



SPECIFICATIONS

HYDROSTOR™

SCOPE

This specification applies to all HydroStor™ chambers supplied by Soleno. These chambers can be used to recharge the water table or to temporarily retain water and return it to the storm sewer when the rain event is over.

CHAMBER REQUIREMENTS

HydroStor™ chambers form a continuous arch with an open bottom, which helps maximize water infiltration. Each chamber shall feature four lifting handles, making it easy to move and install.

- Each HS31 chamber shall have 14 exterior corrugations
- Each HS75 chamber shall have 14 exterior corrugations
- Each HS180 chamber shall have 8 exterior corrugations
- Each HS290 chamber shall have 4 exterior corrugations

End caps shall be curved and have adequate structural capacity to allow traffic overload under CL-625; as defined by CAN/CSA-S6 standard and H-25 or HS-25, as defined by AASHTO standard and may be cut at any invert elevation to receive a pipe at any elevation.

Chambers and end caps shall comply ASTM F2418 and F2787 standards and certified to CSA B184.0 and B184.2.

RAW MATERIALS

Chambers shall be injection molded and constructed of polypropylene resin resistant to environmental stress cracking (ESCR) and with ability to maintain adequate stiffness through the construction and service life of the chamber. The chamber material shall meet or exceed the requirements of designation PP0330B99945 as defined in ASTM D4101.

The end caps shall be made of a polypropylene or polyethylene resin and molded by thermoforming or by injection

JOINT PERFORMANCE

- Joining of chambers shall be accomplished by overlapping the corrugations of longitudinally adjacent chambers as per the indications on it.
- End caps are designed to fit over top of a corrugation on either end of the chamber.

CHAMBER STORAGE CAPACITY

Excluding the amount of water contained in the void of the clear stone, each chamber:

- HS31 shall contain a minimum of 0,19 m³ of water per linear meter (2,1 ft³ per linear foot).
- HS75 shall contain a minimum of 0,61 m³ of water per linear meter (6,6 ft³ per linear foot).
- HS180 shall contain a minimum of 1,48 m³ of water per linear meter (16,0 ft³ per linear foot).
- HS290 shall contain a minimum of 2,53 m³ of water per linear meter (27,2 ft³ per linear foot).

CHAMBER STRUCTURAL CAPACITY

The backfill (measured from the top of the chamber to the final elevation) shall have:

- For the HS31, HS75 and HS180 chambers, a minimum height of 457 mm (18,0 in) and a maximum height of 2.44 m (8 ft).
- For the HS290 chamber, a minimum height of 610 mm (24,0 in) and a maximum height of 2.44 m (8 ft).

PRETREATMENT UNIT

A pretreatment unit shall be provided to remove sediments, oils and floating debris upstream from the chamber system inlet. It shall include an elbow at each outlet and one or two smooth outer wall access risers 750 mm (30 in) in diameter. Maintenance of the system will not require any work in confined spaces. Each access shaft will be provided with a lid and adjustable cast iron frame. If required, a diffuser shall be installed at the end of the pretreatment system to reach the additional rows of chambers. The system will be sized according to the expected inflow and the desired sediment storage volume.

SEPARATION GEOTEXTILE (NONWOVEN)

A Soleno TX-90 BNQ G.C.T.T.G. 3001 geotextile shall be installed on the excavation bottom and walls, and the top of the system, to insulate the clear crushed stone from the existing soil and/or road/parking lot foundation.

SCOUR PROTECTION GEOTEXTILE (WOVEN)

A Soleno scour protection woven geotextile 2006W shall be installed under all the chambers with an external water uptake, over a length of 4.57 m (15 ft), to prevent any rock movement.

INSTALLATION

Installation shall be carried out in compliance with manufacturer recommendations. Contact your local Soleno representative or visit our website at solen.com for installation recommendations.