

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

SEPTIC TANK EFFLUENT FILTER APPROVAL

SEPTIC TANK EFFLUENT FILTER NO: EF-12-R4

ISSUED TO: Patrick Mulhall

Polylok, Inc.

60 Capital Drive

Wallingford, CT 06492

(877) 765-9565; (203) 284-8514 (Fax); www.polylok.com

FOR: Septic Tank Effluent Filter Model PL-122 with Pipe Adapter, Model PL-68, Model PL-525, and Model PL-625

DATE: December 18, 1998

February 2, 2004 (addition of Model PL-68)

March 4, 2005 (addition of Model PL-525)

December 21, 2005 (addition of Model PL-625)

In accordance with North Carolina General Statute 130A-335, 130A-335.1, and 15A NCAC 18A .1954, an application by Patrick Mulhall of Polylok, Inc. for modification of their approval for 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 (Polylok)

Filter Models	Size	Support Case ³	Case Dimensions		Min. Tank Liquid Depth Required ⁴	Min. Access Opening Size ⁵
			Above Liquid Level	Below Liquid Level		
PL-122 With Pipe Adapter ¹	4.5" sq. x 22.75" (18" to Case Inlet)	4.5" sq. Housing	5.75"	12.375"	36"	15 x 15 in. or 17 in. dia. or equal
Dual PL-122 With Pipe Adapter ^{1,2}	2 filters, each 4.5" sq. x 22.75" (18" to Case Inlet)	2 attached cases, 4.5" sq. Housings	5.75"	12.375"	36"	17 x 17 in. or 17 in. dia. or equal
Triple PL-122 With Pipe Adapter ^{1,2}	3 filters, each 4.5" sq. x 22.75" (18" to Case Inlet)	3 attached cases, 4.5" sq. Housings	5.75"	12.375"	36"	18 x 18 in. or 20 in. dia. or equal
PL-68	2-5/8" dia. X 14"	4" PVC Tee	6"	15.5"	36"	15 x 15 in or 17 in dia. or equal
PL-525	9.5" x 11" x 22"	11.5" x 10.5" Housing	8.5" (6" Sch 40) 7.5" (4" Sch 40)	24.5" (6" Sch 40) 25.5" (4" Sch 40)	36"	17 x 17 in or 17 in dia or equal
PL-625	9.5" x 11" x 22"	11.5" x 10.5" Housing	8.5" (6" Sch 40) 7.5" (4" Sch 40)	24.5" (6" Sch 40) 25.5" (4" Sch 40)	36"	17 x 17 in or 17 in dia or equal

Notes:

1. Solvent weld filter support case to 3-inch or 4-inch PVC Schedule 40 outlet pipe.
2. Dual and Triple models require cases to be snapped together in accordance with filter manufacturer's specifications.
3. Support case housings are integral to all PL-122 and 525 filters and supplied by Polylok, Inc. for all models. Supplemental support may be provided by the septic tank manufacturer, by inserting a 4-inch thin-wall PVC pipe into the housing of the furthest filter from the outlet after the shut off ball has been removed in accordance with manufacturer's specifications, fastening this pipe with two stainless steel screws to the housing, and extending the support pipe to the tank bottom. Supplemental support is required for Model PL-525. Openings in the support pipe must be located to meet the 25% to 40% requirement for the support case inlet intake. Support case for Model PL-68 provided by Polylok, Inc. or septic tank manufacturer.
4. When the tank liquid depth exceeds 50 inches, the case bottom must be extended as necessary to meet the 25% to 40% inlet intake requirement for the filter support case. This may be accomplished by removing the shut off ball, in accordance with filter manufacturer's specifications, and fastening with two stainless steel screws to the housing a 4-inch thin wall PVC pipe cut to the length needed to meet this requirement.
5. Other minimum opening sizes or configurations proposed by the septic tank manufacturer shall be approved by the State of 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:

Table 2. Filter Sizing Criteria (Polylok)^{1,2}	
Filter Model	Maximum Design Flow (gpd, residential)
PL-122 With Pipe Adapter	800
Dual PL-122 With Pipe Adapter	1600
Triple PL-122 With Pipe Adapter	2400
PL-68	800
PL-525	3000
PL-625	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.

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 serviced. Debris washed off the filter during servicing must be returned to the septic tank, or otherwise handled in accordance with an alternate approved sanitary disposal method.

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: _____