

# SPECIFICATIONS

## STORMFILTER®

### SCOPE

These specifications apply to the performance, materials and manufacture of stormwater filtration system StormFilter, manhole models (MH48 to MH96), vaults (V0806 to V0824) and vaults with an integrated bypass structure (peak diversion : PD0806 to PD0824) supplied by Soleno.

### TREATMENT UNIT REQUIREMENTS

The stormwater filtration system StormFilter shall be supplied by Soleno Inc. and shall comply with these materials and performance specifications based on treatment flow and specified peak flow rates.

### RAW MATERIALS

- **Structure** : the StormFilter structure shall be in precast concrete.
  - Precast concrete components, reinforcing steel and rubber gaskets shall meet the BNQ 2622-420 standard.
  - Concrete shall achieve a minimum 28-day compressive strength of 30 MPa (4000 lb/ft<sup>2</sup>).
  - Unless otherwise noted, the precast concrete sections shall be designed to withstand to CL-625, H-25 and HS-25 traffic loads.
  - Shipping of components shall not be initiated until a minimum compressive strength of 30 MPa (4000 lb/ft<sup>2</sup>) is attained or five (5) calendar days after fabrication.
  - A butyl gasket in accordance with BNQ 2622-420 must be installed for the sealing of horizontal joints between concrete sections.
- **Flow kit** : the flow kit must be made of ABS (acrylonitrile butadiene styrene) conform to the ASTM F628 or PVC (polyvinyl chloride) conform to ASTM D178. Collector fittings shall be in accordance with ASTM D2466.
- **Filter cartridges** :
  - Must have a base and cover made of linear low density polyethylene (LLDPE) or ABS.
  - Must have a grid consisting of a welded metal fabric covered with a bonded PVC coating.
  - Must have internal parts made of ABS or PVC.
  - Must have a floating valve made of high density polyethylene (HDPE).
- **Filtering media** :
  - *ZPG* (zeolite-pearlite-granular): is a mixed medium composed of an exterior layer of 100 % perlite<sup>1</sup> and an interior layer made of a mixture of 90 % of zéolite<sup>2</sup> and 10 % activated carbon granulaire<sup>3</sup>.
  - *PhosphoSorb* : must be made of perlite<sup>1</sup> granules with alumina bonded to the surface.
- **Overflow assembly (if required)** :
  - The diffuser shall be manufactured of linear low density polyethylene (LLDPE) and must be sealed to the concrete structure.
  - The energy dissipator shall be made of polyolefins and must be sealed to the concrete structure.
  - The baffle shall be in HDPE.

### PERFORMANCE

- The StormFilter shall include a treatment chamber:
  - Manhole type of \_\_\_\_ mm (\_\_\_\_ po) interior diameter or;
  - Vault type of \_\_\_\_ m (\_\_\_\_ ft) by \_\_\_\_ m (\_\_\_\_ ft) interior dimensions or;
  - Vaults with an integrated bypass structure type (peak diversion) of \_\_\_\_ m (\_\_\_\_ ft) by \_\_\_\_ m (\_\_\_\_ ft) interior dimensions.
- The StormFilter shall include an internal treatment device consisting of: \_\_\_\_ cartridges of 300 mm (12 in) in diameter by \_\_\_\_ mm (\_\_\_\_ in) in height filled with \_\_\_\_\_ filtering media treating a flow of \_\_\_\_ l/s (\_\_\_\_ ft<sup>3</sup>/s) as approved by the Washington State Department of Ecology (GULD<sup>4</sup> certification level); a collector; and if required, a diffuser, an energy dissipator or a baffle.
- The StormFilter shall capture the oils, grease, waste, floating debris, soluble metals, organics<sup>5</sup> nutrients and \_\_\_\_ % of Total Suspended Solids (TSS) entering the chamber (annually).

Note 1 : The media perlite must be made of natural siliceous volcanic rocks free of any debris or foreign matter. The perlite mass should have an apparent density of 105 to 136 kg/m<sup>3</sup>.

Note 2 : The zeolite-based media must be made of natural clinoptilolite, which has a geological structure of sodium aluminosilicate and calcium. The zeolite medium should have an apparent density of 705 to 769 kg/m<sup>3</sup>.

Note 3 : Granular activated carbon (GAC) must be made of steam activated lignite. GAC media must have an apparent density of 449 to 497 kg/m<sup>3</sup>.

Note 4 : General Use Level Designation

Note 5 : Organics will be absorbed by the ZPG filtering media only.

# SPECIFICATIONS

## STORMFILTER® (CONT'D)

- The StormFilter shall include at least, and in order to provide safe access for routine inspection and maintenance:
  - One (1) 750 mm (30 in) interior diameter access for manhole type models (MH48 to MH96);
  - Two (2) 750 mm (30 in) interior diameter access for vault type models (V0806 to V0818) and vaults with an integrated bypass structure type models (peak diversion: PD0806 to PD0818);
  - One (1) 750 mm (30 in) interior diameter and one (1) access hatch for vault type models (V0820 to V0824);
  - Three (3) 750 mm (30 in) interior diameter access for vaults with an integrated bypass structure type models (PD0820 to PD0824).

### FRAMES AND COVERS

- Frames and covers shall be made from S series cast iron.
- Adjustable cast iron frames and covers are furnished in options.
- Access hatches will be optional, except for models that already require it (V0820, V0822 et V0824).

### DIMENSIONS AND QUANTITIES

Dimensions and quantities shall comply with tender documents and drawings.

### INSTALLATION\*

Installation will be made according to the Soleno's recommendations. Contact the Soleno representative in your region or visit our website at [www.soleno.com](http://www.soleno.com) for installation recommendations.

*\* In accordance with the BNQ 1809-300 standard*