

### DESCRIPTION & USE

LEXCAN HI-TUFF TPO is a premium, heat weldable, thermoplastic polyolefin (TPO) single ply roofing membrane for new construction and re-roofing applications. This membrane consists of two plies, internally reinforced with a fully encapsulated fabric scrim.

HI-TUFF TPO meets or exceeds the requirements of ASTM D 6878.

### FEATURES & BENEFITS

**Optimized TPO Formulation** - Provides outstanding UV resistance, heat-aging properties, ozone resistance, cool roof reflectivity and overall weather resistance.

**Reliable Heat-Welded Seams** - Thermofused, molecularly bonded seams offer high strength and superior reliability.

**Super Strong** - The fully encapsulated fabric reinforcement provides high breaking and tearing strengths.

**Energy Saving** - Studies have shown that a light-coloured roof surface can significantly reduce air conditioning costs in the Summer and contribute to reducing a local urban heat island effect.

### TECHNICAL DATA

\*MD=Machine Direction \*\*XMD=Cross-Machine Direction

Note: All Data represents tested values.

Physical Properties	ASTM Test Method	Standard for ASTM D 6878 (Min)	45-mil		60-mil		80-mil	
			MD*	XMD*	MD*	XMD*	MD*	XMD*
Breaking Strength, min lbf (N):	D 751	220 (976)	326 (1.450)	309 (1.374)	411 (1.828)	388 (1.726)	464 (2.064)	439 (1.953)
Elongation at Break, min %:	D 751	15	31	32	27	27	29	31
Tearing Strength, min lbf (N):	D 751	45 (200)	72 (320)	122 (543)	92 (409)	178 (792)	65 (289)	179 (796)
Factory Seam Strength, min, lbf (N):	D 751	66 (290)	89 (396)		112 (498)		137 (609)	
Thickness, min, in.:	D 751	+/- 10% from Nominal	0.045 (Nominal)		0.060 (Nominal)		0.080 (Nominal)	
Thickness Over Scrim, min, in. (mm):	D 7635	0.015	0.018 (0.46)		0.027 (0.686)		0.033 (0.84)	
Water Absorption, max %:	D 471	3.0	0.10		0.11		0.03	
Brittleness Point, max, - 40°C (- 40°F):	D 2137	No Cracks	Pass		Pass		Pass	
Ozone Resistance:	D 1149	No Cracks	Pass		Pass		Pass	
Properties after Heat Aging: @ 116°C (240°F)	D 573	Pass/Fail	Pass		Pass		Pass	
Breaking Strength, % (after aging):	D 751	90	> 90	> 90	> 90	> 90	> 90	> 90
Elongation, % (after aging):	D 751	90	> 90	> 90	> 90	> 90	> 90	> 90



**Chemical Resistant** - HI-TUFF TPO is able to withstand prolonged exposure to numerous industrial wastes and chemicals, including some oils and greases. Contact Lexcan to verify the resistance of the membrane to a particular chemical before proceeding with an installation.

**Proven Performance** - HI-TUFF TPO membrane has been installed on thousands of projects and in successful use since the 1990s.

Physical Properties	ASTM Test Method	Standard for ATSM D 6878 (Min)	45-mil		60-mil		80-mil	
			MD*	XMD*	MD*	XMD*	MD*	XMD*
Tearing Strength, % (after aging):	D 751	60	> 60	> 60	> 60	> 60	> 60	> 60
Weight Change, max, % (after aging):	D 751	± 1.0	0.25		0.19		0.22	
Linear Dimensional Change, max, %: (after 6 hrs 70°C (158°F))	D 1204	± 1.0	< 0.1		< 0.1		< 0.1	
Accelerated Weathering, min:	G151 & G155	10,080 kJ/m <sup>2</sup> .nm @ 340 nm (4.000 hrs @ 0.70 W)	> 20,160 kJ/m <sup>2</sup> (>8.000 hrs)		> 20,160 kJ/m <sup>2</sup> (>8.000 hrs)		> 20,160 kJ/m <sup>2</sup> (>8.000 hrs)	
Cracking (@7x magnification):	G155	No Cracks	Pass		Pass		Pass	

### Supplemental Testing

Physical Properties	ASTM Test Method	Standard for ATSM D 6878 (Min)	45-mil Result	60-mil Result	80-mil Result
Dynamic Puncture:	D 5635	N/A	Pass @ 25 Joules	Pass @ 25 Joules	Pass @ 25 Joules
Static Puncture:	D 5602	N/A	Pass @ 20 kg (44 lb)	Pass @ 20 kg (44 lb)	Pass @ 20 kg (44 lb)
Impact Resistance of Bituminous Roofing Systems:	D 3746	N/A	Pass - minor indentations	Pass - minor indentations	Pass - minor indentations
Reflectance:	C 1549	N/A	78%	78%	78%
	E 903	N/A	80%	80%	80%
Emittance:	C 1371	N/A	0.87	0.87	0.87
	E 408	N/A	0.96	0.96	0.96
SRI:	E 1980	N/A	95	95	95
Resistance of Synthetic Polymer Material to Fungi:	G 21	N/A	0 rating	0 rating	0 rating
Puncture Resistance: (FTMS 101C, Method 2031)	N/A	N/A	165 kg (363 lb)	168 kg (371 lb)	239 kg (526 lb)
Moisture Vapor Transmission:	E 96	N/A	0 g/m <sup>2</sup> per 24 hours	0 g/m <sup>2</sup> per 24 hours	0 g/m <sup>2</sup> per 24 hours
Hydrostatic Resistance, Mullen:	D 751	N/A	474 PSI (3268 kPa)	474 PSI (3268 kPa)	474 PSI (3268 kPa)
Standard Test Method for Air Permeance of Building Materials:	E 2178	N/A	Pass @<0.0005 L/(s·m <sup>2</sup> ) (Pass @<0.0001 CFM/ft <sup>2</sup> )	Pass @<0.0005 L/(s·m <sup>2</sup> ) (Pass @<0.0001 CFM/ft <sup>2</sup> )	Pass @<0.0005 L/(s·m <sup>2</sup> ) (Pass @<0.0001 CFM/ft <sup>2</sup> )

### ENERGY & THE ENVIRONMENT

Standard			Reflectivity	Emissivity
CCRC®	White	Initial	0.77	0.87
		3 Yr. Aged	0.70	0.86
	Tan	Initial	0.67	0.87
		3 Yr. Aged	0.62	0.90
	Grey	Initial	0.35	0.87
		3 Yr. Aged	0.34	0.90
CA Title 24	White	Pass	0.77	0.87
	Tan	Pass 3 Yr. Aged	SRI=75	

### SINGLE PLY ROOFING SYSTEMS

Ontario & Western Canada 1.800.268.2889

Quebec & Atlantic Canada 1.800.363.2307

### ENERGY & THE ENVIRONNEMENT

Standard			
LEED® (SRI)	White	Initial	95
		3 Yr. Aged	85
	Tan	Initial	81
		3 Yr. Aged	75
	Grey	Initial	39
		3 Yr. Aged	37
Recycled Content	Post-consumer:		0%
	Post-industrial:		5%

The LEED® Solar Reflectance Index (SRI) is calculated per ASTM E1980.

### APPROVALS & COMPLIANCES



### PACKAGING & COVERAGE

Roll Sizes	Roll Coverage	45-mil	60-mil	80-mil
1.52 m x 30.48 m (5'x 100')	46.45 m <sup>2</sup> (500 ft <sup>2</sup> )	✓	✓	✓
1.83 m x 30.48 m (6'x 100')	55.74 m <sup>2</sup> (600 ft <sup>2</sup> )	✓	✓	-
1.83 m x 22.86 m (6'x 75')	55.74 m <sup>2</sup> (600 ft <sup>2</sup> )	-	-	✓
2.44 m x 30.48 m (8'x 100')	74.32 m <sup>2</sup> (800 ft <sup>2</sup> )	✓	✓	✓
3.05 m x 30.48 m (10'x 100')	92.9 m <sup>2</sup> (1,000 ft <sup>2</sup> )	✓	✓	✓
3.66 m x 30.48 m (12'x 100')	111.5 m <sup>2</sup> (1,200 ft <sup>2</sup> )	✓	✓	-
3.66 m x 22.86 m (12'x 75')	83.61 m <sup>2</sup> (900 ft <sup>2</sup> )	-	-	✓

Available colours: White, Grey and Tan\*

\*Grey and Tan lead times are subject to availability and may require an upcharge for smaller projects.

### PRODUCT COMPATIBILITY

HI-TUFF TPO is compatible with the following Application Methods:

- Fully Adhered
- Mechanically Fastened
- Induction Welded

### INSTALLATION

HI-TUFF TPO is installed by professional roofing contractors trained and approved by LEXCAN. Refresher seminars are regularly held to update contractors on the latest techniques and developments. Refer to HI-TUFF TPO application guides and detail drawings for instructions.

### WARRANTY

Superior installation quality and long-term performance is guaranteed with comprehensive LEXGUARD warranty packages. To provide the best assurance of a quality installation, projects are normally inspected both during installation and after completion by a LEXCAN technical representative.