

# **NSF/ANSI STANDARD 46**

## **EVALUATION OF COMPONENTS AND DEVICES USED IN WASTEWATER TREATMENT SYSTEMS**

### **FILTRATION DEVICES**

#### **PERFORMANCE TESTING AND EVALUATION**

A single septic tank filter shall be installed on the test chamber in accordance with the manufacturer's directions. The test chamber shall be designed and constructed so that performance testing conditions can be attained. The septic tank filter shall then be subjected to each of the following performance tests in the sequence shown:

- 1) flow test for clean filters
- 2) flow test for partially clogged filters
- 3) structural integrity test
- 4) solids retention test (synthetic bead test) and
- 5) bypass protection test

#### **CRITERIA FOR PASSING**

- 1) At the conclusion of each performance test, the septic tank filter, assemblies, and all applicable components of the device shall be inspected and shall show no visible signs of cracking, collapse, or permanent deformation; and
- 2) After an equilibrium flow condition is established, the final water level in the test chamber shall not exceed 5.1 cm (2 in) of head rise above the initial water level; and
- 3) At the conclusion of the one-week solids retention testing, the flow to the test chamber shall be shut off, and the area downstream of the septic tank filter and preceding the collection screen shall be inspected for any polystyrene spheres. There shall be zero spheres in this area of the testing device; and
- 4) At the conclusion of 48 h of bypass protection testing, the flow to the test chamber shall be shut off, and the area downstream of the septic tank filter and preceding the collection screen shall be inspected for any polystyrene spheres. There shall be zero spheres in this area of the testing device; and
- 5) During all stages of performance testing and evaluation, the septic tank filter shall remain in its normal operating position. The filter shall not become dislodged as a result of flow conditions or hydraulic pressure differentials created across the filter or filter assembly.

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## **CHLORINATION DEVICES**

### **PERFORMANCE TESTING AND EVALUATION**

- 1) chlorine resistance test
- 2) life test
- 3) chlorination test

#### **CHLORINE RESISTANCE TEST**

Parts normally in contact with chlorine shall be exposed, to the maximum in-use concentration or maximum output for a period of 100 d.

#### **LIFE TEST**

Chlorination devices and dispensers shall be capable of operating for 30 d with no maintenance.

#### **CHLORINATION TEST**

Chlorination devices shall be tested for fecal coli form reduction.

### **CRITERIA FOR PASSING**

#### **CHLORINE RESISTANCE TEST**

No component of the chlorination device shall show any visible sign of chemical attack or structural deformation.

#### **LIFE TEST**

No component of the chlorination device shall show any visible sign of chemical attack or structural deformation.

#### **CHLORINATION TEST**

Chlorine disinfection devices shall achieve an average fecal coli form concentration  $\leq 200$  organisms/100 mL.

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## **ULTRAVIOLET (UV) DISINFECTION DEVICES**

### **PERFORMANCE TESTING AND EVALUATION**

UV disinfection devices shall be tested for fecal coli form reduction over a 90 day period. The UV lamp output shall be measured at the beginning and the end of the 90-d test period with a standard radiometer.

### **CRITERIA FOR PASSING**

UV disinfection devices shall achieve an average fecal coli form concentration  $\leq 200$  organisms/100 mL.