

Downstream Defender Material & Design



Structures for precast stormwater treatment systems shall conform to ASTM C478, C857 and C858 and meet the following additional requirements:

In all cases the wall thickness shall be no less than the minimum thickness necessary to sustain HS20-44 loading requirements determined by a licensed professional engineer.

Sections shall have tongue and groove or ship-lap joints with butyl mastic sealant conforming to ASTM C990.

Cement shall be Type II or Type III Portland cement conforming to ASTM C150.

Aggregates shall conform to ASTM C33.

All sections shall be cured by an approved method. Sections shall not be shipped until the concrete has attained a compressive strength of 4000 psi and shall have a 28-day compressive strength of 5000 psi.

Pipe openings shall be sized to accept pipes of the specified size(s) and material(s), and shall be sealed by the Contractor with hydraulic cement conforming to ASTM C595M.

Internal stainless-steel components shall be grade 304 stainless steel in accordance with ASTM A314.

Four-foot, six-foot, eight-foot, and ten-foot diameter internal plastic components shall be rotationally molded from cross-linked high-density polyethylene. All larger units shall be fabricated from copolymer polypropylene. All plastics shall have material properties similar to PAXON® HDPE 7004 rotational molding resin or Protec® copolymer polypropylene.

Casting for manhole frames and covers shall be in accordance with ASTM A48, CL 35B and AASHTO M105. Castings shall be placed on top of the structure per the requirements of the project engineer.