



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Benjamin H. Grumbles
Director

Notice of Proprietary Treatment Product Listing Pursuant to Arizona Administrative Code R18-9-A309(E)

1. Proprietary Treatment Product Name, Model, and Description

Product Name: Eljen GSF Geotextile Sand Filter
 Model: A42 & B43 Modules
 Description: The Geotextile Sand Filter (GSF) is an assembly consisting of a proprietary GSF module(s) which contain a biomat fabric and cusped plastic core, either A42 or B43, for treatment of septic tank effluent. This is placed on a specified sand base to provide supplemental wastewater treatment before discharge to native soil.

2. Manufacturer Information

Name: Eljen Corporation
 Address: 125A McKee Street
 City/State/Zip: East Hartford, CT 06108
 Phone: 1-800-444-1359
 Fax: 1-860-610-0427
 Website: www.eljen.com

3. Recognized Treatment Performance

Parameter	Averaging Time	Maximum Value for Parameter & Averaging Time
5-Day Biochemical Oxygen Demand (BOD ₅), mg/l	30-day arithmetic mean	5
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	5
Total nitrogen (as nitrogen), mg/l	five-month arithmetic mean	40
Total coliform, colony forming units/100ml	95th percentile	1,000 (Log ₁₀ 3)
Depth of Specified Sand below Modules	Inches	12"

Northern Regional Office
1801 W. Route 66 • Suite 117 • Flagstaff, AZ 86001
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

4. Product Applicability and Limitations for Use for a Recognized General Permit Treatment Technology

Applicability: This listing is for the A42 & B43 Module Eljen GSF Geotextile Sand Filter treatment technology specified in A.A.C. R18-9-E309(A)(1).

Limitations:

- A. The product is subject to the requirements for materials and manufactured system components specified under A.A.C. R18-9-A312(F)(2) through (4);
- B. The Eljen GSF Geotextile Sand Filter shall receive pretreated wastewater from a septic tank which conforms to A.A.C. R18-9-A314;
- C. The maximum A42 Module loading rate on the module top surface shall not exceed 25 gallons per day per pad; the maximum B43 Module loading rate on the module top surface shall not exceed 30 gallons per day per pad;
- D. The Eljen GSF Geotextile Sand Filter shall be installed in native soil in trench or bed configurations;
- E. Pressure dosing of the Eljen GSF Geotextile Sand Filter, if used, shall be governed by the requirement of the R18-9-E304 general permit and the dosing requirements of R18-9-E309(D)(1)(b);
- F. The sand filter bed shall conform to ASTM C 33 washed sand per R18-9-E309(D)(2) with not more than 10.0 percent passing a #100 sieve and not more than 5.0 percent passing a #200 sieve;
- G. The design of the Eljen GSF Geotextile Sand Filter treatment technology shall follow the selection criterion in R18-9-E309(A)(2), and the design, installation, and operation & maintenance details must conform to the requirements listed under R18-9-E309(D)(E)&(F).
- H. The design of the disposal works that received treated wastewater from the Eljen GSF Geotextile Sand Filter must follow the following procedures:
 - a. The design and installation must conform to the design requirements listed under R18-9-E309(D)(2), and the applicable requirements in R18-9-A309(B), R18-9-A312 and R18-9-A314.
 - b. An investigation shall be conducted under R18-9-A310 consisting of a surface characterization and a subsurface characterization, to accurately select the appropriate primary and reserve disposal areas, and to effectively design and install the selected facility. Surface limiting conditions specified under R18-9-A310(C) and subsurface limiting conditions specified under R18-9-A310(D) shall be assessed in order to determine if the facility may not be installed at the site given any identified site limitations.
 - c. An initial primary disposal area soils absorption rate (SAR) must be calculated via an appropriate site investigation method under R18-9-A310(E) or (F). This SAR may then be adjusted under R18-9-A312(D)(3) for the specific treatment performance criteria assigned (the adjusted SAR (SAR_a) may also be limited by the maximum loading rate assigned to the Module under Section 4.C of this listing). The design flow shall be calculated using the appropriate bedroom and fixture count under R18-9-A314(4). The required disposal area may

be computed by dividing the design flow by the adjusted SAR (SAR_a).

The minimum number of engineered pads required is computed using the following computations for total basal contact area:

- (i) In Bed Configuration, the total basal contact area per pad length will comprise:
 - (a) the total pad(s) width, plus
 - (b) the spacing between each adjacent pad (not to exceed 24" per pad spacing), plus
 - (c) a minimum of 6" to a maximum of 12" width on either side of the installation
 Multiply the sum of (a)(b) and (c) by the pad length, to obtain the total basal contact area per pad length

- (ii) In Trench Configuration, the total basal contact area per pad length will comprise:
 - (a) the total pad width, plus
 - (b) a minimum of 6" to a maximum of 12" width on either side of the each pad
 Multiply the sum of (a) and (b) by the pad length, to obtain the total basal contact area per pad length

The minimum number of engineered pads required will be obtained by dividing the required disposal area by a total basal contact area per pad length calculated above, and rounding to the next whole number.

- d. In the event that seasonal high water table is identified at the site, the requirements of R18-9-A312(E)(2) must apply, which may include conducting a hydraulic analysis showing that soil is sufficiently permeable to conduct wastewater downward and laterally without surfacing for the site conditions.
- e. If the portions of the installation that is to be installed above natural soil grade, then the Notice of Intent to Discharge and other required submittal components shall include the requirements listed in R18-9-E304. The bottom 6 inches of the Eljen GSF Geotextile Sand Filter shall not extend above the natural grade of the property at any point in the system.
- I. If there is conflict between the manufacturer's specifications and 18 A.A.C. 9, Articles 1 and 3, the provisions of the Arizona Administrative Code shall prevail.
- J. This Product Listing Notice supersedes prior product listing actions and any prior approved supporting documents.
- K. The use of a disinfection device under R18-9-E320 in conjunction with this product is not allowed.

5. Alternative Criteria and Exceptions for Use under the Recognized General Permit Treatment Technology

Alternative:	None.
Exception:	None.

6. Documents Used as the Basis for this Proprietary Treatment Product Listing Notice

<p>Application for Treatment Product Listing Documents relied upon:</p>	<p>ADEQ’s listing of this product is based solely on the testing and reporting of treatment performance results reported from the following documents: Application Received by ADEQ in Oct, 2007 & Revised March, 2008; FINAL Onsite Wastewater Technology Testing Report, Eljen™ Geotextile Sand Filter Timed Pressure Dosed Mode, March 2008; FINAL Onsite Wastewater Technology Testing Report, Eljen™ Geotextile Sand Filter Eljen™ Demand Dosed Mode, March 2008 FINAL Onsite Wastewater Technology Testing Report, Eljen™ Geotextile Sand Filter Eljen™ Gravity Mode, November 2008; Letters from George Heufelder, Director of MASSTC; August 8, 2008; February 23, 2009; May 11, 2009 Letter from Sharon Steiner, Business Unit Manager, Wastewater Treatment Unit Program, NSF International, July 31, 2008</p>
<p>Manufacturer’s Installation Guide:</p>	<p>www.eljen.com</p>
<p>Manufacturer’s Operation and Maintenance Manual:</p>	<p>www.eljen.com</p>
<p>Manufacturer’s Warrantee:</p>	<p>www.eljen.com</p>

7. Terms and Conditions for this Proprietary Treatment Product Listing Notice

<p>A. This Notice of Proprietary Treatment Product Listing shall remain in effect until any of the following occurs:</p> <ul style="list-style-type: none"> i. Applicable provisions of the Arizona Administrative Code, Title 18, Chapter 9, Article 3 are revised; ii. Documents used for the basis of this listing are altered or modified; iii. Manufacturer claims which are relied upon for this listing are later determined to contain an error or omission; iv. The manufacturer requests termination of this listing; <p>B. This Notice of Proprietary Treatment Product Listing does not apply for:</p> <ul style="list-style-type: none"> i. Listed proprietary treatment products which are modified or operated in a manner that conflicts with Arizona law or other documents used for the basis of this approval. ii. Listed proprietary treatment products used in a manner that cannot achieve the performance in Section 3 above. <p>C. This Notice of Proprietary Treatment Product Listing applies solely to the product specified in Section 1 above within the limitation specified in Section 4.</p> <p>D. The manufacturer is responsible for notifying the ADEQ of changes to contact information at the following address:</p> <p style="padding-left: 40px;">Attention: Manager, Wastewater and Subdivision Review Unit Engineering Review Desk, 1110 West Washington Street Phoenix, AZ 85007.</p>
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Eljen Geotextile Sand Filter (A42 & B43 Modules) Product Listing

E. The listing by ADEQ of any proprietary product or service is not an endorsement by ADEQ or the State of Arizona. ADEQ does not endorse, represent, guarantee, warranty or defend the use of any product which is authorized for use pursuant to A.A.C. R18-9-A309(E). Product providers are a direct source unrelated to ADEQ or the State of Arizona. Use of any listed product is at the user's risk and the State of Arizona assumes no liability.

Signature: 	Date Signed: June 24, 2010
Title: Michael Fulton, Director, Water Quality Division	