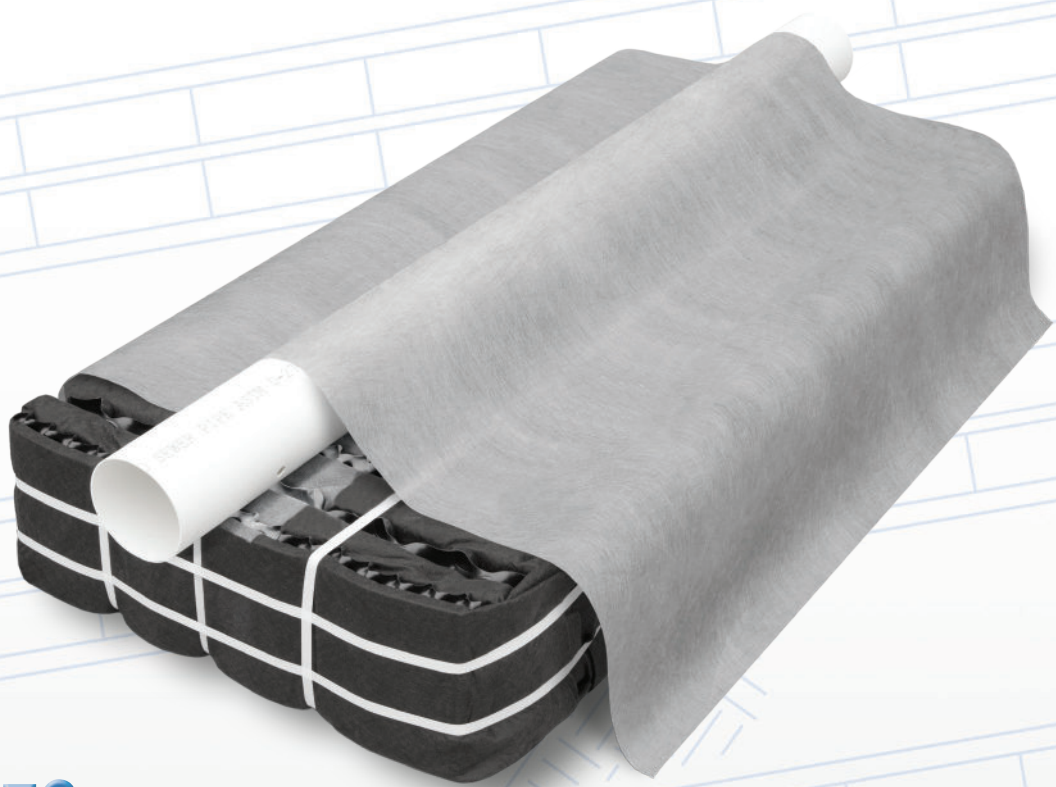




Geotextile Sand Filter

# Eljen GSF System Overview



**eljen**  
CORPORATION

*Innovative Onsite Products & Solutions Since 1970*

[www.eljen.com](http://www.eljen.com)

# Eljen GSF System Description

Each GSF Module is made up of geotextile fabric and a plastic core material that work together to provide vertical surface area and oxygen transfer. The GSF System applies secondary treated effluent to the soil, increasing the soil's long-term acceptance rate. A Specified Sand layer provides additional filtration, and prevents saturated conditions.

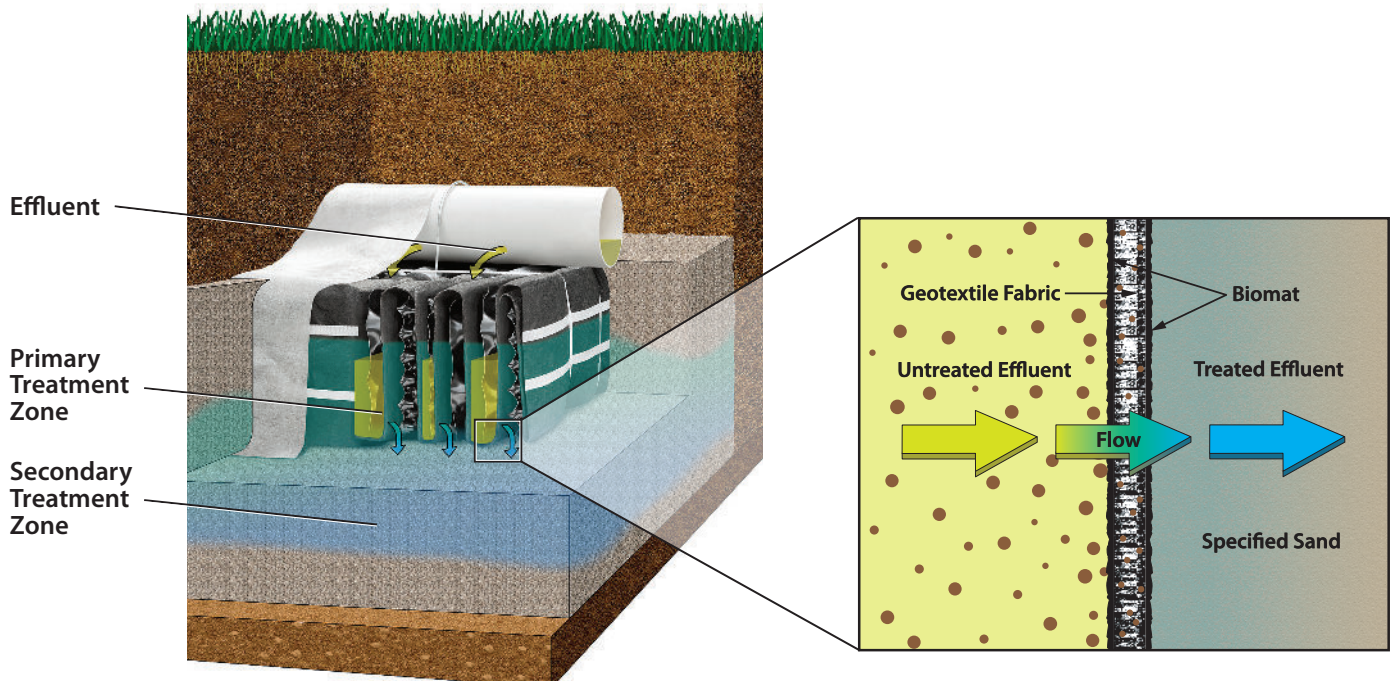
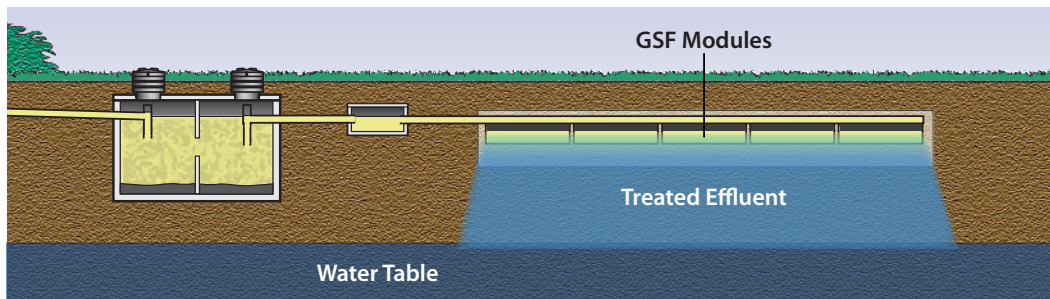
## PRIMARY TREATMENT ZONE

- Perforated pipe is centered above the GSF Module to distribute septic effluent over and into corrugations created by the plastic core of the GSF Module.
- The Module's unique design provides increased surface area for biological treatment of nutrients and contaminants.
- Open air channels within the Module support aerobic bacterial growth on the Module's geotextile fabric interface, and promote oxygen in the system.
- An anti-siltation geotextile fabric covers the top and sides of the GSF Module to protect the system from the migration of fines.
- The GSF Module provides biomat management, and takes the burden of treatment and biomat development off of the native soil.

## SECONDARY TREATMENT ZONE

- Effluent drips into the Specified Sand layer and supports unsaturated flow into the native soil.
- The Specified Sand layer also protects the soil from compaction and helps maintain cracks and crevices in the soil.
- Native soil provides final filtration and allows for groundwater recharge.

## GSF SYSTEM OPERATION



# Testing Overview and Performance

## NSF Standard 40

This standard determines whether treatment systems product secondary treatment effluent quality, with Class I systems achieving a 30-day average effluent quality of 25 mg/L CBOD5 and 30 mg/L TSS or less, and pH 6.0-9.0. Testing and certification are done at an independent third party testing facility.



Certified to NSF/ANSI Standard 40

**SETUP:** Gravity GSF system with 6" of ASTM C33 sand in a bed configuration. 450 gal/day, (2.0 gal/ ft<sup>2</sup> loading rate).

**RESULTS:** The Eljen GSF is Tested and Certified by NSF to NSF Standard 40 Class 1 since 2014.

More information can be found at [www.NSF.org](http://www.NSF.org).

## NSF Standard 245

This standard includes Total Nitrogen reduction requirements with Class I systems achieving a 30-day average effluent quality of more than 50% Total Nitrogen removal, 25 mg/L CBOD5 and 30 mg/L TSS or less, and PH 6.0-9.0. Testing and certification are done at an independent third party testing facility.



Certified to NSF/ANSI Standard 245

**SETUP:** Gravity GSF system in a bed configuration with 18" of ASTM C33 sand, 12" of sand/woodchip mixture, and 2" of limestone. 450 gal/day (2.0 gal/ft<sup>2</sup> loading rate).

**RESULTS:** Tested and Certified by NSF to NSF Standard 245 Class 1 since 2018.

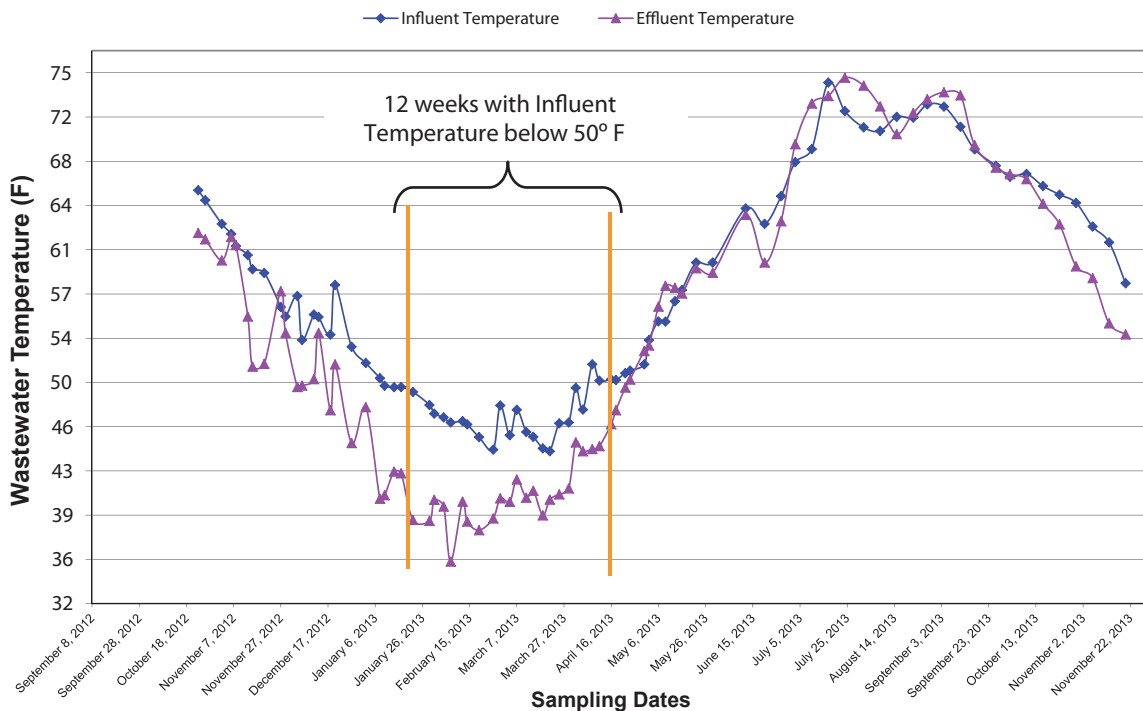
More information can be found at [www.NSF.org](http://www.NSF.org).

The third-party testing results listed below were taken over a 12 month consecutive period. This extended sampling period provided verification to the stability and consistency of the Eljen GSF's performance and capability to handle colder weather conditions. A summary of the test results from the independent third-party evaluation are listed below:

Eljen GSF A42 Modules Treatment Performance during third party 12 months testing (includes 12 consecutive weeks with influent temperature below 50° F)			
	CBOD (mg/L)	TSS (mg/L)	Fecal Coliform (MPN/100ml)
Average	2.0	2.7	66*
Average (cold water period)	1.2	1.7	13*
Median	1.0	2.5	71*
Min Value	1.0	2.5	2*
Max Value	7.2	7.0	10 965*

\*Geometric average

Eljen GSF - A42 Influent and Effluent Temperature (degree F)





## **COMPANY HISTORY**

Established in 1970, Eljen Corporation created the world's first prefabricated drainage system for foundation drainage and erosion control applications. In the mid-1980s, we introduced our Geotextile Sand Filter products for the passive advanced treatment of onsite wastewater in both residential and commercial applications. Today, Eljen is a global leader in providing innovative products and solutions for protecting our environment and public health.

## **COMPANY PHILOSOPHY**

Eljen Corporation is committed to advancing the onsite industry through continuous development of innovative new products, delivering high-quality products and services to our customers at the best price, and building lasting partnerships with our employees, suppliers, and customers.



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