



## PRODUCT DATA SHEET TUFF-TAC™ WATERPROOFING MEMBRANE

4 pages

### DESCRIPTION:

CANADIAN CONSTRUCTION PRODUCTS TUFF-TAC™ is a prefabricated reinforced laminate consisting of an impregnated fiberglass, non-woven, high strength inner mat sandwiched between layers of a polymer modified bitumen. An "open" spun-bonded polyester top mat provides ease of installation, mechanical protection against foot and vehicular traffic and instant adhesion to the compacted pavement interface. A unique 75mm leading edge guarantees a positive compound-to-compound seal at the overlap. Transverse seals are easily made using a simple propane torch.

1. Easy Release Film
2. Rubberized Asphalt Compound
3. Non-woven Fiberglass Reinforcement
4. Rubberized Asphalt Compound
5. Spun Bonded Polyester Mat

### PURPOSE:

CANADIAN CONSTRUCTION PRODUCTS TUFF-TAC™ forms an impenetrable water barrier between the concrete decks and subsequently applied traffic bearing toppings or surfacing material. It effectively prevents moisture, salts and deicing chemicals from infiltrating concrete surfaces, eliminates damage to steel reinforcing and eliminates concrete damage as a result of freeze-thaw cycles.

This waterproof, impermeable membrane furnishes a tough, flexible, bituminous compound, which assures the highest degree of resistance to moisture dissolved salts and corrosive chemicals. The reinforced high strength non-woven fiberglass mat adds strength and aid in eliminating ruptures of the membrane during application.

The thin spun bonded polyester mat imparts sufficient strength to the membrane to permit driving rubber tired trucks, pavers and other vehicles on the membrane covered bridge deck. Although the spun polyester facing mat has a high melting point, the hot asphalt forms a strong bond to the bituminous compound during compaction.



# CANADIAN CONSTRUCTION PRODUCTS

#4 19747 TELEGRAPH TRAIL  
LANGLEY, BC, CANADA V1M 3E6  
TEL: (604) 888-7818 FAX: (604) 888-8191

## WHERE TO USE IT:

CANADIAN CONSTRUCTION PRODUCTS TUFF-TAC™ should be used to cover concrete decking of new highway bridges prior to the application of the surfacing material. It may also be used during resurfacing of old bridges provided corrosive elements have not already penetrated the decking layer. Also excellent for use on parking decks, balconies, plazas and other locations where waterproofing is required.

## HOW TO USE IT:

The following procedures are a condensed version of those contained the CANADIAN CONSTRUCTION PRODUCTS TUFF-TAC™ APPLICATION SPECIFICATION sheet.

**Surface Preparation:** Concrete surfaces should be clean, dry and free from dust, dirt, mud, oil, grease and other contaminants. Laitance and loose concrete should be removed by sand blasting or mechanical abrasion. Holes and voids in the concrete should be patched with a suitable material.

**Edge Sealing:** Canadian Construction Products recommends all exposed edges of the completed membrane system be sealed using Bi-Crackee rubberized asphalt sealant meeting ASTM 6690 Type 1. The sealant shall be placed with a minimum 1 inch overlap to the membrane and substrate (concrete) surface.

**Use of Adhesive:** Canadian Construction Products special primers (or approved equal) should be stirred before using and applied at a rate of approximately 0.2 litres per sq.m, without dilution, by brush squeegee, roller or other acceptable methods. The adhesive should be allowed to dry to the touch before application of the membrane. This will require 30 to 90 minutes depending on temperature and humidity. If the adhesive tends to puddle in low spots, it should be brushed out thoroughly to complete drying. Wet adhesive should be removed from holes in the concrete to avoid solvent bubbling when the traffic surface is applied.

**Application:** For best results, the membrane should be applied at ambient temperatures of 3°C or higher. The membrane should be applied by hand rolling onto the application. The release film should be removed as the application proceeds. The membrane should be applied to the decking surface and should be brought up the curb to a point 25mm below the top of the overlay, or as otherwise provided by the engineer. Care should be taken to avoid rupture of the membrane when molding it to irregular contours. Narrow strips (curb strips) are available for easy application to curb areas.



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## HOW TO USE IT CONTINUED:

Each roll should be applied to overlap the previous roll by a minimum of 75mm. The overlap at the edge is self-sealing due to the placement of the spun bonded polyester mat providing compound to compound contact. The transverse lap at the end of each roll should be sealed by heating with a propane torch to melt the spun bonded polyester mat and fuse the surfaces together. Follow the appropriate data sheets for proper use of these products.

Application of Hot Asphalt Overlay: The asphalt should be between 140°C and 170°C at the time of application. Rubber tired pavers and trucks may be driven on the membrane provided care is taken to prevent sudden starts, stops or turns. As the hot asphalt is compacted, it bonds firmly to the surface of the membrane. A minimum of 40mm of compacted asphalt with a 13mm mix design is desirable.

## PHYSICAL PROPERTIES

PROPERTIES	TEST METHOD	TUFF-TAC
Colour		Black with spun bonded polyester to surface
To Surface		White Sun bonded polyester
Thickness		0.15 cm +/- 0.0127 cm (60 +/- 5 mils)
Weight		.35 ± 0.05
Elongation of Compound Only	ASTM D 1000 Mod. (see note # 1)	1000% min
Tensile Strength	ASTM D 1000 Mod. (see note #1)	4.46 kg/cm (15 #/inch width)
Permeance	ASTM E 96 Method B	.05 US Perms (max)
Compound Softening Point	ASTM D 36	97.8°C (208°F) (min)
Compound Penetration	ASTM D 5	40-60 @ 77°F 5 sec @ 100 Needle
Puncture Resistance	ASTM E 154	11 k (25#)
Low Temperature Pliability	ASTM D 146	1" Mandrel -31°C (-25°F) No cracks or splints @ 180° bend
Cycling Shear Strength	RTM 30- See Note #2 5.08" min (2"/min) @ 0°C (32°F) w/0" opening & .3175" cm (.125") displacement	1.76 kg/cm <sup>2</sup> (25 #/sq.in.) (min)
Cycling Shear Strength Recovery	RTM 30 - See Note #2 .635" cm (25") Recovery 0°C (32°F)	Constant load @ 1000 cycles no damage



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## PHYSICAL PROPERTIES

Resistance to Hydrostatic Head	RTM 29 - See Note #3	45.75 m (150 ft.) (min)
Water Absorption	ASTM D 1228- 72 hrs.	.25% (max)
Peel Adhesion	180° peel after 1 hour Primed Steel	1.784 kg/cm (min) 10#/inch (min)
Reinforcement		48 g/m <sup>2</sup>

## NOTES:

1. ASTM D 1000 Method using CRE Tester with a 4" jaw separation at a speed of 10"/min. PSI calculated from #/in. width at specified thickness.
2. RTM 30 uses membrane properly applied to two primed steel panels with a 25mm gap between panels. At specified test temperature the gap is cycled to the specified opening for the specified No. of cycles. For Shear Strength, the force/unit of the first cycle is recorded. For Shear Stress recovery any damage after the No. of cycles to constant load and the No. of cycles required to reach constant load is noted.
3. Hydrostatic Head tests are performed on membrane properly applied to primed concrete. The surface is sealed with a pressure chamber and water is introduced under pressure equal to specified head.

## TEST DATA: N/A

## ORDERING INFORMATION:

Call Canadian Construction Products representative or distributor or call Canadian Construction Products direct at (604) 888-7171 for prices, delivery, additional information or technical service.

The technical data furnished is true and accurate to the best of our knowledge. However, no guarantee of accuracy is given or implied. We guarantee our products to conform to our quality control standards. We assume no responsibility for installation, coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products determined to be defective by our Quality Control standards, exclusive of labor for installation and/or subsequent damage resulting/causing functional damage either directly or indirectly. Prompt reporting (within four (4) working days) of suspected defective product is required. Prices and cost data shown are subject to change without prior notice.

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