Product Information Bulletin

269

PlastiSpan Insulation – ICC-ES Evaluation Report ESR-1587

Plasti-Fab®
EPS PRODUCT SOLUTIONS
Better building ideas from PFB™

BULLETIN NO.	269
ISSUED:	September 5, 2019
REPLACES:	April 1, 2017

Product Information Bulletin

PlastiSpan Insulation - ICC-ES Evaluation Report ESR-1587

(5 pages attached)

The ICC Evaluation Service, Inc. (ICC-ES) is a national evaluation body in the United States that does technical evaluations of building products, components, methods, and materials for compliance with code requirements. Plasti-Fab® PlastiSpan® expanded polystyrene (EPS) insulation is manufactured in compliance with ASTM C578, ***Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.***

ICC-ES evaluation report ESR-1587 provides a convenient means of demonstrating compliance with the requirements of the US model codes listed below.

ICC-ES evaluation reports are made available to code officials, contractors, specifiers, architects, engineers, and anyone else with an interest in the building industry and construction on the internet at www.icc-es.org.

Attached is a copy of ICC-ES ESR-1587 for PlastiSpan insulation reissued in September 2016. ESR-1587 provides evidence that PlastiSpan insulation complies with the codes noted below:

- 2012 and 2009 International Building Code® (IRC)
- 2012 and 2009 International Residential Code® (IRC)
- 2012 and 2009 International Energy Conservation Code® (IECC).

Refer to the attached report for additional detail.

A copy of the current report can also obtained from the ICC Evaluation Service website at https://icc-es.org/evaluation-report-program/reports-directory/.

ICC EVALUATION SERVICE
In Cooperation with Innovation RESEARCH LABS

Most Widely Accepted and Trusted

ICC-ES Evaluation Report

ESR-1587

ICC-ES | (800) 423-6587 | (562) 699-0543 | www.icc-es.org

Reissued 09/2017
This report is subject to renewal 09/2019.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
SECTION: 07 21 00—THERMAL INSULATION
DIVISION: 31 00 00—EARTHWORK
SECTION: 31 31 16—TERMITE CONTROL

REPORT HOLDER:

PLASTI-FAB LTD.

100, 2886 SUNRIDGE WAY NE
CALGARY, ALBERTA T1Y 7H9
CANADA

EVALUATION SUBJECT:

PLASTISPAN EXPANDED POLYSTYRENE (EPS) INSULATION BOARDS

Look for the trusted marks of Conformity!

"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"

A Subsidiary of ICC INTERNATIONAL CODE COUNCIL

ICC-ES Evaluation Report

ESR-1587

Reissued September 2017
Revised October 2017
This report is subject to renewal September 2019.

www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 21 00—Thermal Insulation

DIVISION: 31 00 00—EARTHWORK
Section: 31 31 16—Termite Control

REPORT HOLDER:

PLASTI-FAB LTD.
100, 2886 SUNRIDGE WAY NE
CALGARY, ALBERTA T1Y 7H9
CANADA
(403) 248-9306
www.plastifab.com

EVALUATION SUBJECT:

PLASTISPAN EXPANDED POLYSTYRENE (EPS) INSULATION BOARDS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2012 and 2009 *International Building Code®* (IBC)
- 2012 and 2009 *International Residential Code®* (IRC)
- 2012 and 2009 *International Energy Conservation Code®* (IECC)
- Other Codes (see Section 8.0)

Properties evaluated:

- Surface-burning characteristics
- Physical properties
- Thermal resistance
- Attics and crawl spaces

2.0 USES

PlastiSpan EPS insulation is an expanded polystyrene foam plastic board for use as nonstructural thermal insulation sheathing in wall cavities, ceiling assemblies and roof covering assemblies, or on the outside faces of exterior walls of Type V-B (IBC) or Type V-N (UBC) construction, or structures constructed in accordance with the IRC. PlastiSpan EPS insulation boards may also be used on walls in attics and crawl spaces without the ignition barrier required by the applicable code, when installation is as noted in Section 4.2 of this report. PlastiSpan (EPS) insulation boards may also be used as the core of structural insulated panels (SIPs), when specifically recognized in an ICC-ES evaluation report for the SIP showing compliance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04).

3.0 DESCRIPTION

PlastiSpan EPS insulation boards are Type I, II, VIII or IX boards, complying with ASTM C578, and have minimum densities of 0.90 pcf (14.4 kg/m^3), 1.35 pcf (22.6 kg/m^3), 1.15 pcf (18.4 kg/m^3) or 1.8 pcf (28.8 kg/m^3), respectively. The EPS insulation boards have a flame-spread index not exceeding 25 and a smoke-developed index not exceeding 450 when tested in accordance with ASTM E84. See Table 1 for manufacturing locations.

PlastiSpan EPS Insulation boards are available with flat faces and square edges in various lengths and widths and in thicknesses up to 6 inches (150 mm). PlastiSpan EPS insulation boards have the thermal resistance (*R*-values) given in Table 1.

4.0 INSTALLATION

4.1 General:

Except as noted in Section 4.2 of this report, the interior of the building must be separated from the insulation boards with an approved thermal barrier as required in IBC Section 2603.4 or IRC Section R316.4, as applicable. If required, a vapor retarder must be installed in accordance with 2012 IRC Sections R702.7 and N1102.2.10 (2009 IBC Section 1405.3 or 2009 IRC Section R601.3 or N1102.2.9), as applicable. Protection against condensation in exterior wall assemblies must be provided in accordance with IBC Section 1403.2 or IRC Section R703. For cementitious exterior wall coating applications, fasteners for insulation boards thicker than $1^1/_2$ inches (38 mm) must be considered for lateral resistance to ensure support for the exterior wall coatings. The attachment of 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 must be structurally adequate to resist horizontal forces perpendicular to the wall. All walls must be braced in accordance with IBC Section 2308.9.3, or IRC Section R602.10, as applicable.

Insulation boards as roof insulation must be installed as recognized in a current ICC-ES evaluation report for the roof covering system.

4.2 Special Uses: Attics and Crawl Spaces

PlastiSpan EPS insulation boards can be used on walls in attics and crawl spaces with no covering applied to the

attic or crawl space side of the foam plastic, provided all of the following conditions are met:

a. Entry to the attic or crawl space is only to service utilities, and no storage is permitted.

b. There are no interconnected attic or crawl space areas.

c. Air in the attic or crawl space is not circulated to other parts of the building.

d. Attic ventilation is provided when required by IBC Section 1203.2 or IRC Section R806, as applicable. Under-floor (crawl space) ventilation is provided when required by IBC Section 1203.3 or IRC Section R408.1, as applicable.

e. Boards are produced from BASF Styropor, NOVA or Styrochem beads; having a nominal density of 1 pcf (16 kg/m^3) and a maximum thickness of 4 inches (102 mm); or a nominal density of 2 pcf (32 kg/m^3) and a maximum thickness of 2 inches (51 mm).

f. Combustion air is provided in accordance with Section 701 of the *International Mechanical* Code®.

4.3 Termite Resistance:

PlastiSpan EPS treated with Lanxess Preventol TM-EPS Preservative Insecticide is recognized for installation in areas subject to termites as noted in Table 2.

5.0 CONDITIONS OF USE

The PlastiSpan EPS insulation boards described in this report comply with, or are acceptable 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 and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.2 The insulation board must be covered with an approved exterior wall covering, including a water-resistive barrier complying with IBC Section 1404.2 or IRC Section R703.2, as applicable.

5.3 The exterior wall covering spanning between wall framing members must provide the necessary structural resistance to wind and seismic forces.

5.4 Insulation boards must not be used as a nailing base for exterior siding materials. All nailing must be made through the insulation into the wall framing or structural sheathing as required by the siding manufacturer's instructions or the applicable code.

5.5 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 IRC Section R316.4, as applicable.

5.6 For structures required to comply with the IBC or IRC, use of the foam plastic insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with 2012 IBC Section 2603.9 (2009 IBC Section 2603.8) or IRC Section R318.4, respectively.

5.7 The minimum density and maximum thickness of the insulation boards must be as noted in Table 1.

5.8 Jobsite certification and labeling must comply with 2012 IECC Sections C303.1.1 and R303.1.1 (2009 IECC Section 303.1.1).

5.9 The foam plastic boards are produced under a quality control program with inspections by ICC-ES, at Crossfield, Alberta, Canada; Saskatoon, Saskatchewan, Canada; Winnipeg, Manitoba, Canada; Ajax, Ontario, Canada; Delta, British Columbia, Canada; Kitchener, Ontario, Canada; and Lebanon, Ohio.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2012.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Termite-resistant Foam Plastics (AC239), dated October 2008 (editorially revised February 2014).

6.3 Reports of tests in accordance with NFPA 286.

7.0 IDENTIFICATION

The insulation boards must be packaged in bundles bearing a label with the Plasti-Fab Ltd. name; the manufacturing facility location; the date of manufacture; the evaluation report number (ESR-1587); the density; the flame-spread index; the smoke-developed index; and the thermal resistance (*R*-value).

Additionally, the labels for insulation boards used for attic and crawl space installations, in accordance with Section 4.2 of this report, must be identified as being produced from NOVA, BASF or Styro Chem beads.

PlastiSpan EPS boards treated with Preventol TM-EPS Preservative Insecticide are labeled as shown in Figures 1 through 3.

8.0 OTHER CODES

In addition to the codes referenced in Section 1.0, the products described in this report were evaluated for compliance with the requirements of the following codes:

- 2006 *International Building Code*® (2006 IBC)
- 2006 *International Residential Code*® (2006 IRC)
- 2006 *International Energy Conservation Code*® (2006 IECC)

The products comply with the above-mentioned codes as described in Sections 2.0 through 7.0 of this report, with the revisions noted below:

- **Application with a Prescriptive Thermal Barrier:** See Section 4.1, except the approved thermal barrier must be installed in accordance with Section R314.4 of the 2006 IRC.
- **Application with a Prescriptive Ignition Barrier:** See Section 4.2, except an ignition barrier must be installed in accordance with Sections R314.5.3 or R314.5.4 of the 2006 IRC, as applicable.
- **Attics and Crawlspaces:** See Section 4.2, except combustion air must be provided in accordance with Sections 701 and 703 of the 2006 IMC.
- **Protection against Termites:** See Section 5.6, except use of the insulation in areas where the probability of termite infestation is "very heavy" must be in accordance with Section R320.5 of the 2006 IRC.
- **Jobsite Certification and Labeling:** See Section 5.8, except jobsite certification and labeling must comply with Section 102.1.1 of the 2006 IECC.

TABLE 1—PLASTISPAN EPS INSULATION BOARD PROPERTIES AND MANUFACTURING LOCATIONS

MANUFACTURING LOCATION	ASTM C578 TYPE	MINIMUM DENSITY (pcf)	MAXIMUM THICKNESS (inches)	*R*-VALUE PER INCH OF THICKNESS
Delta, British Columbia, Canada, Kitchener, Ontario, Canada, Crossfield, Alberta, Canada, Saskatoon, Saskatchewan, Canada, Winnipeg, Manitoba, Canada, Ajax, Ontario, Canada, Lebanon, Ohio	I	0.90	6	3.6
	II	1.35	6	4.0
	VIII	1.15	6	3.8
	IX	1.80	6	4.2

For **SI:** 1 inch = 25.4 mm, 1 pcf = 16.02 kg/m^3, 1°F·ft^2·h/Btu = 0.176 m^2·K/W, 1°F = 1.8°C+32.

TABLE 2—MINIMUM DOSAGE LEVELS OF PREVENTOL® TM BY END USE

END USE	MINIMUM[1]
EPS Foam Used Above Ground Contact Low Hazard "None to Moderate" Termite Zones Per IRC Figure R301.2(6), IBC Figure 2603.8	100 ppm
EPS Foam Used Above Ground Contact Medium Hazard "Heavy to Very Heavy" Termite Zones Per IRC Figure R301.2(6), IBC Figure 2603.8 Formosan Termites	200 ppm
EPS Foam Used in Ground Contact/Below Ground Contact High Hazard "None to Very Heavy" Termite Zones Per IRC Figure R301.2(6), IBC Figure 2603.8 Formosan Termites	500 ppm

[1]The minimum dosage rate is expressed as ppm (parts per million) and is based on the final volume of molded EPS.

FIGURE 1—PREVENTOL® TM-EPS LOW HAZARD USE MARKING

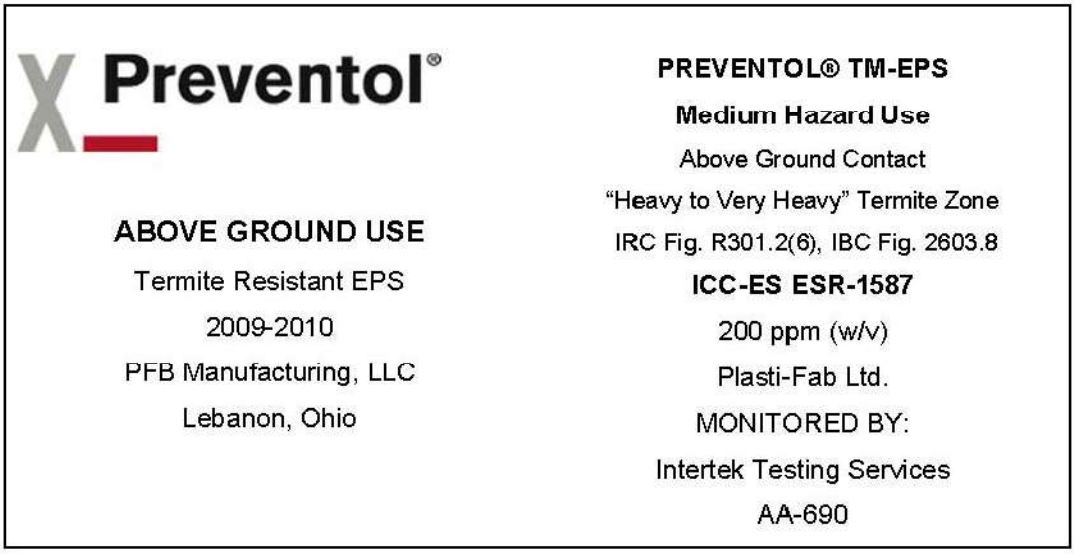

FIGURE 2—PREVENTOL® TM-EPS MEDIUM HAZARD USE MARKING

FIGURE 3—PREVENTOL® TM-EPS HIGH HAZARD USE MARKING