

Date of Authorization

September 25, 2003

BMEC Authorization

BMEC # 03-08-287

BMEC Application

#A2003-03

Date of Revision

April 28, 2005

\* Denotes April 28, 2005 revision

**AUTHORIZATION REPORT- LIFESTYLE SUNROOMS: Structural Insulated Panels**
**1. Applicant**

Lifestyle Sunrooms Inc.  
 239 Station Street  
 Ajax, Ontario  
 L1S 1S3

Tel: (905) 686-9607

Fax: (905) 686-4798

**2. Manufacturing Facilities**

Lifestyle Sunrooms Inc.  
 239 Station Street  
 Ajax, Ontario  
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Tel: (905) 686-9607

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**3. Description**

\* The Lifestyle Sunroom's structural insulated panels may be used in the construction of unheated sunroom additions to residential occupancy buildings. The structural insulated panels are available in two different panel thicknesses. The nominal overall thickness of the panels are 76 mm (3") and 146 mm (5-3/4"). The panels are constructed in accordance with the assemblies noted in the table below. All components are secured together by a structural adhesive.

<b>Lifestyle Sunrooms</b>		
<b>Component</b>	<b>76 mm (3") Panel</b>	<b>146 mm (5-3/4") Panel</b>
Aluminum Sheathing	0.8 mm (0.032")	0.8 mm (0.032")
Polystyrene Core	60 mm (2-3/8")	127 mm (5")
Hardboard	3 mm (1/8")	3 mm (1/8")
Oriented Strand Board	11 mm (7/16")	11 mm (7/16")
Aluminum Sheathing	0.8 mm (0.032")	0.8 mm (0.032")

Both sides of the panel are covered with a 0.8 mm (0.032") embossed aluminum skin. The structural adhesive, Mor-Ad, is used in the construction of the panels and it is moisture cured. The panels are provided in lengths from 2133 mm (7'-0") to 3658 mm (12'-0") long for the 76 mm (3") thick panels, and in lengths from 2133 mm (7'-0") to 4572 mm (15'-0") feet for the 146 mm (5-3/4") panels. The OSB and hardboard are located on one side of the panel between the foam core and the aluminum sheathing. The panel shall be installed so that the OSB and hardboard are located on the interior side of the Lifestyle Sunroom.

#### **4. Authorization requested**

The applicant sought authorization for the use of the Lifestyle Sunroom as an unheated sunroom, which may be an addition to a residential occupancy building that is subject to requirements of Part 9 of the 1997 Ontario Building Code, as amended (OBC).

#### **5. Assessment**

Reports and assessments provided by the applicant show that if the Lifestyle Sunroom 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:

1. Lifestyle Sunrooms manufacturer information.
2. Thyssen Krupp "Certified Aluminum Chemical and Mechanical Analysis", August 20, 2003.
3. National Evaluation Services Report, report No. NER-451 "Mor-Ad Structural Adhesives" reissued June 1, 2002.
4. International Conference of Building Officials Evaluation Service Inc, ER-5831 "Mor-Ad Structural Adhesives", September 1, 1999.
5. ASTM E1354-94 "Test method for Heat and Visible Smoke release Rates for Materials and Products Using on Oxygen Consumption Calorimeter" Project No. 15504-99521, March 14, 1996.
6. Technical Bulletin Structural Board Association "Oriented Strand Board Fire Performance"
7. Technical Bulletin Structural Board Association "Surface Flammability of OSB (Flame Spread Study)"

8. Engineer Stamp Manufacturer drawing, May 22, 2001, "Typical 3" Foam Protected Roof End Cross Section."
9. Intertek Testing Services Project No. 491-8154" CAN4-S124-M Report", February 28, 2001.
10. Trow Consulting Engineers Ltd. Reports "Load Testing of Sandwich Roof Panels Manufactured by Lifestyle Sunrooms, Ajax Ontario" revised February 18, 2003.
11. Trow Consulting Engineers Ltd. Reports "Load Testing of Sandwich Roof Panels Manufactured by Lifestyle Sunrooms, Ajax Ontario, Panels Without the Bottom Aluminum Layer" revised February 20, 2002.
12. Trow Consulting Engineers Ltd. Reports "Load Testing of Sandwich Roof Panels Manufactured by Lifestyle Sunrooms, Ajax Ontario" revised March 18, 2003.
13. Trow Consulting Engineers Ltd. correspondence "Lifestyle Sunrooms panels Compressive Creep of the Polystyrene Foam Core", March 18, 2003.
15. City of Toronto correspondence re: Lifestyle Sunrooms OBC Approval for Roof Panels, March 25, 2003.
16. Quality Control Documentation.
17. Excerpt of the Minutes of Meeting, Toronto Urban Development Services, February 2, 2003.
18. Trow Consulting Engineers Ltd. correspondence "Sample Deflection Calculations for the Lifestyles Sunrooms Roof Panels", July 7, 2003.

## **6. Authorization**

The Lifestyle Sunroom panels are authorized for use in the construction of unheated sunrooms, which may be an addition to a residential occupancy building, all other requirements pertaining to the installation are subject to the requirements of Part 9 of the OBC, and subject to the following terms and conditions:

### **A. Specific Terms & Conditions**

1. This authorization is valid only for Lifestyle Sunrooms Inc. (Lifestyle Sunrooms).
2. The structural design and general review of the Lifestyle Sunrooms 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 Lifestyle Sunrooms shall be limited to residential occupancies subject to the requirements of Part 9 of the OBC.
4. The panels shall not be used where the wall and / or roof assemblies are required to have a fire resistance rating.
5. The Lifestyle Sunroom shall be supported on a foundation designed and constructed in accordance with the requirements of Part 9 or Part 4 of the OBC.
6. The Lifestyle Sunrooms shall only be used in the construction of unheated spaces.
7. The panels need not meet the following OBC requirements:
  - (a) Subsection 9.25.2. "Thermal Insulation" and Section 9.38. "Thermal Design"
  - (b) Subsection 9.25.3. "Air Barrier Systems"
  - (c) Subsection 9.25.4. "Vapour Barriers"
8. The wall panels shall not support the load of the roof panels; the roof panels shall be attached to a structural frame.

**B. General Conditions**

1. The use of the Lifestyle Sunroom Panels as described in 6. A. Specific Terms and Conditions No. 1. must comply with the *Building Code Act, 1992* as amended or re-enacted from time to time and except as specifically authorized herein, with the Ontario Building Code as amended or remade from time to time.
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 6. A. above; or
  - (b) the occurrence of any of the events described in Conditions 6. 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 *Building Code Act, 1992* 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 Ontario Building Code provision relevant to this Authorization has been amended or remade.
5. Where the Commission receives additional information concerning the material, system or building design authorized herein, the Commission may review this Authorization and the Commission may after the review amend or revoke this Authorization as in the opinion of the Commission may be necessary.