ohm.cm
Adhesion to Concrete (dry) Elcometer		350 psi (2.07 MPa)
Time to Reach 20 Shore A Hardness, @ 77°F (25°C), 200 gram quantity		24 Hours Max
Set Time to Polyurethane Film hours, ASTM D-164 procedure 5.3.2		4 hours
Working Time (Pot Life) @ 77°F		18-20 min

color, slip resistance, actual coverage rates and functionality before proceeding

### 1.08 MIXING

Using a mechanical mixer, first premix B-Tuff® 921 Side-B material thoroughly to obtain a uniform color. Pour Side-A into Side-B slowly while mixing. Mix for 3-4 minutes. Use care not to allow the entrapment of air into the mixture. NOTE: B-Tuff® 921 should NOT be mixed by hand. NOTE: B-Tuff® 921 may NOT be diluted under any circumstances.

**DO NOT ESTIMATE**, proportions are premeasured.

### 1.09 JOINTS, CRACKS, AND FLASHING

Apply a single or two component non-gassing polyurethane sealant over all joints, cracks and flashing. Bridge the joints and cracks and flashing with 2 3/4-4" (7-10.14 cm) polyester or polyurethane foam tape pushing the tape into the 20 mil (508 microns) prestripe of the basecoat. Alternatively, joints and cracks 1/16" or larger may be sealed flush with PTS E-101 concealed with 4" (10 cm) Super Seal Tape (concrete must be primed first and allow to dry).

Over reinforcement tape, apply a pre-stripe coat of B-Tuff® 921 material and taper it onto the adjacent surface. Alternatively, no crack chasing or pre-stripe is necessary with the use of Super Seal Tape over a primed surface (see Super Seal Tape Data Sheet). Allow the surface to cure for 1 to 2 hours.

## APPLICATION

### 2.01 APPLICATION BASICS

Apply two coats of B-Tuff® 921 at 2 gallons per 100 sqft or 50 sqft/gallon (0.82 liters/m<sup>2</sup>) each coat directly to a clean dry substrate.

Application of B-Tuff® 921 should not start if surface temperature is below 50° F (10° C) and must be 5° F (3° C) above dew point. B-Tuff® 921 is very fast cure and should only be mixed with a minimum of 500 rpm drill.

Do not apply when the ambient or substrate temperature is rising. Do not apply B-Tuff® 921 in direct sunlight.

Spray equipment, squeegee, notched trowel or phenolic-resin-core roller may be used, if a roller is used extra care should be taken not to trap air bubbles into the mixture. Apply B-Tuff® 921 evenly over the entire deck at 60 wet mils (1524 microns). Most applications require only one coat, but if needed B-Tuff® 921 may be recoated in one (1) hour and no longer than four (4) hours after mixing. If B-Tuff® 921 has cured for more than four (4) hours, the surface may need to be mechanically abraded before recoating.

B-Tuff® 921 can be used in combination with fabric in a two-coat system specially for roofing application.

Refer to individual Systems Description under System Specifications Section of the Poly-Tuff Systems International (PSI) catalog or website for specific coverage rates.

### 2.02 COVERAGE RATES

Coverage rates and cure times will vary depending on temperature, relative humidity, surface roughness and porosity, aggregate selection and embedment, and application technique. Coverage rates provided are optimal and are not guaranteed.

### 2.03 CURING

Allow coating to cure for 24 hours for light traffic, or 72 hours for heavy traffic.

B-Tuff® 921 is sensitive to heat and moisture and this could accelerate the curing time. An allowable 32 oz (0.95 liters) of clean, water free mineral spirits per 4.5 gallon kit (subject to meeting local regulations) poured into the already mixed container immediately after mixing, will help extend the cure time. No other dilution is acceptable.

### 2.04 EQUIPMENT CLEANUP

Equipment should be cleaned with an environmentally-safe solvent, as permitted under local regulations, immediately after use.

### 2.05 SHELF LIFE AND STORAGE

B-Tuff® 921 has a shelf life of 12 months from date of manufacture when stored indoors at a temperature between 60°F to 95°F (15°C to 35°C) in original, factory-sealed containers

### 2.06 LIMITATIONS

- Do not apply B-Tuff® 921 in wet weather or if rain is imminent, coating should not become wet within four (4) hours after application.
- Containers that have been opened must be used as soon as possible.
- Do not dilute under any circumstance except as noted above.

The following conditions must not be coated with PSI deck coating systems or products:

- 1) On grade or below grade slabs, split slabs with buried membrane, sandwich slabs with insulation, slabs over unvented metal pan, suspended pool, swimming pool decks, or areas where hydrostatic pressure is or may be present, without the use of Enviro-Grip™ 404FC primer and asphalt surfaces, asphalt overlays without the express written consent of PSI. PSI Deck Coating is not recommended over magnesite, gypsum lightweight and where chained or studded tires may be used.
- 2) Concrete must exhibit 3000 psi minimum strength. An ICRI CSP 2-3 surface or greater is required for concrete surfaces to be coated.
- 3) New concrete must be cured for 28 days unless otherwise approved by PSI in writing. New surfaces to be coated must be trowel finished in compliance with the American Concrete Institute (except that hand troweling is not required), followed by a fine hair brooming, left free of loose particles, and shall be without ridges, projections, voids and concrete droppings that would be mechanically detrimental to coating application or function. Light broom finished concrete should be power-washed before coating application.
- 4) Concrete cleaning (see General and Safety Guidelines). Surface preparation may be completed by shotblasting or the use of Poly-Tuff Profile and Etch (PE) cleaner. Peel and adhesion tests are recommended.

**WARNINGS: this product contains isocyanates, asphalt and solvent.**



# TECHNICAL DATA SHEET

## SECTION 3.2.8

Please read all information in the General & Safety Guidelines, Technical Data Sheets, Guide Specifications and Safety Data Sheets (SDS) before applying material. PSI Products are for "Professional Use Only" and preferably applied by professionals who have prior experience with the PSI Products or have undergone training in application of PSI Products. Published technical data and instructions are subject to change without notice. Contact your local PSI representative or visit our website for current technical data, instructions, and project specific recommendations.

#### LIMITED WARRANTY

PSI warrants its products to be free of manufacturing defects and that they will meet PSI current published physical and chemical properties. Seller's sole responsibility shall be to replace that portion of the product which proves to be defective. There are no other warranties by PSI of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. PSI shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty whether expressed or implied. PSI shall not be responsible for use of this product in a manner to infringe on any patent held by others. In addition, no warranty or guarantee is being issued with respect to appearance, color, fading, chalking, staining, shrinkage, peeling, normal wear and tear or improper application by the applicator. Damage caused by abuse, neglect and lack of proper maintenance, acts of nature and/or physical movement of the substrate or structural defects are also excluded from the limited warranty. PSI reserves the right to conduct performance tests on any material claimed to be defective prior to any repairs by owner, general contractor, or applicator.

#### DISCLAIMER

All guidelines, recommendations, statements, and technical data contained herein are based on information and 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 himself, by his own information and test, to determine suitability of the product for his own intended use, application and job situation and user assumes all risk and liability resulting from his use of the product. We do not suggest or guarantee that any hazard listed herein are the only ones which may exist. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements, whether in writing or oral, other than those contained herein shall not be binding upon the manufacturer, unless in writing and signed by a corporate officer of the manufacturer. Technical and application information is provided for the purpose of establishing a general profile of the material and proper application procedures. Test performance results were obtained in a controlled environment and PSI makes no claim that these tests or any other tests, accurately represent all environments.

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