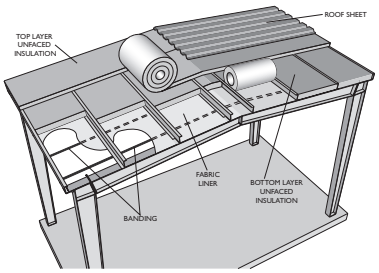
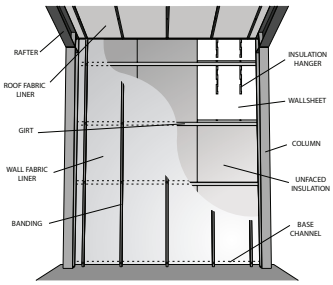
OPTILINER®
BANDED LINER SYSTEM



Roof System



Wall System

The OptiLiner® 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 or black
2. Galvanized metal support straps (bands)
3. One or two layers of EcoTouch® Certified R Metal Building Insulation

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.

Standards, Codes Compliance

- EcoTouch® Certified R Metal Building insulation 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 I - VI.

Applications

- Metal building roof assemblies
- Metal building wall assemblies

Availability

EcoTouch® Certified R Metal Building Insulation[2]

PRE-LAMINATE R-VALUE	LAMINATED R-VALUE	THICKNESS (INCHES)
10.8	10	3.4
11.9	11	3.7
14.1	13	4.3
17.3	16	5.3
20.6	19	6.3
22.8	21	6.7
27.1	25	8.0
32.5	30	9.25

2 Manufactured in accordance with NAIMA standard 202-96 revision 2000. When installed as part of the OptiLiner Banded Liner System, use "pre-laminated" R-value.

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 Flame Spread Index Smoke Developed Index	ASTM E84	 < 25 < 50
Water Vapor Permeance	ASTM E96	≤ 0.02 perms
Fungi Resistance	ASTM C1338	No growth greater than comparative item
Tensile Strength		
Light Reflectence		

1 No odor for a minimum of 3 of 5 panel members.

Sound Absorption

EcoTouch® Insulation for Metal Building Roof and Wall Configurations[5,6]

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

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

Acoustic Data

Sound Transmission Loss[3,4]

	CONSTRUCTION TYPE	CLIP STANDOFF (INCHES)	TOP LAYER INSULATION R-VALUE	BOTTOM LAYER INSULATION R-VALUE	TRANSMISSION LOSS - DB AT OCTAVE BAND FREQUENCIES						STC	OITC
					125	250	500	1000	2000	4000		
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**						**STC**	**OITC**
					125	250	500	1000	2000	4000		
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

3 Sound Transmission Loss Tested in accordance with ASTM E90.

4 Values are given for design approximations only. Production and test variabilities will alter the results.

Assembly U-factors[7]

METAL BUILDING WALLS

INSULATION SYSTEM	INSULATION R-VALUE	ASSEMBLY U-FACTOR
Single Layer in Cavity	R25[a] R30[b] R32.5[c] R32.5[d]	0.059 0.052 0.044 0.049
Double Layer	R25 + R10 R25 + R16 R25 + R10[e] R30 + R16	0.047 0.042 0.039 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 min. ⅛" thermal break tape is required when installed without continuous installation. 8.5" girts 5'0" on center.

d. A min ¼" thermal break tape is required when installed without continuous insulation. 8" Girts 5'0" on center.

e. A minimum R-3 thermal spacer block is required.

METAL BUILDING ROOFS

INSULATION SYSTEM	INSULATION R-VALUE	ASSEMBLY U-FACTOR
Standing Seam Roofs with Thermal Spacer Block		
Liner System	R19 + R11 R25 + R8 R25 + R11 R30 + R11 R25 + R11 + R11	0.037 0.037 0.031 0.029 0.026
Standing Seam Roofs without Thermal Spacer Block		
Liner System	R19 + R11	0.040
Through Fastened Roofs without Thermal Spacer Block		
Liner System	R19 + R11	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 R3 thermal spacer block is required.

c. A minimum R5 thermal spacer block is required.

7 All values are from ANSI/ASHRAE/IES Standard 90.1-2016. Wall and Roof assembly U-factors are calculated using pre-laminated R-values of insulation meeting NAIMA standard 202-1996 revision 2000.

Installation Recommendations

When installed in strict compliance with the following Bi-Directional Banding instructions, OptiLiner® meets the requirements of OSHA Standard 29 CFR 1926.754(e)(3)(i) for leading edge fall prevention. Detailed roof and wall application recommendations can be found in the roof and wall installation guides for the OptiLiner® system. Any deviation from these installation instructions or substitution of any original components will nullify compliance with the OSHA standard. Other means of fall protection must be used at the perimeter of the structure during the installation of the support strapping and prior to the completed placement of the support fabric. The use of OptiLiner® Banded Liner System is only part of the overall site safety plan for the construction site.

Environmental and Sustainability

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

Certifications and Sustainable Features[8]

- Certified by SCS Global Services to contain a minimum of 63% recycled glass content, 23% pre-consumer and 40% post-consumer (Certification SCS-RC-01025)
- GREENGUARD GOLD Certified products are certified to GREENGUARD GOLD standards for low chemical emissions into indoor air during product usage (Certication 17602-420). For more information, visit ul.com/gg
- Environmental Product Declaration (EPD) has been certified by UL Environment (Declaration Number 4790365982.103.1)

8 All certifications noted are for the EcoTouch® Certified R insulation only and do not apply to the liner fabric.

AVERAGE 65% RECYCLED CONTENT
18% PRE-CONSUMER
47% POST-CONSUMER

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Notes

For additional information, refer to the Safe Use Instruction Sheet (SUIS) found in the SDS Database via http://sds.owenscorning.com

OWENS CORNING FOAM INSULATION, LLC
ONE OWENS CORNING PARKWAY
TOLEDO, OH 43659 USA

1-800-GET-PINK®
www.owenscorning.com

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