



**MOISTURE OUT. | CONFIDENCE IN.**

## TUFF-N-DRI SYSTEM APPLICATION

**TUFF-N-DRI® is North America's #1 brand of waterproofing for new basements. It protects against three main sources of moisture from basement walls – leaks, seepage and interior condensation.**

**Installed by select applicators.** TUFF-N-DRI Basement Waterproofing System is installed only by Barrier Solutions Contractors. These contractors undergo training to ensure the highest quality application.

**Surface preparation.** The wall surface should be smooth and monolithic. Remove loose aggregate and sharp protrusions from the wall. Voids, spalled areas and exposed aggregate should be patched with a suitable mastic before spraying. TUFF-N-DRI membrane does not require any priming or special preparation.

**System application.** TUFF-N-DRI membrane is sprayed evenly over the entire foundation wall. WARM-N-DRI® Foundation Board is applied over the waterproofing membrane as it cures. TUFF-N-DRI Basement Waterproofing System can be applied when ambient temperatures are as low as 20°F, allowing for fewer construction delays. TUFF-N-DRI membrane may be applied on poured concrete and block foundations. On poured concrete basements, TUFF-N-DRI can be applied as soon as the forms are removed, and on block basements, as soon as the mortar is dry.

**Foundation board performance.** WARM-N-DRI Foundation Board keeps foundation wall temperatures closer to the air temperature of the basement, which helps reduce interior condensation. Reduced condensation ensures less humid, more comfortable basement space. The placement of the foundation board on the wall's exterior also helps reduce the risk of damage due to freeze/thaw cycles, particularly if the foundation board is extended to the sill plate.

In addition, the foundation board protects TUFF-N-DRI membrane from damage during backfilling or damage from other construction trades. The compressibility of the foundation board will also absorb moderate soil expansion and help protect the basement wall.

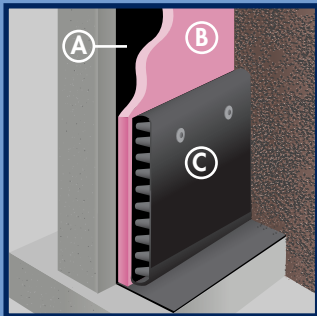
To assist drainage, WARM-N-DRI Foundation Board should extend to the footing and connect to a functioning perimeter drainage system, such as DrainStar® Stripdrain. The foundation board is required for all warranted TUFF-N-DRI Basement Waterproofing System installations.

**Model Energy Code.** Computer analysis of home energy use indicates that a considerable portion of a typical home's energy loss comes from heated, uninsulated basements. By installing the foundation board to the sill plate, the entire basement wall is insulated, and energy efficiency is maximized. Many states have adopted the Model Energy Code. Because WARM-N-DRI Foundation Board provides insulating performance, it assists with compliance to this code.

**Environmentally responsible.** TUFF-N-DRI membrane uses a non-flammable, water-based carrier that meets VOC limits in all 50 U.S. states. It has been thoroughly tested by independent labs using Federal EPA standards for leaching. The results prove that no harmful leaching of the TUFF-N-DRI membrane occurs.

**Availability and cost.** TUFF-N-DRI Basement Waterproofing System is competitively priced and available through your local Barrier Solutions Contractor. For details, contact your local Barrier Solutions Contractor, call 800-DRY-BSMT or visit [TUFF-N-DRI.com/Canadas](http://TUFF-N-DRI.com/Canadas).

**TUFF-N-DRI features a reliable system to control moisture from basement walls:**



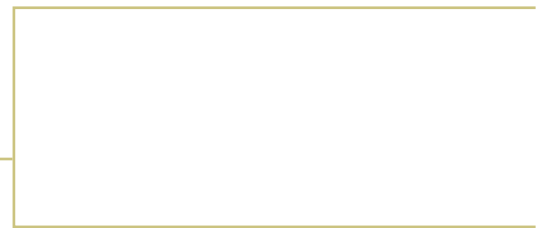
[A] A flexible waterproofing membrane is spray-applied to seamlessly span foundation wall shrinkage cracks and seal out water penetration.

[B] WARM-N-DRI Foundation Board assists drainage and insulates basement walls to reduce interior condensation.

[C] Shown with optional DrainStar Stripdrain instead of drain tile and gravel.



Your local Barrier Solutions Contractor.



## Membrane Properties

Type	Polymer-enhanced asphalt liquid-applied membrane	
Colour	Black	
Solids	64% ± 3% (percent by weight)	
Density	8.2 ± .1 lbs/gal	
Application	Airless spray	
Application Temperature	Minimum -18°C (0°F)	
Application Thickness	60 mils (wet) <sup>1</sup>	
Cure Time	16–24 hrs (under normal conditions)	
Adhesion to Concrete (Peel, N/m)	<b>Results:</b> Exceeds	<b>Method:</b> ASTM C-836
Elongation	<b>Results:</b> >2000%	<b>Method:</b> ASTM D-412
Crack Bridging Ability	<b>Results:</b> Passes	<b>Method:</b> ASTM C-836
Water Vapour Permeance	<b>Results:</b> <1 perm for 40-mil dry coating (grains/sf/hr)	<b>Method:</b> ASTM E-96 Wet Method
Liquid Water Absorption	<b>Results:</b> 0.3% [wt]	<b>Method:</b> ASTM E-1228 <sup>2</sup>
Resistance to Degradation in Soil	<b>Results:</b> Good	<b>Method:</b> ASTM E-154
Mould Growth and Bacterial Attack	<b>Results:</b> No Degradation	<b>Methods:</b> ASTM D-3273, ASTM D-3274
Resistance to Hydrostatic Head [ft of water]	<b>Results:</b> Could not generate hydrostatic pressure	<b>Method:</b> See <sup>3</sup>

<sup>1</sup> Measured in place with an ASTM D-4414 notch film gauge. Wet film measuring 60 mils cures to 40 dry mils.

<sup>2</sup> 72 Hour water soak 1" x 2" x 0.40" samples of waterproofing compound.

<sup>3</sup> When foundation board was applied to TUFF-N-DRI, the water drained away at a faster rate than the surrounding soil percolated, eliminating any hydrostatic build-up.

## Board Properties

Type	WARM-N-DRI Foundation Board			TUFF-N-DRI Barrier Board		
	4' x 8'	4' x 4'		4' x 8'	4' x 4'	
Board Size	4' x 8'	4' x 4'		4' x 8'	4' x 4'	
Board Thickness	3/4"	1-3/16"	2-3/8"	3/4"	1-3/16"	2-3/8"
Drainage Ability <i>(hydraulic gradient of 1.0)</i>						
Board Thickness	3/4"	1-3/16"	2-3/8"	3/4"	1-3/16"	2-3/8"
Gallons/Hour/Lineal Foot <sup>4</sup>	>70	>110	>210	>50	>80	>160
Thermal Resistance						
Board Thickness	3/4"	1-3/16"	2-3/8"	3/4"	1-3/16"	2-3/8"
Resistance	R-3	R-5	R-10	R-3 <sup>5</sup>	R-5 <sup>5</sup>	R-10 <sup>5</sup>

<sup>4</sup> Drainage rates with 10% board compression. At 65% compression, foundation board has the drainage capabilities of coarse sand.

<sup>5</sup> As manufactured resistance values (R-value)

For more details on TUFF-N-DRI, contact your local Barrier Solutions Contractor, call 800-DRY-BSMT or visit our Web site at [TUFF-N-DRI.com/Canada](http://TUFF-N-DRI.com/Canada).

