

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

SEPTIC TANK EFFLUENT FILTER APPROVAL

SEPTIC TANK EFFLUENT FILTER NO: EF-18

ISSUED TO: Gary Koteskey
GAG Sim/Tech Filter, Inc.
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Boyne City, MI 49712
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FOR: Septic Tank Effluent Filter Model STF-110

DATE: December 21, 2001

In accordance with North Carolina General Statute 130A-335 and 130A-335.1, and Administrative Rule 15A NCAC 18A .1954, an application by Gary Koteskey of GAG Sim/Tech Filter, Inc. for approval of septic tank effluent filters has been reviewed and the above referenced filter model has been found to meet the requirements established by statute and rule for approved effluent filters, when the following conditions for use, installation, operation and maintenance are met:

- I. Description:
- a. Filters shall be designed and manufactured in accordance with plans, specifications and supporting documents provided by the manufacturer in their application for approval submitted to the On-Site Wastewater Section. The On-Site Wastewater Section shall be notified in writing of any additions or modification to the approved filter models prior to use in septic tank systems.
 - b. Filters shall meet the following specifications (see Table 1):

Table 1. Approved Filter Model Specifications (GAG Sim/Tech)

Filter Models	Size	Support Case ¹	Case Dimensions		Min. Tank Liquid Depth Required	Min. Access Opening Size ³
			Above Liquid Level	Below Liquid Level ²		
STF-110/1	4" dia. x 26"	4" PVC Tee	6"	12-inch minimum ²	36"	15 x 15 in. or 17 in. dia. or equal
STF-110/2	2 filters, each 4" dia. x 26"	2 cases, + 4" PVC Tees	6"	12-inch minimum ²	36"	17 x 17 in. or 17 in. dia. or equal
STF-110/3	3 filters, each 4" dia. x 26"	3 cases, 4" PVC Cross, + 4" PVC Tees	6"	12-inch minimum ²	36"	18 x 18 in. or 20 in. dia. or equal
STF- 110/4	4 filters, each 4" dia. x 26"	4 cases, 4" PVC Cross, + 4" PVC Tees	6"	12-inch minimum ²	36"	22 x 22 in. or 24 in. dia. or equal

Notes:

1. Support case provided by the septic tank manufacturer for Model STF-110/1. Support cases to be provided by GAG Sim/Tech for models STF-110/2-4.
2. Extend down 25%-40% of liquid depth
3. Other minimum opening sizes or configurations proposed by the septic tank manufacturer shall be approved by the State on a case-by-case basis if documentation is provided showing both adequate access is provided for filter maintenance and for pumping the tank outlet compartment.

- c. This approval shall be amended to incorporate additional filter models when they are found to meet the requirements of GS 130A-335, 130A-335.1, and other applicable rules.

II. Use:

A septic tank manufacturer may use one or more of these approved effluent filters in one or more of their septic tanks. The septic tank manufacturer must notify the On-Site Wastewater Section in accordance with Rule .1953 of the tanks in which they propose to utilize any of these approved filters, showing any modifications to the approved tank plans which may be necessary to utilize the proposed filter.

III. Sizing:

Approved filter models may be used in systems that meet the capacities and wastewater characteristic limitations stated in the following table, in accordance with manufacturer's specifications:

Filter Model	Maximum Design Flow (gpd, residential)
STF-110/1	800
STF-110/2	1600
STF-110/3	2400
STF-110/4	3000

Notes:

1. Sizing based on typical residential strength septic tank effluent (with or without garbage disposals), including influent wastewater strength: BOD₅ range of 100- 300 mg/l and TSS range of 100-350 mg/l. For use in systems with higher strength wastewater, three-year minimum maintenance interval is unrealistic to expect without advanced pretreatment in addition to grease traps.
2. For use in systems with design flows exceeding 3000 gpd, requires engineer design and project-specific approval.

The filter sizing must be compatible with tank sizing requirements established based upon Rules .1949 and .1952(d). Both the maximum filter design flow and the maximum tank design flow must be equal to or greater than the maximum design flow rate for the system.

IV. Installation:

The effluent filters and filter support cases shall be assembled and installed in accordance with filter manufacturer's specifications and applicable rules. The filter case shall be located in such a manner that the filter can be readily accessible by the operator beneath the access manhole opening and removable by hand from above finished grade, while also providing enough room to allow for pumping of the tank outlet compartment. An access device manufactured by GAG Sim/Tech Filters shall be provided by the tank manufacturer with the filter whenever the tank is to be installed with the filter handle deeper than 18-inches below the access manhole top or more than 18-inches below finished grade.

V. Operation and maintenance:

The effluent filters shall be used and maintained in accordance with filter manufacturer's specifications and applicable laws and rules. Manufacturer-specified procedures shall be followed to minimize the bypass of unfiltered effluent while the filter is being removed when servicing is needed. GAG Sim/Tech Filters has available for purchase a slotted sleeve removal tool that prevents material from leaving the outlet tee while the filter is being replaced. Upon removal, used filters shall either be replaced with a new filter and the used filter disposed of by an approved sanitary disposal method, or debris shall be washed off the filter into the septic tank and the filter properly placed back into service.

VI. Literature:

The filter manufacturer shall furnish with each filter:

- Literature to be provided by the tank manufacturer to the system installer describing installation procedures.

- Literature to be provided by the installer to the system owner/user describing filter and recommended maintenance and servicing procedures.

VIII. Maintaining approval status:

The approval status is governed by Rule .1954(e).

Approved by: _____ Date: _____