

THERMOLITE™ & THERMOLITE™ WE

Technical Data Sheet

PRODUCT: Thermolite™ & Thermolite™ WE
EFFECTIVE: October 19, 2018

Description: Thermolite™ is an insulated glazing insert panel that consists of a foam plastic core bonded on both sides to thermoplastic stabilizers with finished sheets of aluminum on each face. Thermolite™ WE includes edge treatment allowing for metal-to-metal butt-glazed joints to create hairline joints. Intended for use in window, glazing, and curtain wall systems, panels are available with smooth or stucco-embossed finishes and in thicknesses ranging from 3/4 to 3-1/2 in (Note: Thermolite™ WE is limited to 2-1/2 in).

Properties:

Thickness	1 in (nom), typ. (15/16 in actual +/- 1/16 in)	
Weight	1.40 psf (+/-)	
Core	Expanded Polystyrene (EPS): 2.0 pcf density (Type IX)	Polyisocyanurate (ISO): 2.0 pcf density (Type I)
Stabilizers	Extruded Thermoplastic	
Sheets (ASTM B209)	3003-H14/24, 3105-H14/24 & H26/28, 5005-H34 Aluminum 0.0125, 0.015, 0.022, 0.024, 0.027, 0.028, & 0.032 in	
Thermal Expansion	13.1x10 ⁻⁶ in/in/°F	

R-Values:

	EPS Core			ISO Core	
	Thickness (in)	R-Value (hr °F ft ² / BTU)		Thickness (in)	R-Value (hr °F ft ² / BTU)
	3/4	2.2 [†]		3/4	2.6 [‡]
	1	3.3 [*]		1	3.9 [*]
	1-1/2	5.5 [†]		1-1/2	6.6 [‡]
	2	7.7 [†]		2	9.3 [‡]
	2-1/2	9.8 [†]		2-1/2	12.0 [‡]
	3	12.0 [†]		3	14.7 [‡]
	3-1/2	14.2 [†]		3-1/2	17.4 [‡]

Notes:

- * R-Value based on ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus performed by independent laboratory per ASHRAE 90.1-2010.
- † Calculated value based on Carpenter Company published R-Value for 2.0 pcf density (Type IX) EPS foam at 75°F.
- ‡ Calculated value based on Elliot Company published aged R-Value for 2.0 pcf density (Type I) ISO foam.
- Linear interpolation between values is permitted.

Performance:

Fire Performance (ASTM E84)	Class A (2 in w/ EPS) Flame Spread Index (FSI) = 0 Smoke Developed Index (SDI) = 100	Class A (1 in w/ ISO) Flame Spread Index (FSI) = 15 Smoke Developed Index (SDI) = 350
Sound Transmission (ASTM E90)	STC 26 (EPS)	

Allowable Load-Carrying Capacities:

0.0125 or 0.15 in Double-Sided

Panel Span (in)	12	18	24	30	36	42	48	54	60
Wind Load (psf)	120*	120*	85	60	50	40	35	30	25

0.022 or 0.024 in Double-Sided

Panel Span (in)	12	18	24	30	36	42	48	54	60
Wind Load (psf)	120*	120*	100	80	65	60	50	45	40

0.027, 0.028, or 0.032 in Double-Sided

Panel Span (in)	12	18	24	30	36	42	48	54	60
Wind Load (psf)	120*	120*	100	85	70	65	55	50	45

Notes:

1. Double-Sided refers to matching sheet thickness on each face (typical composition). For Single-Sided panels (i.e. non-matching sheet thickness), refer to the chart corresponding to the lesser sheet thickness for capacities.
2. Panel Span applies to shortest dimension of finished panel.
3. Capacities are governed by the 2010 Aluminum Design Manual (ADM) using a minimum Factor of Safety = 1.65 for yield strength.
4. Strength conditions govern for given capacities; therefore, 2015 International Building Code (IBC) deflection limits have been met. Capacities noted * are capped at 120 psf.
5. Project-specific Components and Cladding wind loads are to be calculated per ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures and shall not exceed Allowable Load-Carrying Capacities for given spans.
6. Testing was performed in conjunction with ASTM E529 Standard Guide for Conducting Flexural Tests on Beams and Girders for Building Construction.