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| Date of Authorization | January 29, 2004 |
| BMEC Authorization | BMEC #04-01-293 |
| BMEC Application | #A2003-07 |
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* Denotes September 29, 2005 revision

AUTHORIZATION REPORT- Super Foam Roof Panels Assembly

1. Applicant

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3. Description

The Patio Enclosure, Inc. Super Foam Roof Panels (the "roof panels") may be used in the construction of sunroom additions to residential occupancy buildings. The panels are a nominal 76 mm (3") or 152 mm (6") thick laminated roof panels joined with aluminum I-beams for the use on roofs of patio enclosures.

* The factory assembled roof panel consists of a 0.6 mm (0.025") thick aluminum skins on the top and bottom, one layer of 11 mm (7/16") Oriented Strand Board (OSB) on the bottom which is bonded to a 24 kg/m³ (1.5 pcf) foam core pre-formed expanded polystyrene (EPS). The roof panel is installed by fitting the panel between the flanges of a 6063-T6 extruded aluminum I-beam at 900 mm (36") o.c. Variations on the roof panels may exist where the manufacturer installs skylights or glass roof panels.

The adhesive, Dow 795, is applied in a continuous bead along the inside and the top and bottom of the aluminum I-beam. The roof panel is then fitted between the top and bottom flanges of the aluminum I-beam providing a continuous bearing surface along the length of the panel. The roof panels are fastened through the top flanges of the aluminum I-beam with #8 Tek screws at 600 mm (24") o.c. On the bottom flange the roof panels are fastened with #8 Tek screws at the hanger and header location.

4. Authorization requested

The applicant sought authorization for the use of the innovative roof panels as an acceptable roof system for roofs of patio enclosures, as the panels are described in Part 3 "Description" of this authorization, as an acceptable system permitted to be used in conjunction with 1997 Ontario Building Code, as amended (OBC).

5. Assessment

Reports and assessments provided by the applicant show that if the roof panel is designed, performance tested and installed in accordance with the manufacturer's instructions and limitations and the specific terms and conditions stated in this authorization, the level of performance required by the OBC will be provided.

Reports submitted, and reviewed, but not limited to:

1. BOCA International Evaluation Report #21.65. published February, 2002
2. Quality Control Procedural Manual for Patio Enclosures Inc. "Super foam Roof Panels," Research Report No. 165, dated October 16, 2001.
3. Commercial Testing Company, Report #78757-R, dated May 21, 1991, "Standard Test Method for Surface Burning Characteristics of Building Materials" ASTM E84.
4. Omega Point Laboratories UBC 17-15 "Room Fire Test Standard for Interior of Foam Plastic", Project number 12480-93841, July 1, 1992.
5. Omega Point Laboratories UBC 17-15 "Room Fire Test Standard for Interior of Foam Plastic", Project number 12480-93842, July 1, 1992.
6. Terrapin Testing Inc. Report No. TT 50017-A, dated November 2000.
7. Terrapin Testing Inc. Report No. TJCAA 50017-B, dated November 7, 2000.
8. TJC and Associates Engineering Analysis TJCAA 50017-A, November 7, 2000.
9. JC and Associates Engineering Analysis TJCAA 50017-B, November 7, 2000
10. Intertek Testing Services, June 27, 2001, Project No. 491-8248.
11. PEI Roof Span Charts.
12. Construction Drawings.

13. Roof Sealing Procedure.
14. Dow Corning® 795 Silicone Building Sealant product Information.
15. AAS/CA5 Roof Installation, 6/15/02.
16. Patio Enclosures, Inc. "Recommended Practice for the Attachment of 3 Tab shingles to PEI Super Foam roof Systems."
17. Patio Enclosures, Inc. "Transverse Load Roof Panel Test" 6/27/95.
18. Patio Enclosures, Inc. "Transverse Load Roof Panel Test" 6/29/95.
19. Patio Enclosures, Inc. "Transverse Load Roof Panel Test" 6/30/95.
20. Intertek Testing Services, Re; Project 491-8248(a), March 14, 2002.
21. Air Permanence of Building Materials - CMHS Technical Research Series 98-109

6. Authorization

The roof panels are authorized for use as an innovative system designed for use as an acceptable roof system for patio enclosures; all other requirements pertaining to the installation of the roof panels shall be subject to the requirements of Part 9 and all other Parts of the OBC; and subject to the following terms and conditions:

A. Specific Terms & Conditions

1. This authorization is valid only for Patio Enclosures, Inc.
2. The structural design and general review of the roof panels shall be carried out by a Professional Engineer as defined in the *Professional Engineers Act*, (Ontario). The Professional Engineer shall provide the chief building official with a document certifying that the installation conforms with this authorization.
3. The structural system supporting the Authorized roof panels shall have sufficient structural capacity as required OBC.
4. The roof panels shall be limited to residential occupancy buildings that are subject to the requirements Part 9 of the OBC.
5. The roof panels shall not be used where the roof assembly is required to have a fire resistance rating.

6. The 152 mm (6") roof panels are deemed to be in conformance with the thermal requirement of Subsection 9.25.2. "Thermal Insulation."
7. The roof panels need not have an air barrier, in addition to the aluminum skin, installed as per the requirements of Subsection 9.25.3. "Air Barrier Systems" of the OBC; and to prevent water infiltration, the exterior roof panels shall be caulked to form a continuous seal.
8. The roof panels need not have a vapour barrier, in addition to the aluminum skin, installed in conformance with the requirements of Subsection 9.25.4. "Vapour Barriers" of the OBC; and to maintain the vapour barrier, except for the fascia connection, the interior roof panels shall be caulked to form a continuous seal.
9. The panels shall be installed as per the requirements of ICBO Evaluations Services Inc. issued May 1, 2003.
10. The sheathing panels shall be identified by a permanent stamp, sticker or mark indicating the manufacturer's name or trademark.
11. If the roof panel incorporates an opening within the panel, or is modified to accommodate a penetration within the panel, then additional testing demonstrating that the modified roof panels conform to the OBC shall be submitted to the chief building official for review.

B. General Conditions

1. The use of the roof panels as described in A. Specific Terms and Conditions 1. must comply with the *Building Code Act, 1992 (BCA)* as amended or re-enacted from time to time and except as specifically authorized herein, with the OBC
2. A copy of this Authorization shall accompany each application for a building permit and shall be maintained on the site of the construction with the building permit.
3. The Applicant named in Part 1 hereof shall promptly notify the BMEC of:
 - (a) the failure of the Applicant, or of the material, system or building design that is the subject matter of this Authorization, to comply with any of the terms and conditions set out in A. above; or
 - (b) the occurrence of any of the events described in Conditions B. 4. (a) and (b) (ii) below.

4. The BMEC may amend or revoke this Authorization where it determines that:
 - (a) any change has been made to:
 - (i) the material, system or building design that is the subject matter of this Authorization;
 - (ii) the address of the applicant specified in Part 1 of this Authorization; or,
 - (iii) the ownership of the applicant specified in Part 1 of this Authorization.
 - (b) the use of the material, system or building design authorized herein;
 - (i) does not comply with the *BCA* or any relevant legislation as they may be amended or re-enacted from time to time; or
 - (ii) provides an unsatisfactory level of performance, in situ.
 - (c) the Applicant, or the material, system or building design that is the subject matter of this Authorization, has failed to comply with any of the terms and conditions set out in this Authorization; or
 - (d) any OBC provision relevant to this Authorization has been amended or remade.
5. Where the BMEC receives additional information concerning the material, system or building design authorized herein, the BMEC may review this Authorization and the BMEC may after the review amend or revoke this Authorization as in the opinion of the BMEC may be necessary.

Dated at Toronto this 29th day of January 2004.

BUILDING MATERIALS EVALUATION COMMISSION

Rashmi Nathwani, Chair