

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

**DATE OF AUTHORIZATION
BMEC AUTHORIZATION
BMEC APPLICATION**

**January 29, 2004
04-02-294
BMEC # A2003-20**

**FALCON WATERFREE TECHNOLOGIES
Falcon Waterfree Urinal System**

1. Applicant

Falcon Waterfree Technologies
10900 Wilshire Blvd #1500
Los Angeles, CA
U.S.A., 90024

(310) 209-7314
(310) 209-7260

2. Manufacturing Facilities

Falcon Waterfree Technologies LLC
Manufacturing and Warehouse Facility
4470 44th Street
Grand Rapids, MI
U.S.A., 49512

3. Description

The Falcon Waterfree Technologies' Waterfree Urinals (the "Waterfree Urinal") are plumbing fixtures designed to be used in a washroom in lieu of a conventional water-fed urinal.

The Falcon Waterfree Urinal System has three models of waterfree urinals, two vitreous china models, F1000 and F2000; and one acrylic model, F-2000A. Each urinal has a integral trap with a liquid seal and outlet assembly for a connection to the sanitary sewer or drainage system. The plumbing fixture is designed to receive and convey only liquid waste through a trap seal and into the gravity drainage system without the use of water for such function. The integral trap consists of a patented sealtrap cartridge filled with the recommended volume of a proprietary sealant called Falcon ANER 01538. The differences between the urinals are aesthetic only.

The Falcon Waterfree Urinal System is comprised of five components: 1. the urinal body 2. the trap, or patented sealed cartridge 3. the housing for the trap 4. the uncoupler, and 5. the Falcon ANER 01538 trap seal.

4. Authorization Requested

The Applicant sought authorization for the use of their product as a waterfree urinal system in buildings of all types of construction wherever conventional urinals, as described in Article 7.6.4.2. "Plumbing Fixtures" of the 1997 Ontario Building Code, as amended or remade from time to time (the "OBC"), would be permitted to be installed under the of the OBC.

5. Assessment

Reports and assessments provided by the applicant show that if the Falcon Waterfree Urinal System is designed, performance tested and maintained in accordance with the manufacturer's limitations and instructions stated in this authorization, the level of performance required by the OBC for conventional urinals will be provided:

Reports submitted and reviewed include but are not limited to:

- 1 Technical Background Information Memo relating BMEC A2003-20, Falcon Waterfree Urinal System dated November 23, 2003.
- 2 CSA Certificate of Compliance.
- 3 ICC Report for the International Plumbing Code.
- 4 IAPMO Listing for the Uniform Plumbing Code.
- 5 US State Approvals:
 - (a) State of Arizona Approval
 - (b) State of Massachusetts Approval
 - (c) State of Rhode Island Approval
 - (d) State of Connecticut Approval
 - (e) State of Michigan Approval
 - (f) State of Wisconsin
 - (g) State of North Carolina Approval
 - (h) State of Vermont Approval
 - (i) State of Maryland Approval
6. LGA German Government.
7. BRANZ New Zealand Building Code.
8. WRC Great Britain.
9. NSF International.
10. SGS US Testing.

11. Professional letter of Correspondence regarding waterless urinals:
 - (a) Dr. Charles Gerbra letter on Sanitary Conditions of Waterfree Urinals
 - (b) UCLA Research Study on Public Health Aspects of Waterless Urinals
 - (c) University of Texas Health Science Center Review of Waterless Urinals
 - (d) Medical University of South Carolina Review of Waterfree Urinals
 - (e) SCS Engineers Report on Hygiene of Waterfree Urinals
 - (f) Edward Schnieder, MD, USC letter on Public Health aspects of Waterfree Urinals
12. Pacific Northwest National Laboratory ammonia Odor Testing.
13. UCLA Research Study on Odor Evaluation of Waterfree Urinals.
14. Parametrix Professional Engineering Report on Waterless Urinals.
15. California Institute of Technology report on Effectiveness of Trap Seal for Waterless Urinals.
16. ANSI Z124.9 Standard for Waterless Urinals (Plastic).
17. IAPMO IGC 161-2000 For Waterless Urinals (Vitreous China).
18. SGS US Testing Results.
19. IAPMO Testing Results.
20. National Standard Plumbing Code which Allows Waterless Urinals.
21. UCLA Study on Pipe Clogging.
22. Virginia Tech Study on Pipe Corrosion.
23. UCLA Study on Pipe Corrosion.
24. US Federal Government Approval and Product Endorsement.
25. Manufacturer's Product and Installation Information:
 - (a) F 1000 Product and Installation Instruction
 - (b) F 2000 Product and Installation Instruction
 - (c) F 2000A Product and Installation Instruction
26. Manufacturer's cleaning and Cartridge Change Instructions.

6. Authorization

The Falcon Waterfree Urinal System is authorized for use as a urinal in all locations, in buildings of all types of construction wherever a conventional urinal, as described in Article 7.6.4.2. "Plumbing Fixtures" of the OBC, would be permitted to be installed, and subject to the following specific terms and conditions:

A. Specific Terms and Conditions

1. This Authorization is valid only for Falcon Waterfree Technologies for the Falcon Waterfree Urinal models, F1000 and F2000; and F-2000A.
2. A copy of the maintenance instructions for Falcon Waterfree Urinals, patented sealed cartridge and Falcon ANER 01538 trap sealant and shall be submitted along with this Authorization when applying for a building permit.
3. A permanent sign, located in a conspicuous location, indicating the maintenance schedules, as they are referenced in A.2. of this Authorization, shall be posted in each room that a Waterfree Urinal is installed.
4. The Waterfree Urinals must be marked to indicate that they conform to the following standards:
 - (a) vitreous china models CSA/ASME A112.19.2.2M
 - (b) acrylic model CSA/ANSI Z124.9
5. The Waterfree Urinal shall be installed in accordance with the manufacturer's instructions.
6. The manufacturer shall provide training for the proper use, operation and maintenance of the device.
7. The plumbing system that the Waterfree Urinal forms a part of shall be designed as per Section 7.5. "Venting" of the OBC.
8. The Waterfree Urinal shall be connected to a drain waste pipe that is designed as per Subsections 7.4.9. "Size of Drain Pipes" and 7.4.10. "Hydraulic Loads" of the OBC.
9. The Waterfree Urinal is considered to have satisfied the requirements of Subsection 7.2.3. "Traps and Interceptors" of the OBC when:
 - (a) installed with an patented sealed cartridge as described Part 3 of this Authorization, and

- (b) used in conjunction with the manufacturer's trap seal liquid, Falcon ANER 01538, or other similar liquids approved by the manufacturer.
- 10. Double trapping of the Waterfree Urinal is not permitted.
- 11. The Waterfree Urinal shall conform to the flame spread and smoke development requirements of the OBC.

B. General Conditions

- 1. The use of Waterfree Urinal System as described in 6.A. Specific Terms and Conditions No. 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