

**BUILDING MATERIALS EVALUATION COMMISSION
(BMEC)
AUTHORIZATION REPORT**

DATE OF AUTHORIZATION
BMEC REFERENCE
BMEC APPLICATION #

March 30, 2000
BMEC # 00-05-245
BMEC # A 1999-18

ROYAL BUILDING SYSTEMS (Cdn) Limited
Royal Titan Garage™ Models 1A & 2A

1. Applicant

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2. Manufacturing Facilities

Royal Building Systems (Cdn) Ltd
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3. Description

Royal Titan Garage™ Models 1A and 2A are pre-engineered free-standing buildings of combustible construction that are sold as self-contained building packages to be erected on a concrete slab foundation or a concrete strip footing foundation. Both models use the unfilled rigid polymer forms manufactured using Royalloy™ B Material and reinforced with structural steel components. Royal Titan Models 1A and 2A are designed to be used as a vehicular garage or a shed-type storage building and not intended for habitation.

4. Authorization Requested

Royal Building Systems (Cdn) Limited seeks to have the Royal Titan Garage™ Models 1A and 2A authorized for use as pre-engineered, free-standing buildings of combustible construction under Sections 9.4. and 9.35. of Ontario Regulation 403/97 (the "Ontario Building Code").

5. Assessment

Reports and assessments provided by the Applicant demonstrate that if the self-contained, pre-engineered and free-standing buildings of combustible construction (Royal Titan Garage™ Models 1A and 2A) are constructed, installed and maintained in accordance with the limitations of the manufacturer's specifications and the conditions stated in this Authorization, a level of performance equivalent to that required by the Ontario Building Code under Sections 9.4. Structural Requirements and 9.35. Garages and Carports, will be provided.

Reports submitted and reviewed:

1. ISO 9001 Certificate
2. Assembly Manual for Royal Titan Garage™ Model 1A, including the Limited Ten-Year Warranty
3. Assembly Manual for Royal Titan Garage™ Model 2A, including the Limited Ten-Year Warranty
4. Structural Review and Drawings for Model 1A as prepared by Hannigan Engineering Limited and dated August 23rd, 1999.
5. Structural Review and Drawings for Model 2A as prepared by Hannigan Engineering Limited and dated August 23rd, 1999.
6. BOCA International Evaluation Report No. 99-9 and printed October, 1999
7. CCMC Evaluation Report 12536-R dated June 24th, 1999 of "The Royal Building System™"
8. Duracon® Coatings Data Sheet
9. Performance Data for Climaseal® coating
10. Performance Data for JS500® finishes
11. Trow Consulting Engineers Ltd. Report T94 -17, Flexural Testing of Cored Roof Elements, dated November 28th, 1994
12. Trow Consulting Engineers Ltd. Report T94 -14, Roof-to-Ridge-Beam Connection Tests Under Static and Cyclic Loading, dated September 7th, 1994
13. Flexural Properties of 100mm Wall Elements (Unfilled) - 5 pages
14. Mechanical Properties of S66-C Roof Assembly - 3 pages
15. Royal Building Systems (Cdn) Limited - Quality Procedure Manual - Section 10.0 (A) Inspection and Testing (Extrusion) - 4 pages

6. Authorization

The Royal Titan Garage™ Models 1A and 2A are authorized as providing a level of performance equivalent to that required under Section 9.4 and Subsection 9.35 of the OBC, when manufactured, installed and maintained in accordance with the limitations of the manufacturer's specifications and the following terms and conditions:

A. SPECIFIC TERMS AND CONDITIONS:

1. The Royal Titan Garage™ Models 1A and 2A shall be used only where the following design loads are not exceeded:
 - (a) Specified roof live load of 1.44 kPa, due to snow and rain, and
 - (b) Reference wind pressure of 0.58 kPa (for 1 in 30 year occurrence),
2. The foundation of the Royal Titan Garage™ Models 1A and 2A shall be designed, on an individual basis, to conform with Sections 9.12 and 9.15 of the Ontario Building Code for each specific building site. Wood mud sills as noted in Subsection 9.35.3.3. of the Ontario Building Code, are not permitted.
3. The Installation Manual shall require that the bottom face of the aluminum sill track ('Aluminium Track Kit') shall be covered by a full, unbroken coat of silicone to prevent the formation of a corrosion cell between the Aluminum and the concrete.
4. The Installation Manual shall specify that the exterior roof and walls of the Royal Titan Garage™ Models 1A and 2A shall not be painted and shall only be covered with manufacturer approved shingle or cladding products.

B. GENERAL CONDITIONS

1. The use of the Royal Titan Garage™ Models 1A & 2A 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 Section 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 Authorisation, to comply with any of the terms and conditions set out in Section 6. A. above; or
 - (b) the occurrence of any of the events described in Sections 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 Section 1 of this Authorization; or,
 - (iii) the ownership of the applicant specified in Section 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 Authorisation, has failed to comply with any of the terms and conditions set out in Section 6. A. above; or
 - (d) any Ontario Building Code provision relevant to this Authorization has been amended or remade.

Dated at Toronto this March 30th, 2000.

BUILDING MATERIALS EVALUATION COMMISSION

per: Rashmi Nathwani, Chair