

Product Data

Concrete Faced Insulated (CFI) Wall Panels

Manufacturer

T. Clear Corporation
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Product Description

Concrete Faced Insulated (CFI) Wall Panels are a prefinished, "One Step" exterior perimeter foundation or wall insulation consisting of closed cell, Styrofoam® extruded polystyrene insulation with a factory applied 5/16" (8mm) thick latex-modified concrete facing. **CFI Wall Panels** are installed using specifically designed galvanized steel mounting clips.

Basic Uses

CFI Wall Panels provide highly efficient insulation and a durable finish in a one-step process. The insulation is intended for use below and above-grade, exposed to a height not to exceed 3 stories.

CFI Wall Panels are an appropriate perimeter insulation for industrial, commercial and institutional new and retrofit foundation or wall applications. The one-step process makes installation easy, in any weather, without the need for highly skilled labor.

Sizes

Width and length: 2' x 4'
(600mm x 1,200mm)
Edge treatment: tongue and groove along the 4' (1,200mm) edge
Thickness: 2" or 3" (51mm or 75mm)

Technical Data

APPLICABLE STANDARDS

ASTM International

- ASTM C518 (Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus)
- ASTM D1621 (Standard Test Method for Compressive Properties of Rigid Cellular Plas-

- ASTM E96 (Standard Test Methods for Water Vapor Transmission of Materials)
- ASTM D696 (Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30° and 30°C with a Vitreous Silica Dilatometer)
- ASTM D2842 (Standard Test Method for water absorption of Rigid Cellular Plastics)
- CAN/ULC S701 Type 4

PHYSICAL/CHEMICAL PROPERTIES

CFI Wall Panels exhibit physical properties as indicated in Table 1 when tested as represented. For chemical resistance properties of Styrofoam extruded polystyrene insulation, see Table 2.

Table 1.

PHYSICAL PROPERTIES of CONCRETE FACED INSULATED WALL PANELS	
Property and Test Method	Value
Thermal Resistance per in. (25mm), ASTM C518 @ 75°F (24°C) mean temp., ft·h·°F/Btu (m ² ·°C/W) min., R-value (RSI)*	5.0 (8.7)
Foam Compressive Strength**, ASTM D1621, psi (kPa), min.	35 (240)
Water Absorption, ASTM D2842, % by volume, max.	<0.7
Water Vapor Permeance, ASTM E96, perm (ng/Pa·s·m ²) max.	0.8 (45)
Maximum Use Temperature, °F (°C)	165 (74)
Coefficient of Linear Thermal Expansion, ASTM D696, in/in·°F (mm/m·°C)	3.5 x 10 ⁻⁵ (6.3 x 10 ⁻²)

*R means resistance to heat flow. The higher the R-value or RSI, the greater the insulating power.

**At 10% deformation or yield, whichever occurs first.

Table 2.

CHEMICAL RESISTANCE OF STYROFOAM (XPS)	
Acid, inorganic	Good
Acid, organic	Good
Alcohol	Good
Asphalts, water-based	Good
Bases (caustics)	Good
Bleach	Good
Brines and other salts	Good
Cements and mortar	Good
Carbon dioxide (CO ₂)	Good
Carbon hydroxide (CH ₄)	Good
Chlorofluorocarbons	Good
Dioxide (O ₂)	Good
Nitrous hydroxide (NH ₃)	Good
Sulfur dioxide (SO ₂)	Good
Mineral oil USP	Excellent
Paints, alcohol-based	Good
Paints, water-based	Good
Water	Good

FIRE PROTECTION

For proper protection of plastic foam in storage, consult an insurer, local fire department or other authority having jurisdiction.

Additional Technical Tests

WALL PANEL SYSTEM FIRE TEST

- Meets Uniform Building Code (UBC) 17-5 ('Room Fire Test Standard for Interior of Foam Plastic Systems'. Criteria is to maintain coverage of foam substrate up to 8' from interior corner, over the duration on the test.)
- Equivalent to current UL 17-15 and UBC 97 revised.

NEGATIVE WIND LOAD AND GRAVITY SHEAR LOAD TESTS

- Concluded that: 'Clips spaced at 2ft along each horizontal joint can safely carry the wall panel vertical weight and support the panel under negative wind pressures of up to 25 psf, with a safety factor of 2.
- If greater wind pressures are anticipated, additional clips may be placed to provide the additional strength.

TENSILE BOND STRENGTH OF MORTAR FACING

- Remained intact after 1000 Freeze/thaw cycles using ASTM C666-B (equivalent to approximately 25 Canadian winters)

IMPACT RESISTANCE—ASTM G-14 "Up and down method"

- Showed the panels have an impact strength equal to or greater than that of standard 8" thick concrete block.

Installation

CFI Wall Panels can be installed vertically or horizontally. It is recommended that any masonry irregularities or jagged surfaces on the foundation or existing wall be removed prior to installation

Each shipment of **CFI Wall Panels** includes purpose-made galvanized steel securement clips and fasteners. For additional clips and fasteners, contact your local T. CLEAR agent or call 1-800-544-7398.

Contact a local agent or access literature library at www.tclear.com for more specific instructions. T. CLEAR has also prepared an installation guide for **CFI Wall Panels**.

Warranty

Not Applicable

Technical Services

T. CLEAR can provide technical info to help address questions when using CFI Wall Panels. Call 1-800-544-7398

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COMBUSTABLE: Protect from high heat sources. Local building codes may require a protective or thermal barrier. For more information, consult MSDS, call T. CLEAR at 1-800-544-7398, or contact your local building inspector.

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