

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 9. WATER POLLUTION CONTROL
PART E. TYPE 4 GENERAL PERMITS

R18-9-E312. 4.12 General Permit: Textile Filter, Less Than 3000 Gallons Per Day Design Flow

- A.** A 4.12 General Permit allows for the use of a textile filter receiving wastewater treated to a level equal to or better than that specified in R18-9-E302(B).
1. Definition. For purposes of this Section, a “textile filter” means a disposal technology characterized by:
 - a. The flow of wastewater into a packed bed filter in a containment structure or structures. The packed bed filter uses a textile filter medium with high porosity and surface area; and
 - b. The textile filter medium provides further treatment by removing suspended material from the wastewater by physical straining, and reducing nutrients by microbial action.
 2. An applicant may use a textile filter in conjunction with a two-compartment septic tank or a two-tank system if the second compartment or tank is used as a recirculation and blending tank. The applicant shall divert a portion of the wastewater flow from the textile filter back into the second tank for further treatment.
 3. An applicant may use a textile filter if:
 - a. Nitrogen reduction is desired,
 - b. The native soil is excessively permeable,
 - c. There is little native soil overlying fractured or excessively permeable rock, or
 - d. A reduction in setback distances or minimum vertical separation is desired.
- B.** Performance. An applicant shall ensure that a textile filter is designed so that it produces treated wastewater that meets the following criteria:
1. TSS of 15 milligrams per liter, 30-day arithmetic mean;
 2. BOD₅ of 15 milligrams per liter, 30-day arithmetic mean;
 3. Total nitrogen (as nitrogen) of 30 milligrams per liter, five-month arithmetic mean, or 15 milligrams, five-month arithmetic mean per liter if documented under subsection (C)(4); and
 4. Total coliform level of 100,000 (Log₁₀ 5) colony forming units per 100 milliliters, 95th percentile.
- C.** Notice of Intent to Discharge. In addition to the Notice of Intent to Discharge requirements specified in R18-9-A301(B) and R18-9-A309(B), an applicant shall submit:
1. The name and address of the filter manufacturer;
 2. The filter model number;
 3. A copy of the manufacturer’s filter warranty;
 4. If the system is for nitrogen reduction to 15 milligrams per liter, five-month arithmetic mean, specifications on the nitrogen reduction performance of the filter system and corroborating third-party test data;
 5. The manufacturer’s operation and maintenance recommendations to achieve a 20-year operational life; and
 6. If a pump or aerator is required for proper operation, the pump or aerator model number and a copy of the manufacturer’s warranty.
- D.** Design requirements. In addition to the applicable requirements in R18-9-A312, an applicant shall ensure that:
1. The textile medium has a porosity of greater than 80 percent;
 2. The wastewater is delivered to the textile filter by gravity flow or a pump;
 3. If a pump is used to dose the textile filter, the pump and appurtenances meet following criteria:
 - a. The textile media loading rate and wastewater recirculation rate are based on calculations that conform with performance data listed in the reviewed product list maintained by the Department as required under R18-9-A309(E),
 - b. The tank and recirculation components are sized to contain the dose volume and a reserve volume above the high water level alarm that will contain the volume of daily design flow, and
 - c. A control panel with a programmable timer is used to dose the textile media at the applicable loading rate and wastewater recirculation rate.
- E.** Installation requirements. In addition to the applicable requirements in R18-9-A313(A), an applicant shall:
1. Before placing the filter modules, slope the bottom of the excavation for the modules toward the discharge point to minimize ponding;
 2. Ensure that the bottom of all excavations for the filter modules, pump, aerator, or other components is level and free of debris, rocks, and sharp objects. If the excavation is uneven or rocky, the applicant shall use a bed of sand or pea gravel to create an even, smooth surface;
 3. Provide the modules and other components with anti-buoyancy devices to ensure they remain in place in the event of high water table conditions; and
 4. Provide a mechanism for draining the filter module inlet line.
- F.** Operation and maintenance requirements. In addition to the applicable requirements in R18-9-A313, the permittee shall not flush corrosives or other materials known to damage the textile material into any drain that transmits wastewater to the on-site wastewater treatment facility.