

EARTH RETAINING STRUCTURE | WEEP HOLE COMPONENT REPAIR

& INSTALLATION

SECTION

PART 1 GENERAL

1.01 DESCRIPTION

A. A filter assembly for a earth retaining structure filters the flow of groundwater through a hole in the wall. The filter assembly includes: (a) a housing containing a flat flange and a perforated conical shell, the shell adapted to extend into the hole with its apex extending toward the landward side, the flange having a frontward side adapted to fit flush against the earth retaining structure, the flange having a landward side connected to the shell, the flange having an opening that defines an open base for the shell.

1.02 REFERENCES

A. FHWA-FLH DIVISION 250 SLOPE REINFORCEMENT AND RETAINING WALLS 259.09 Wall Drainage Network. Install drain strips, PVC connector pipes, wall footing drains, and weepholes as shown on the plans. Exclusive of the wall footing drains, install all elements of the drainage network, as appropriate, before shotcreting each lift.

PART 2 MATERIALS

2.01 FLAME RETARDENT POLYCARBONATE/ ACRYLONITRILE- BUTADIENE-STYRENE

A. Filter cartridges are U/V protected.

2.02 ASTM

A. ASTM A-36 Hot Rolled Steel or 316 Stainless Steel. Corrosion Resistance

2.03 FILTER MEDIA

A. Media Properties

1) Mirafi® FW300 geotextile is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids.

Mirafi® FW300 geotextile is composed of high-tenacity monofilament polypropylene yarns, which are woven into a stable network such that the yarns retain their relative position.

Wide Width Tensile Strength	ASTM D4595	lbs/in (kN/m)	230 (40.3)	225 (39.4)
Grab Tensile Strength	ASTM D4632	lbs (N)	400 (1780.0)	335 (1491)
Grab Tensile Elongation	ASTM D4632	%	20	15
Trapezoid Tear Strength	ASTM D4533	lbs (N)	145 (645)	125(556)

CBR Puncture Strength	ASTM D6241	lbs (N)	1250 (5563)
Apparent Opening Size (AOS) ¹	ASTM D4751	U.S. Sieve (mm)	30 (0.60)
Percent Open Area	COE-02215	%	8
Permittivity	ASTM D4491	sec-1	1.5
Permeability	ASTM D4491	cm/sec	0.13
Flow Rate	ASTM D4491	(gal/min/ft ²)	115
		l/min/m ²	(4685)
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90

PART 3 EXECUTION

3.01 SUBMITTALS

- A. The product data is to be submitted in accordance with the provisions of the General Conditions.

3.02 GENERAL

- A. Core drilling weep holes through existing or new earth retaining structures that meets the specifications required.
- B. Step 1. Core a 4 or 6 inch diameter hole in the earth retaining structure every 4 to 6 feet slightly above the mean high water line or lowest elevation.
- C. Step 2. Insert weep hole assembly into the drilled hole on wall.
- D. Step 3. Pre-drill the mounting holes by using a 1/4" bit. Attach with tap-Flex screws (Included) through the filter plate holes into the earth retaining structure or before welding grind to remove surface coating for a good weld or anchor mount.

Note: Be sure to epoxy/seal around the housing for any possible openings of the core.

- E. Product Warranty; Merchantability Warranty.
1) Supplier warrants to Buyer that the Products shall, at the time of delivery to buyer in accordance with the Specifications therefor, be free from material defects; and (iii) be manufactured in accordance with good manufacturing practice and Applicable Law (such warranty being referred to as the "Product Warranty"). (b) EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT, NO WARRANTIES, OTHER THAN THE PRODUCT WARRANTY, ARE EXPRESSED OR IMPLIED IN RESPECT OF THE PRODUCTS, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

3.03 EQUIPMENT

- A. Equipment and tools necessary for handling materials and performing all parts of the Work are to be approved by the Commissioner as to design, capacity, and mechanical condition. The equipment is to be at the job site before the start of construction operations for examination and approval.

- B. At least two weeks prior to equipment for repair of weep hole as recommended by the product manufacturer and must be in good working order.

PART 4 METHOD OF MEASUREMENT

4.01 MEASUREMENT

- A. Earth retaining structures weep holes will be measured separately, but will be included in pay item “weep holes”.

PART 5 BASIS OF PAYMENT

5.01 PAYMENT

- A. Weep holes will be paid for each “weep holes”.

END OF SECTION