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**Ontario**

**Building Materials Evaluation  
Commission**

**Commission d'évaluation des  
matériaux de construction**

## **BMEC AUTHORIZATION: 18-01-382 Biolan Greywater System**

**Date of Authorization: January 25, 2018**  
**Date of Expiry<sup>1</sup>: January 25, 2023**

### **1. Applicant**

Biolan OY  
Lauttakylantiwe 570  
FI-277510 EURA  
FINLAND

Tel: +35840501589  
Fax: +35825491660  
Web: [www.biolan.fi](http://www.biolan.fi)

### **2. Manufacturing Facility**

Lauttakylantiwe 570  
FI-277510 EURA

### **3. Authorization**

The Biolan Greywater System consists of two major components: the Biolan Grey Water Filter 125 and the absorption type trenches.

The Biolan Greywater System may be used to treat and dispose greywater up to a daily greywater flow of 800 litres /day.

The greywater flows by gravity, where it is possible, or is pumped into the Biolan Grey Water Filter 125. In the Biolan Grey Water Filter 125, greywater flows over ten (10) trays filled with a specified moss. The moss trays are stacked in such a manner that water passes from the top tray to the bottom tray, moving horizontally along each tray.

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<sup>1</sup> This Authorization expires on the date shown. It is the responsibility of Authorization holders to make a complete application considering the time for review and complexity of the new application.

The Biolan Grey Water Filter 125 is vented to maintain aerobic conditions. Greywater exiting the Biolan Grey Water Filter 125 flows by gravity, where possible, or is pumped to the absorption type trenches.

Additional descriptive information is provided in documents supplied by the Applicant listed in Appendix A.

Reports and assessment provided by the Applicant demonstrate that if the Biolan Greywater System is manufactured, designed, constructed, installed and maintained in accordance with the manufacturer's instructions and limitations, and the specific terms and conditions stated in this authorization the use of the Biolan Greywater System is considered to be not in contravention of Section 8.4. "Class 2 Sewage Systems" of Division B of the Building Code.

All other requirements pertaining to the manufacturing, design, construction, installation and maintenance are subject to the requirements of the Building Code, and subject to the following terms and conditions contained in 4 and 5 below:

## **4. Specific Terms and Conditions**

### **1.0. General Requirements**

- 1.1. This Authorization is valid only for Biolan OY's Biolan Greywater System, which consists of the Biolan Grey Water Filter 125 and the absorption type trenches;
- 1.2. The Biolan Greywater System shall only be used in buildings of residential occupancy used, or intended to be used, as seasonal recreational buildings per the requirements set out in Section 9.36. "Cottages" of Division B of the Building Code;
- 1.3. The Biolan Greywater System shall not accept human waste;
- 1.4. The Biolan Greywater System shall meet all other requirements relating to Class 2 system not specifically listed herein; and
- 1.5. If there is a conflict between the design and installation requirements for the Biolan Greywater System, as outlined in this Authorization, and those requirements outlined in the "Instructions for Use and Maintenance - Manual for Ontario" Version 201.0, dated, July 2017, then the design and installation requirements for the System, as outlined in this Authorization, shall prevail.

### **2.0 Biolan Greywater System Requirements**

- 2.1. The greywater shall be delivered to the Biolan Grey Water Filter 125, by gravity or by means of a pump chamber;
- 2.2. Where the greywater is pumped, the maximum dose is 20 litres with doses a minimum of 10 minutes apart;

- 2.3. Only Biolan OY's manufacturer trained and authorized agents or employees shall install, maintain, and service the Biolan Greywater System;
- 2.4. The Biolan Greywater System shall be installed and maintained as per the manufacturer's installation instructions found in the "Instructions for Use and Maintenance - Manual for Ontario" Version 201.0, dated, July 2017; and
- 2.5. The Biolan Grey Water Filter 125 used in the Biolan Greywater System shall only utilize Warnstorfia moss.

**3.0. Design and Sizing**

- 3.1. The size of the Biolan Greywater System shall not be further reduced beyond what is approved through this Authorization;
- 3.2. The bottom of the trenches shall be at least 900 mm above the high ground water table, or bedrock;
- 3.3. The maximum daily design greywater flow is 800 L/day per Biolan Grey Water Filter 125 as calculated in Article 8.4.1.2. of Division B of the Building Code;
- 3.4. The absorption type trenches shall be constructed in such a manner as to prevent collapse;
- 3.5. The absorption type trenches shall permit leaching through the side walls;
- 3.6. The absorption type trenches shall be surrounded on all sides and the bottom by at least 600 mm of soil having a percolation time of less than 50 minutes per cm;
- 3.7. The absorption type trenches shall have a minimum of 150 mm of permeable soil on top;
- 3.8. There shall be a minimum of 1200 mm of soil between the adjacent walls of the absorption type trenches;
- 3.9. The length of any one absorption type trenches shall not exceed 30 m;
- 3.10. Pipes shall be used in the absorption type trenches, and shall have minimum slopes as required by Clause 8.7.3.3.(1)(b) of Division B of the Building Code; and
- 3.11. The loading rate to the side walls of the absorption type trenches shall be not more than the value calculated using the formula:

$$LR = 500 / T$$

where,

LR loading rate of the sidewall of the trenches in litres per day/m<sup>2</sup>, and  
 T percolation time of the soil with the highest T time, within 600 mm of the trench walls and floor, measured in min/cm.

## 5. General Conditions

1. The use of the Biolan Greywater System as described in Section 3. and the Specific Terms and Conditions set out in Section 4 must comply with:
  - (a) the *Building Code Act, 1992*, (the "Act") as amended or re-enacted,
  - (b) except as specifically authorized herein, the Building Code as amended or remade, and
  - (c) all other applicable legislation.
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 specified in Section 1. shall promptly notify the BMEC of:
  - (a) the failure of the Applicant to comply with any of the Specific Terms and Conditions set out in Section 4,
  - (b) the failure of the material, system or building design that is the subject matter of this Authorization to
    - (i) comply with any of the Specific Terms and Conditions set out in Section 4, or
    - (ii) provide a satisfactory level of performance in situ, or
  - (c) the occurrence of any of the events described in General Conditions 5.4.(a), (b), (e) or (f).
4. The BMEC may amend or revoke this Authorization at any time on its own initiative, or at the request of the Applicant specified in Section 1. Without restricting the foregoing, the BMEC may amend or revoke this Authorization where it determines that:
  - (a) any change has been made to:
    - (i) the name of the Applicant specified in Section 1,
    - (ii) the address or other contact name information of the Applicant specified in Section 1,
    - (iii) the ownership of the Applicant specified in Section 2,
    - (iv) the manufacturing facilities specified in Section 2,
    - (v) the material, system, or building design that is the subject matter of this Authorization, or
    - (vi) a test method relevant to this Authorization,
  - (b) the Applicant has failed to comply with any of the terms and conditions set out in this Authorization,
  - (c) in the opinion of the BMEC, the use of the material, system or building design authorized herein provides an unsatisfactory level of performance in situ,
  - (d) in the opinion of the BMEC, amendment or revocation of the Authorization is appropriate on the basis of potential danger to public health and safety,
  - (e) the *Act* or Building Code has been amended, re-enacted or remade in a manner relevant to this Authorization,
  - (f) this Authorization was issued on mistaken, false or incorrect information, or
  - (g) a revision of an editorial nature is appropriate.

Dated at Toronto this 25<sup>th</sup> day of January 2018

**BUILDING MATERIALS EVALUATION COMMISSION**

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Leo Grellette  
Chair, Building Materials Evaluation Commission

ENCLOSURES: APPENDIX A - SUPPORTING INFORMATION

## Appendix A – Supporting Information

The following is a list of the documents that were submitted and reviewed, but were not limited to:

1. Engineering Letter Report, Gunnell Engineering Ltd “New BMEC Application for the Biolan Greywater System 125, Biolan Greywater System 70, and Biolan Greywater Systems Light”, dated June 16, 2016
2. Manufacturer’s Information, website Envirolet “Envirolet® Greywater Biolan 125”, undated, 2 pages
3. Manufacturer’s Information, Patron “Grey Water Filter 125”, undated, 2 pages
4. Manufacturer’s Information, website Biolan “Biolan Greywater Filter 125”, undated, 9 pages
5. Manufacturer’s Information, website Avloppscenter “Biolan Greywater Filter 70”, undated, 1 page
6. Manufacturer’s Information, website Avloppscenter “Biolan Greywater Filter light”, undated, 1 page
7. Test Results, “Biolan Grey Water Filter – Nutrient Removal Efficiency”, dated October 30, 2007
8. Correspondence, Ministry of the Environment, Finland “Filters for Holiday Home wastewater Treatment”, dated May 2007
9. Information “Biolan Harmaavesisuodattimen Toimivuus”, undated, 1 page
10. Correspondence, Patron Products “Grey Water Filter”, dated May 17, 2007
11. Information “Results of cleaning with Greywater Purifiers”, undated, 1 page
12. Information, “Table: Grey Water Filter 125”, dated April 9, 2010,
13. Information, Lounasi-Suomen, dated 2.7.2008, 3 pages
14. Drawings, Gunnell Engineering Ltd. “Biolan Greywater 125 Infiltration Bed: Plan and Cross Section”, dated June 2, 2015
15. Manual, “Biolan Grey Water Filter 125: Instructions for Use and Maintenance – Manual for Ontario, Canada”, Version 1.0, dated, January 27, 2011
16. Engineering Letter Report, Gunnell Engineering Ltd “Additional Information: Application for the Biolan Greywater System 125, Biolan Greywater System 70, and Biolan Greywater Systems Light”, dated July 14, 2017
17. Test Results, “Third Party Testing: Biolan Greywater System Light”, undated, 4 pages
18. Certificate of Analysis, Caduceon Environmental Laboratories “Final Report, report No. B17-17933”, dated June 28, 2017
19. Certificate of Analysis, Caduceon Environmental Laboratories “Final Report, report No. B17-18754” dated June 28, 2017
20. Report, SAMK, “Waste water Quality After Grey Water Filtration System, Progress Report”, dated July 12, 2017
21. Manual, “Biolan: Biolan Grey Water Filter 125: Instructions for installation, use and maintenance” date May 2014
22. Manual, “Biolan: Biolan Greywater Filter 70: Instructions for installation, use and maintenance” date November 2012
23. Manual, “Biolan: Biolan Greywater Filter Light Instructions for installation, use and maintenance” date November 2012
24. Manual, “Biolan Grey Water Filter 125: Instructions for Use and Maintenance – Manual for Ontario, Canada”, Version 201.0, dated, July 2017