

# ICC-ES Evaluation Report

**ER-5687\***

Reissued July 1, 2007

This report is subject to re-examination in two years.

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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION  
Section: 07210—Building Insulation**
**STYROCHEM EXPANDABLE POLYSTYRENE BEADS**
**STYROCHEM U.S., LTD.  
19250 CLARK GRAHAM  
BAIE D'URFE, QUEBEC H9X 3R8  
CANADA**
**1.0 SUBJECT**

StyroChem Expandable Polystyrene Beads.

**2.0 DESCRIPTION**
**2.1 General:**

StyroChem expandable polystyrene bead types MA-500, MB-500, MC-500, MB-590, and MC-590 are used by independent manufacturers to produce expanded polystyrene (EPS) foam plastic boards. The boards are produced by introducing steam into a heating chamber containing the unexpanded beads. This process expands the beads, which are then molded into insulation products. The end use of the expandable polystyrene beads, including the manufacture of boards, is not a part of this report.

Products manufactured with the StyroChem beads and having a maximum density of 2 pcf (31.8 kg/m<sup>3</sup>) and a maximum thickness of 6 inches (152 mm) have a flame-spread rating not exceeding 25 and a smoke-developed rating not exceeding 450 when tested in accordance with ASTM E 84.

Grades MA-500, MB-500, MB-590, MC-500 and MC-590 expandable beads can be used to produce expanded polystyrene products that comply with Types I, II, VIII, and IX of ASTM C 578-01, provided the final product is recognized in a current ICBO 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).

**2.2 Installation:**

**2.2.1 General:** The foam plastic products produced from StyroChem beads must be installed in accordance with their individual ICC-ES evaluation reports and the codes listed in Section 4.0 of this report.

**2.2.2 Special Use:** The foam plastic boards produced from the StyroChem beads 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 the following conditions are met:

1. Entry to the attic or crawl space is only to service utilities, and heat-producing appliances are not permitted.
2. There are no interconnected attic or basement areas.
3. Air in the attic or crawl space is not circulated to other parts of the building.
4. Attic ventilation is provided in accordance with Section 1202.2 of the 2000 *International Building Code*® (IBC).
5. Under-floor ventilation is provided in accordance with IBC Section 1202.3.
6. Boards have a maximum density and thickness of 1.0 pcf (16.0 kg/m<sup>3</sup>) and 4 inches (102 mm), respectively.
7. Boards have a maximum density and thickness of 2.0 pcf (32.0 kg/m<sup>3</sup>) and 2 inches (51 mm), respectively.
8. Boards have a maximum density and thickness of 1.5 pcf (24.0 kg/m<sup>3</sup>) and 2.6 inches (66 mm), respectively.

**2.3 Identification:**

Each expandable polystyrene bead container bears the StyroChem U.S., Ltd., name and address; bead identification; the label of Underwriters Laboratories Inc.; and the evaluation report number (ER-5687).

**3.0 EVIDENCE SUBMITTED**

Reports of tests in accordance with ASTM E 84 and ASTM C 578-01, and a quality control manual.

**4.0 FINDINGS**

**That the StyroChem Expandable Polystyrene Beads described in this report comply with the 2000 *International Building Code*® (IBC), subject to the following conditions:**

- 4.1 The maximum density and thickness of products produced from the beads are as noted in this report.**
- 4.2 The products manufactured from the beads are recognized in a separate ICC-ES evaluation report.**
- 4.3 Except as noted in Section 2.2.2 of this report, the insulation boards produced from the StyroChem beads are separated from the building interior by a thermal barrier complying with Section 2603.4 of the IBC.**
- 4.4 The EPS beads are manufactured at the StyroChem facilities located in Fort Worth, Texas, in Saginaw, Texas, and in Baie d'Urfe, Quebec, Canada.**

\*Corrected June 2010