

THERMOLITE™

Technical Data Sheet

PRODUCT: Thermolite™
EFFECTIVE: January 24, 2020

Description: Thermolite™ is an insulated glazing panel that consists of a foam plastic core bonded on both sides to thermoplastic stabilizers with finished sheets of aluminum on each face. Intended for use in window, glazing, and curtain wall systems, panels are available in thicknesses ranging from 3/4 to 3-1/2 in.

Properties:

Thickness	1 in (nom), standard	
Weight	1.40 psf (+/-), standard	
Core	Expanded Polystyrene (EPS): 2.0 pcf density (Type IX)	Polyisocyanurate (ISO): 2.0 pcf density (Type I)
Stabilizers	Extruded Corrugated Polypropylene	
Sheets (ASTM B209)	3003-H14/24, 3105-H14/24 & H26/28, 5005-H34 Aluminum 0.0125 to 0.032 in	
Texture Finish	Smooth or Stucco-Embossed	
Color Finish (AAMA 2605)	PVDF/Kynar 500®, Polyester, or Anodized	
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.

2. † Calculated value based on Carpenter Company published R-Value for 2.0 pcf density (Type IX) EPS foam at 75°F.
3. ‡ Calculated value based on Elliot Company published aged R-Value for 2.0 pcf density (Type I) ISO foam.
4. 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
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Notes:

1. Surface-burning characteristics are applicable to exterior conditions only and are not applicable to interior conditions.
2. Per International Building Code (IBC), panels shall be separated from the interior of a building with 1/2 in gypsum wallboard or other material tested in accordance with and meeting the acceptance criteria of NFPA 275.

Available Load-Carrying Capacities (R_n / Ω):

0.0125 to 0.015 in Sheets (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 to 0.024 in Sheets (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 to 0.032 in Sheets (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. Capacities are calculated for a 1 in (nom), standard panel with EPS core. Contact Laminators Technical Support for capacities of panels less than 1 in.
2. Double-Sided refers to matching sheet thickness on each face (typical construction). For Single-Sided panels (i.e. non-matching sheet thickness), refer to the chart corresponding to the lesser sheet thickness for capacities.
3. Panel Span applies to shortest dimension of finished panel.
4. Capacities are governed by the 2010 Aluminum Design Manual (ADM) using a minimum Factor of Safety = 1.65 for yield strength.
5. Strength conditions govern for given capacities; therefore, 2015 International Building Code (IBC) deflection limits have been met. Capacities noted * are capped at 120 psf.
6. Project-specific Components and Cladding wind loads (Required Strength, R_a) shall not exceed Available Load-Carrying Capacities (Allowable Strength, R_n / Ω) for given spans. Wind loads are to be calculated per ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures.
7. Testing was performed in conjunction with ASTM E529 Standard Guide for Conducting Flexural Tests on Beams and Girders for Building Construction.