LEXCAN

HI-TUFF TPO
Reinforced Membrane

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.

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

TECHNICAL DATA

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

PHYSICAL PROPERTIES	ASTM Test Method	Standard for ATSM 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

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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^2.nm @ 340 nm (4,000 hrs @ 0.70 W)	> 20,160 kj/m^2 (>8,000 hrs)		> 20,160 kj/m^2 (>8,000 hrs)		> 20,160 kj/m^2 (>8,000 hrs)	
Cracking (@7x magnification)	G155	No Cracks	Pass		Pass		Pass	

Note: All Data represents tested values.

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^2 per 24 hours	0 g/m^2 per 24 hours	0 g/m^2 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^2) (Pass @<0.0001 CFM/ft^2)	Pass @<0.0005 L/(s·m^2) (Pass @<0.0001 CFM/ft^2)	Pass @<0.0005 L/(s·m^2) (Pass @<0.0001 CFM/ft^2)

ENERGY & THE ENVIRONNEMENT

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	

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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

FM APPROVED

CLASSIFIED C UL US

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^2 (500 ft^2)	√	√	√
1.83 m x 30.48 m (6'x 100')	55.74 m^2 (600 ft^2)	√	√	√
1.83 m x 22.86 m (6'x 75')	55.74 m^2 (600 ft^2)	-	-	√
2.44 m x 30.48 m (8'x 100')	74.32 m^2 (800 ft^2)	√	√	√
3.05 m x 30.48 m (10'x 100')	92.9 m^2 (1000 ft^2)	√	√	√
3.66 m x 30.48 m (12'x 100')	111.5 m^2 (1200 ft^2)	√	√	-
3.66 m x 22.86 m (12'x 75')	83.61 m^2 (900 ft^2)	-	-	√

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.