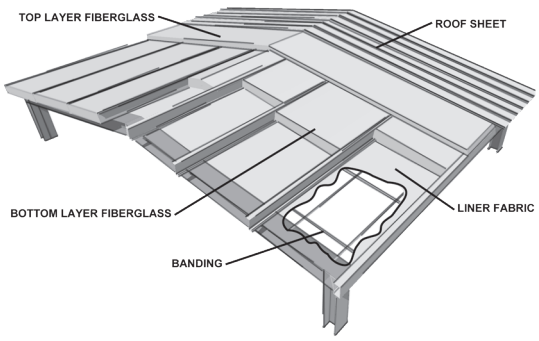
THERM•ALL

ProLiner™ Banded Liner System

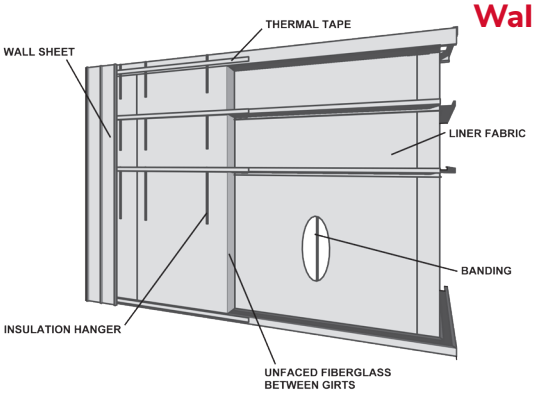
Bi-Directional Banding Featuring
OSHA-Compliant Leading Edge Fall Protection

Product Data Sheet

Roof System



Wall System



Description

The ProLiner™ Banded Liner System is a thermal insulation and moisture control system for metal building construction. It consists of three components:

1. A polyethylene vapor retarder liner fabric, available in white, grey, or other colors.
2. Galvanized metal support straps (bands)
3. One or two layers of EcoTouch® MBI Plus Filler Blanket

Applications

- Metal building roof assemblies
- Metal building wall assemblies

Availability

EcoTouch® MBI Plus Filler Blanket[1]	
R-Value	Thickness (inches)
10	3.0
11	3.5
13	4.0
16	5.0
19	6.0
25	8.0
30	9.0

Physical Properties

Property	Test Method	Value
Insulation		
Surface Burning Characteristics: * Flame Spread Index * Smoke Developed Index	ASTM E84	 < 25 < 50
Combustion Characteristics	ASTM E136	Noncombustible
Water Vapor Sorption	ASTM C1104	≤ 0.2% by volume
Odor Emission	ASTM C1304	No objectionable odor[1]
Corrosiveness	ASTM C665	No corrosion greater than comparative item
Fungi Resistance	ASTM C1338	No growth greater than comparative item
Liner Fabric		
Surface Burning Characteristics (white side exposed) * Flame Spread * Smoke Developed	UL723 (ASTM E84) 0 30	CAN/ULC S102-10 5 30
Flame Resistance	NFPA 701 (Large Scale)	Pass
Water Vapor Permeance	ASTM E96	0.033 perms
Fungi Resistance	ASTM C1336	No Growth (ATCC #'s 9642, 6205, 11797, 11730 and 9643)
Thickness	ASTM D177	Nominal 9 mil (0.22mm)
Grab Tensile	ASTM D5034	Warp 140 lb 621 N/ Weft 135 lb 599 N
Strip Tensile	ASTM D5035	Warp 100 lb/in (888)/ Weft 90 lb/in (799)
Tongue Tear	ASTM D2261	Warp 50 lb 222 N/ Weft 45 lb 200 N
Mullen Burst	ASTM D3786	250 psi 1722 kPa
Light Reflectance	ASTM E1477	81
Puncture Resistance	ASTM D4833	65 lb 288 N
Air Permeance	ASTM E2178	0.002 L/s•m² at air pressure difference of 75 Pa
Accelerated UV Weathering	ASTM G154	>50% strength retention after 2000 hrs exposure @ 0.77 W/m²/nm, or 1200 hrs exposure @ 1.35 W/m²/nm

1. No odor for a minimum of 3 of 5 panel members.
*Note: The result for Puncture Resistance (ASTM D4833) is based on limited testing.

Features

- Thermal performance - full range of insulation R-values (see "Availability" table) to meet energy conservation code requirements in all climate zones
- Moisture control - polyethylene liner fabric provides code required vapor retarder (see water vapor permeance value on "Physical Properties" table)
- Noise control - improves the building interior environment by reducing noise transfer from both exterior and interior sources (see "Sound Absorption" and "Acoustic Data" tables)
- Durable, cleanable finish - the liner fabric is strong and highly reflective for better interior lighting efficiency (see data in "Physical Properties" table). It can also be easily cleaned with water and mild detergent

Sound Absorption

EcoTouch® MBI Plus Filler Blanket for Metal Building Roof and Wall Configurations[1, 2]

Insulation Total R-Value	Absorption Coefficients at Octave Band Frequencies						
	125	250	500	1000	2000	4000	NRC
25	0.59	1.09	0.83	0.59	0.31	0.11	0.70
30	0.71	1.10	0.87	0.57	0.31	0.13	0.70
35	0.80	1.10	0.90	0.56	0.30	0.14	0.70
40	0.84	1.07	0.92	0.59	0.31	0.11	0.70
44	0.68	0.98	0.92	0.58	0.31	0.13	0.70
49	0.67	1.01	0.92	0.56	0.31	0.14	0.70

1. Sound absorption testing in accordance with ASTM C423.
2. All testing conducted with the facing towards the soundfield as in actual use condition.

Assembly U-factors[1]

ASHRAE 90.1-2019: Table A2.3.3 Assembly U-Factors for Metal Building Walls		
Insulation System	**Insulation R-value**	**Assembly U-factor**
Single Layer in Cavity	R-25[a]	0.059
	R-30[b]	0.052
Double Layer	R-25 + R-10	0.047
	R-25 + R-16	0.042
	R-25 + R-10[c]	0.039
	R-30 + R-16	0.039

(Multiple R-values are listed in order from inside to outside)
a. A min. R-0.375 thermal spacer block or thermal break strip is required when installed without continuous insulation.
b. A min. R-0.75 thermal spacer block or thermal break strip is required when installed without continuous insulation.
c. A minimum R-3 thermal spacer block is required.

ASHRAE 90.1-2019: Table A2.3.3 Assembly U-Factors for Metal Building Roofs		
Insulation System	**Insulation R-value**	**Assembly U-factor**
Standing Seam Roofs with Thermal Spacer Blocks[a,b]		
Liner System	R-19 + R-11	0.037
	R-25 + R-8	0.037
	R-25 + R-11	0.031
	R-30 + R-11	0.029
	R-25 + R-11 + R-11	0.026
Standing Seam Roofs without Thermal Spacer Blocks		
Liner System	R-19 + R-11	0.040
Through-Fastened Roofs without Thermal Spacer Blocks		
Liner System	R-19 + R-11	0.044

a. A standing seam roof clip that provides a minimum 1.5 in. distance between the top of the purlins and the underside of the metal roof panels is required.
b. A minimum R-3 thermal spacer block is required.

1. All Metal Building Roof and Wall U-factor values are published in ANSI/ASHRAE/IES Standard 90.1-2019.

Standards, Codes Compliance

- EcoTouch® MBI Plus Filler Blanket is manufactured in accordance with ASTM C991, Fibrous Glass Insulation for Metal Buildings, Type I.
- Liner fabric meets ASTM C1136, Standard Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation Type III-VI. It is classified as a Class I Material Vapor Retarder, according to Section 1404.3.3 of the IBC.

Installation Recommendations

When installed in strict compliance with the following Bi-Directional Banding instructions and by a "Competent Person" as defined in OSHA Standard 29 CFR 1926.751, ProLiner meets the requirements of OSHA Standard 29 CFR 1926.502 (c)(4)(i) and OSHA Standard 29 CFR 1926.760 (a)(1) for leading edge fall protection and OSHA Standard 29 CFR 1926.754 (e)(3)(i) covers for roof and floor openings. Any deviation from these installation instructions or substitution of any original components will nullify compliance with these OSHA standards. Other means of fall protection, such as perimeter safety or guide lines, must be used at all times during the installation of the support banding and prior to the completed placement of the liner support fabric. The use of ProLiner is only one part of the overall site-specific safety place for the construction site.

Environmental and Sustainability

Therm-All is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Therm-All is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at therm-all.com.

Acoustic Data

Sound Transmission Loss[1, 2]

	Construction Type	Clip Standoff (inches)	Top Layer Insulation R-Value	Bottom Layer Insulation R-Value	Transmission Loss - dB at Octave Band Frequencies 125	250	500	1000	2000	4000	STC	OITC
Roofs	Through Fastened	NA	10	19	14	26	35	40	49	51	37	36
	Through Fastened	NA	19	30	18	32	42	50	57	57	42	41
	Standing Seam	0.25	10	19	14	26	34	44	52	53	36	36
	Standing Seam	1.25	19	30	19	32	42	56	63	58	42	41
	Standing Seam	1.75	19	30	20	32	42	56	62	58	42	42

	Construction Type	Foam Tape Thickness (inches)	Single Layer Insulation R-Value	Transmission Loss - dB at Octave Band Frequencies 125	250	500	1000	2000	4000	STC	OITC
Walls	Through Fastened	0.125	25	15	26	35	41	50	53	37	36
	Through Fastened	0.375	30	17	29	38	45	54	54	39	38

1. Sound Transmission Loss Tested in accordance with ASTM E90.
2. Values are given for design approximations only. Production and test variabilities will alter the results.

Certifications and Sustainable Features*

- Certified by SCS Global Services to contain a minimum of 63% recycled glass content, 23% pre-consumer, and 40% post-consumer
- GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg
- Environmental Product Declaration (EPD) has been certified by UL Environment

*All certifications noted are for the EcoTouch® MBI Plus Filler Blanket only and do not apply to the liner fabric.

AVERAGE 63% RECYCLED CONTENT
40% POSTCONSUMER
23% PRECONSUMER

Disclaimer of Liability

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