

INFERNOSHIELD®

TECHNICAL DATA SHEET

PRODUCT: InfernoShield
EFFECTIVE: October 17, 2024

Description: Laminators Inc. InfernoShield is a noncombustible insulated glazing panel that consists of a calcium silicate composition core bonded on both sides to a thermoplastic stabilizer with a texture/color finished sheet of aluminum on each face. Panels are intended for use in window, glazing, and curtain wall systems.

Properties:

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|---|--|
| Thickness | 1 in (nom), standard |
| Weight | 2.77 psf (+/-), standard |
| Core | Calcium Silicate (e.g., Ca ₂ SiO ₄) Composition (based on xonotlite mineral) 18.0 pcf density |
| Stabilizers | Extruded Profile Polypropylene |
| Aluminum Sheets (ASTM B209-14) | 3003-H14/24; 3105-H14/24 & H26/28; 5005-H34 0.012 to 0.032 in |
| Texture Finish ¹ | Smooth or Stucco-Embossed |
| Color Finish ¹ (AAMA 2605-22) | PVDF/Kynar 500®, Polyester, or Anodized |
| Coefficient of Thermal Expansion, α (2015 ADM) | 13x10 ⁻⁶ in/in/°F |

Performance:

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|--|-------------------------------|
| Fire-Resistance Rating (2018 IBC / 703.2) | Not Tested |
| Noncombustible Material (2018 IBC / 703.5) | Meets Criteria for Acceptance |
| <ul style="list-style-type: none"> • Elementary Materials ² (2018 IBC / 703.5.1) | Pass (per 8.7.3) |

Go beyond the panel... and go to the next level!

| | |
|---|---|
| <ul style="list-style-type: none"> Composite Materials (2018 IBC / 703.5.2 / ASTM E84-21a) | Class A Flame Spread Index (FSI) = 0 Smoke Developed Index (SDI) = 55 |
| R-Value ³ (ASTM C518-17) | 2.1 hr °F ft ² / BTU |
| Temperature Cycling (ASTM E2264-05 [13]) | No visual changes |

Allowable Strength Design (ASD) Capacities (R_n / Ω): ^{4,5,6,7}

0.012 to 0.015 in Sheets

| | | | | | | |
|------------------------------|------|----|----|----|----|----|
| Panel Span (in) ⁸ | ≤ 30 | 36 | 42 | 48 | 54 | 60 |
| Wind Load (psf) ⁹ | 60 | 58 | 43 | 32 | 26 | 20 |

0.027 to 0.032 in Sheets

| | | | | |
|------------------------------|------|----|----|----|
| Panel Span (in) ⁸ | ≤ 42 | 48 | 54 | 60 |
| Wind Load (psf) ⁹ | 60 | 50 | 39 | 32 |

Notes:

- Contact Laminators Sales/ Customer Service team for availability.
- Based on third-party documentation provided by manufacturer:
 - ASTM E136-24a Report 240723004SHF-001
- Based on 1 in (nom), standard panel and ASTM C518-17 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.
- Based on internal testing performed in conjunction with ASTM E529 Standard Guide for Conducting Flexural Tests on Beams and Girders for Building Construction.
- Capacities calculated for a 1 in (nom), standard panel with Ca₂SiO₄ composition core, actual sheet thickness, and double-sided typical construction (matching sheet thickness on each face).
- Based on the Aluminum Design Manual (ADM).
- Project-specific Components and Cladding wind loads (Required Strength, Ra) shall not exceed Available Load-Carrying Capacities (Allowable Strength, Rn / Ω) for given spans. Wind loads are to be calculated per ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures.
- Panel Span applies to shortest dimension of finished panel.
- Strength conditions govern for given capacities; therefore, International Building Code (IBC) deflection limits have been met. Capacities capped at values shown but are higher for spans less than indicated. Contact Laminators Technical Support if higher capacities are required.