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

REPORT HOLDER:
NEXKEMIA PETROCHEMICALS INCORPORATED

EVALUATION SUBJECT:
NEXKEMIA M SERIES EXPANDABLE POLYSTYRENE BEADS

1.0 EVALUATION SCOPE
Compliance with the following codes:
- 2013 Abu Dhabi International Building Code (ADIBC)

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:
- Physical properties
- Surface-burning characteristics
- Attic and crawl space installation

2.0 USES
Nexkemia M Series expandable polystyrene beads are used by independent manufacturers to produce expanded polystyrene (EPS) insulation products.

3.0 DESCRIPTION
The EPS insulation products manufactured with the expandable polystyrene beads are produced solely through the introduction of heat, without other additives. This process expands the beads, which are then molded into insulation products with densities and thicknesses no greater than those specified in Table 1 of this report. The end use of the polystyrene beads, including the manufacture of products, is outside the scope of this report and must be addressed in a separate evaluation report. Boards manufactured from Nexkemia M Series expandable polystyrene beads in the minimum densities and maximum thicknesses noted in Table 1 have a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84.

Nexkemia M Series expandable polystyrene beads have been qualified in accordance with Section 4.5.15.1.1 of the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12). The expandable beads can be used to produce EPS products that comply with Types I, II, VIII and IX [0.9, 1.35, 1.15 and 1.80pcf (15, 22, 18 and 29 kg/m³)] minimum densities, respectively] of ASTM C578, provided the final product is recognized in a current ICC-ES evaluation report and has been qualified in accordance with Section 4.5.15.1.2 of the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12).

4.0 INSTALLATION

4.1 General:
Installation must be as noted in the corresponding current ICC-ES evaluation report on the EPS insulation product, or as otherwise permitted by the code official under Section 2603 of the IBC or Section R316 of the 2018, 2015, 2012 and 2009 IRC or Section R314 of the 2006 IRC, as applicable.

4.2 Attics and Crawl Spaces:
EPS insulation products produced from the EPS beads at a maximum thickness of 3 inches (76 mm) may be used on walls in attics and crawl spaces without 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 2018 IBC Section 1202.2 (2015, 2012, 2009 or 2006 IBC Section 1203.2), or IRC Section R806, as applicable.
- e. Under-floor (crawl space) ventilation is provided when required by 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.
- f. Combustion air is provided in accordance with IMC Section 701.

5.0 CONDITIONS OF USE
The Nexkemia M Series expandable polystyrene beads 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 The density and thickness of the insulation boards produced from the expandable polystyrene beads must be as noted in Table 1 of this report.

5.2 Products manufactured from the beads must be recognized in a current ICC-ES evaluation report.

5.3 Except as noted in Section 4.2 of this report, the EPS insulation products manufactured from the expandable polystyrene beads must be separated from the building interior by an approved thermal barrier complying with IBC Section 2603.4, Section R316.4 of the 2018, 2015, 2012 and 2009 IRC or Section R314.4 of the 2006 IRC, as applicable.

5.4 The beads are produced by Nexkemia Petrochemicals Incorporated in Mansonville, Quebec, 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 October 2017); including data in accordance with Appendix B.

<table>
<thead>
<tr>
<th>ASTM C578 TYPES</th>
<th>MIN. DENSITY (pcf)</th>
<th>MAX. THICKNESS (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.90</td>
<td>4</td>
</tr>
<tr>
<td>VIII</td>
<td>1.15</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>1.35</td>
<td>4</td>
</tr>
<tr>
<td>IX</td>
<td>1.80</td>
<td>4</td>
</tr>
</tbody>
</table>

For SI: 1pcf = 16.02 kg/m³, 1 inch = 25.4 mm.

7.0 IDENTIFICATION

7.1 Each container of beads must bear a label with the Nexkemia Petrochemicals Incorporated name and address; the bead identification; the evaluation report number (ESR-2949).

7.2 The report holder’s contact information is the following:

NEXKEMIA PETROCHEMICALS INCORPORATED
24 BELLEVUE STREET CP 240
MANSONVILLE, QUEBEC J0E 1X0
CANADA
(450) 292-3333
www.nexkemia.com
1.0 REPORT PURPOSE AND SCOPE

Purpose:
The purpose of this evaluation report supplement is to indicate that Nexkemia M Series expandable polystyrene beads, recognized in ICC-ES evaluation report ESR-2949, for use by independent manufacturers to produce expanded polystyrene (EPS) rigid foam insulation boards, have also been evaluated for compliance with the codes noted below, provided the insulation products are recognized in an ICC-ES evaluation report with a CBC and CRC Supplement.

Applicable code editions:

- 2019 California Building Code (CBC)
  For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2, below.
- 2019 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:
The Nexkemia M Series expandable polystyrene beads, described in Sections 2.0 through 7.0 of the evaluation report ESR-2949, comply with the 2019 California Building Code (CBC), and the insulation boards produced from these beads also comply with the 2019 CBC, provided the insulation boards are recognized in an ICC-ES evaluation report with a CBC Supplement and are installed in accordance with the 2018 International Building Code® (IBC) provisions, as applicable, of the evaluation report and the additional requirements of the 2019 CBC, under the following condition:

The insulation boards produced from these beads have not been evaluated under CBC Chapter 7A, for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Area.

2.1.1 OHSPD:
The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:
The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:
The Nexkemia M Series expandable polystyrene beads, described in Sections 2.0 through 7.0 of the evaluation report ESR-2949, comply with 2019 California Residential Code (CRC), and the insulation boards produced from these beads also comply with the 2019 CRC, provided the insulation boards are recognized in an ICC-ES evaluation report with a CRC Supplement and are installed in accordance with the 2018 International Residential Code® (IRC) provisions, as applicable, of the evaluation report and the additional requirements of the 2019 CRC, under the following condition:

The insulations produced from these beads have not been evaluated under CRC Section R337, for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Area.

The products recognized in this supplement have not been evaluated for compliance with the International Wildland–Urban Interface Code®.

This supplement expires concurrently with the evaluation report, reissued June 2020.