

ICC-ES Evaluation Report


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<p>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 21 00— Thermal Insulation</p>	<p>REPORT HOLDER: FANOSA S.A. de C.V.</p>	<p>EVALUATION SUBJECT: FANOSA EXPANDED POLYSTYRENE INSULATION BOARDS</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, 2012, 2009 and 2006 [International Residential Code® \(IRC\)](#)
- 2021, 2018, 2015, 2012, 2009 and 2006 [International Energy Conservation Code® \(IECC\)](#)

Properties evaluated:

- Physical properties
- Surface-burning characteristics
- Attic and crawl space installation
- Thermal resistance

2.0 USES

2.1 Fanosa EPS Insulation Boards:

Fanosa EPS insulation boards are expanded polystyrene foam plastic boards used as nonstructural thermal insulation in wall cavities or ceiling assemblies, door cavities, and roofs, and as exterior perimeter insulation around concrete slab edges, on foundation walls or under flat concrete slab on grade construction, except in areas where the probability of termite exposure is “very heavy” as defined in 2021, 2018 and 2015 IBC Section 2603.8 [2012 IBC Section 2603.9 (2009 and 2006 IBC 2603.8)] and 2021, 2018, 2015, 2012 and 2009 IRC Section R318.4 (2006 IRC Section R320.5). The insulation may be used on the outside faces of exterior walls of Type V-B (IBC) construction, or structures constructed in accordance with the IRC. The insulation boards may be used on walls in attics and crawl spaces with no covering applied to the attic or crawl space side of the foam plastic, when the boards are installed in accordance with Section 4.2.

2.2 Fanosa EIFS Grade (FEGB) Insulation Boards:

Fanosa EIFS Grade (FEGB) insulation boards are used as nonstructural thermal insulation in exterior insulation and finish systems (EIFS). The insulation is used on the outside faces of exterior walls when an ASTM C578, Type I, EPS insulation board is specified in a current ICC-ES evaluation report for an EIFS.

2.3 Fanosa T&G EPS Insulation Boards:

Fanosa T&G EPS Insulation Boards are used as nonstructural thermal insulation in buildings of Type V-B (IBC) construction, or structures constructed in accordance with the IRC, as a component of a one-coat cementitious exterior wall coating system recognized in an ICC-ES evaluation report. The insulation is for use on the outside faces of exterior walls when ASTM C578 Type I or Type II EPS board is recognized in a current ICC-ES

evaluation report for a one coat cementitious exterior wall coating system, or when installed as described in Section 4.4. The insulation may also be directly exposed in attic and crawl spaces without a covering when installed as described in Section 4.2. Additionally, the insulation may be used as exterior perimeter insulation around concrete slab edges, on concrete or masonry foundation walls or under flat concrete slab on grade construction, except in areas where the probability of termite activity is “very heavy” as defined in 2021, 2018 and 2015 IBC Section 2603.8 [2012 IBC Section 2603.9 (2009 and 2006 IBC Section 2603.8)] and IRC Section R318.4 (2006 IRC Section R320.5).

2.4 Fanosa Insulplus Insulation Boards:

Fanosa Insulplus insulation boards are used as nonstructural thermal insulation, for installation in wall cavities; as a component of classified roof assemblies or doors; or for installation on the outside faces of exterior walls of Type V-B construction (IBC) or structures in accordance with IRC. Fanosa Insulplus Board may be used as exterior perimeter insulation around concrete slab edges, on foundation walls or under flat concrete slab on grade construction, except in areas where the probability of termite exposure is “very heavy” as defined in 2021, 2018 and 2015 IBC Section 2603.8 [2012 IBC Section 2603.9 (2009 IBC Section 2603.8)] and IRC Section R318.4 (2006 IRC Section R320.5).

3.0 DESCRIPTION

3.1 General:

The foam plastic boards have a flame-spread index not greater than 25 and a smoke-developed index not greater than 450, when tested in accordance with ASTM E84 (UL 723). The foam plastic boards have the thermal resistance (*R*-value) noted in [Table 1](#) of this report.

3.2 Fanosa EPS Insulation Boards:

The Fanosa EPS insulation boards are available with square edges in various lengths and widths, and in thicknesses up to 4 inches (102 mm). The foam plastic boards are Type I and Type II, complying with ASTM C578, and have minimum densities of 0.9 and 1.35 pcf (14.4 and 21.6 kg/m³), respectively. The Fanosa EPS insulation boards can also be cut into tapered sheets for roofing applications. The panels can be cut into 4-foot-by-4-foot (1219 mm by 1219 mm) units or into units 4 feet wide and 8 feet long (1219 mm by 2438 mm), and thicknesses can vary anywhere from 1/8 inch (32 mm) to 4 inches (102 mm) in a single tapered layer.

3.3 Fanosa EIFS Grade (FEGB) Insulation Boards:

Fanosa EIFS Grade (FEGB) insulation boards have a minimum density of 0.90 pcf (14.4 kg/m³). The boards comply as Type I in accordance with ASTM C578, and are 2 feet (610 mm) wide, 4 feet (1219 mm) long with square edges. The boards are available in thicknesses up to 2 inches (51 mm). The boards have more restrictive requirements than the Fanosa EPS insulation boards for conditioning, product dimensions, marking and packaging.

3.4 Fanosa T&G EPS Insulation Boards:

Fanosa T&G EPS insulation boards are foam plastic insulation boards complying with ASTM C578 Type I and Type II and have minimum densities of 0.9 and 1.35 pcf (14.4 and 21.6 kg/m³), respectively. The Fanosa T&G insulation boards have tongue and groove edge profiles and are produced in various sizes with thickness up to 1-inch (25.4 mm).

3.5 Fanosa Insulplus Insulation Boards: Fanosa Insulplus Insulation boards are foam plastic insulation boards complying with ASTM C578 Type I and have a minimum density of 0.90 pcf (14.4 kg/m³). The insulation boards are available with square edges or tongue and groove edge profiles and are produced in various widths and lengths with thicknesses up to 1 inch (25.4 mm). Both sides of the boards are covered with either a clear polypropylene film or metalized polypropylene film.

3.6 Potential Heat: The Fanosa EPS, FEGB and Fanosa T&G EPS insulation boards have a potential heat of 1509 Btu/ft² (17.14 mJ/m²) per inch for Type I and 2269 Btu/ft² (25.77 mJ/m²) for Type II when tested in accordance with NFPA 259.

4.0 INSTALLATION

4.1 General:

Installation of the insulation boards must comply with this report, the manufacturer’s published installation instructions and the applicable code. The manufacturer’s published installation instructions must be available at the jobsite at all times during installation.

Except as noted in Section 4.2 of this report, the interior of the building must be separated from the foam plastic boards with an approved thermal barrier as required by IBC Section 2603.4 or 2021, 2018, 2015, 2012 and 2009 of IRC Section R316.4 (2006 IRC Section R314.4). A vapor retarder must be installed in accordance with 2021 and 2018 IBC Section 1404.3 (2015, 2012 and 2009 IBC Section 1405.3) or 2021, 2018, 2015 and 2012 IRC Section R702.7 (2009 IRC Section R601 or 2006 IRC Section R318.1 or N1102.5), as applicable. Protection against condensation in exterior wall assemblies must be provided in accordance with 2021 and 2018 IBC Section 1402.2 (2015, 2012 and 2009 IBC Section 1403.2). The insulation board may be applied to outside faces of exterior walls to a maximum thickness of 1½ inches (38 mm), except that an insulation board thickness greater than 1½ inches (38 mm) may be permitted if such installation is recognized in a current ICC-ES evaluation report on a wall covering. The attachment of the finish materials over the insulation board must allow for a minimum 1-inch (25.4 mm) penetration of the fasteners into wood framing. Sheathing or a wall covering over the insulation board must be structurally adequate to resist transverse loads. All walls must be braced in accordance with 2021, 2018 and 2015 IBC Section 2308.6 [2012, 2009 and 2006 IBC Sections 2308.9.3 and 2308.12.4], or IRC Section R602.10.3, as applicable.

Insulation boards must not be used as a nailing base for exterior siding materials. All nailing must be made through the insulation board into the wall framing or structural sheathing, as required by the siding manufacturer's published installation instructions or the applicable code. The insulation boards may be used in an EIFS when specifically recognized in a current ICC-ES evaluation report.

The insulation boards may be used in roof assemblies when such use is specifically recognized in a current ICC-ES evaluation report on a Class A, B or C roof assembly in accordance with IBC Section 1505.1 or IRC Section R906.1. The method of installing the insulation board must be in accordance with the current ICC-ES evaluation report on the roof covering assembly.

4.2 Special Uses—Attics and Crawl Spaces:

One-inch-thick (25.4 mm) Fanosa EPS boards may be used on walls in attics and crawl spaces without an ignition barrier applied to the attic or crawl space side of the foam plastic boards, provided all of the following conditions are met:

1. Entry to the attic or crawl space is only to service utilities, and no storage is permitted.
2. There are no interconnected attic or crawl space areas.
3. Air in the attic or crawl space is not circulated to other parts of the building.
4. Attic ventilation is provided when required by 2021, 2018 IBC Section 1202.3 (2015, 2012 and 2009 IBC Section 1203.2) or IRC Section R806, as applicable. Under-floor (crawl space) ventilation is provided when required by 2021 and 2018 IBC Section 1202.4 [2015 IBC Section 1203.4 (2012, 2009 and 2006 IBC Section 1203.3)] or IRC Section R408.1, as applicable.
5. Combustion air is provided in accordance with Sections 701 of the 2021, 2018, 2015, 2012 and 2009 *International Mechanical Code* [2006 IMC Sections 701 and 703] or IRC Section M1701.

4.3 Fanosa EIFS Grade (FEGB) Insulation Boards:

Fanosa FEGB insulation boards may be installed as part of an exterior cementitious wall covering and EIFS system, or other proprietary wall system, when installation is in accordance with the ICC-ES evaluation report on the wall covering system.

4.4 Fanosa T&G EPS Insulation Boards:

Fanosa T&G EPS Insulation boards must be installed in accordance with a current ICC-ES evaluation report when used as part of a one-coat cementitious exterior wall coating system. The insulation may also be installed on walls in attic and crawl spaces without a covering as described in Section 4.2 of this report. The insulation boards may also be installed as exterior perimeter insulation in concrete slabs edges, on concrete slab on grade construction, except in areas where the probability of termite activity is "very heavy" as noted in Section 5.4.

4.5 Fanosa Insulplus Insulation Boards:

Fanosa Insulplus Insulation boards may be used with cementitious exterior wall coatings when installed in accordance with this section (4.5). When used with a cementitious exterior wall coating recognized in an ICC-ES evaluation report the Fanosa Insulplus Board can be used as an alternative to 1-inch thick (25.4 mm) EPS foam plastic insulation specified in the ICC-ES evaluation report of the cementitious coating. The Fanosa Type I Insulplus board may also be installed on walls in attic space without a covering as described in Section 4.2 of this report.

5.0 CONDITIONS OF USE:

The Fanosa EPS Insulation Boards described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 The insulation boards used in exterior wall applications must be covered with an approved exterior wall covering. A water-resistive barrier complying with 2021 and 2018 IBC Section 1403.2 (2015, 2012 and 2009 IBC Section 1404.2) or IRC Section R703.2, as applicable, must be installed as specified for the approved assembly.
- 5.3 Except as noted in Section 4.2 of this report, the insulation boards must be separated from the interior of the building with a thermal barrier complying with IBC Section 2603.4 or 2021, 2018, 2015, 2012 or 2009 IRC Section R316.4 (2006 IRC Section R314.4), as applicable.
- 5.4 Use of the insulation boards in areas of "very heavy" termite infestation must be in accordance with 2021, 2018 and 2015 IBC Section 2603.8 [2012 IBC Section 2603.9 (2009 and 2006 IBC Section 2603.8)] or 2018, 2015, 2012 and 2009 IRC Section R318.4 (2006 IRC Section R320.5), as applicable.
- 5.5 Installation in unvented attics, when equipped with vapor diffusion ports in accordance with Section 1202.2, Item 5.2 of the 2021 IBC and Section R806.5, Item 5.2 of the 2021 and 2018 IRC is outside of the scope.
- 5.6 The insulation boards are manufactured in Mexicali, Baja California, Mexico, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Foam Plastic Insulation \(AC12\)](#), dated June 2015 (editorially revised December 2020), including data in accordance with Appendix B and NFPA 259.

7.0 IDENTIFICATION

7.1 General:

The insulation boards described in this report must be packaged in bundles bearing a label with the manufacturer's name (Fanosa S.A. de C.V.); the manufacturing facility location; the date of manufacture; the board density and type; the flame-spread and smoke-developed indices; the thermal resistance (*R*-value); and the evaluation report number (ESR-2744).

7.2 Fanosa EIFS Grade (FEGB Insulation Boards):

In addition to the identification provisions noted in Section 7.1, Fanosa EIFS Grade (FEGB) insulation boards are identified along one edge of each board, and on both faces of one board from each package, with the name of the EIFS company and the company's evaluation report number.

7.3 Fanosa Insulplus Boards:

In addition to the identification described in Section 7.1, The Fanosa Insulplus Boards are identified on one face with the manufacturer's name (Fanosa); the product name (Insulplus Board); and the evaluation report number (ESR-2744).

7.4 The report holder's contact information is the following:

FANOSA S.A. de C.V.
P.O. BOX 9030, 302 E 3rd Street PMB 490
CALEXICO, CALIFORNIA 92232
(760) 554-7210
www.fanosa.com

TABLE 1—INSULATION BOARD PROPERTIES

EPS TYPE	NOMINAL DENSITY (pcf)	MINIMUM DENSITY (pcf)	R-VAUE PER INCH OF THICKNESS AT 75°F (ft ² -hr-°F/Btu)
I	1.0	0.90	3.6
II	1.5	1.35	4.0

For SI: 1 inch = 25.4 mm, 1 pcf = 16.02 kg/m³, R-value: 1°F·ft²-hr/Btu = 0.176 m²-K/W, 1°F = 1.8°C+32.