SECTION 03151

WATERSTOPS

PART GENERAL

SECTION INCLUDES

Waterstops embedded in concrete and spanning contraction (control), expansion, and construction joints to create a continuous diaphragm to prevent fluid migration.

PVC waterstops in moving joints in concrete.

Modified chloroprene rubber hydrophilic waterstops in non-moving joints in concrete.

REFERENCES

American Society for Testing and Materials (ASTM):

_____
_____
_____
_____

COE CRD-C 572 - Corps of Engineers Specifications for Polyvinylchloride Waterstop; Army Corps of Engineers.

QUALITY ASSURANCE

Manufacturer Qualifications: Manufacturer shall be able to demonstrate not less than five years of continuous, successful experience in the production of waterstops.

DELIVERY, STORAGE AND HANDLING

Store waterstop under tarps to protect from oil and dirt; protect hydrophilic waterstops from moisture to prevent premature expansion.

PART PRODUCTS

MANUFACTURER

Provide products manufactured by Greenstreak Plastic Products Co., Inc., St. Louis, MO, 63122. ASD. Phone: (314) 225-9400 or (800) 325-9504. Fax: (314) 225-

9854 or (800) 551-5145.

WATERSTOP MATERIALS

PVC Waterstops: Extruded elastomeric plastic compound with polyvinyl chloride (PVC) as basic resin and manufactured from virgin materials; no reclaimed PVC or pigments.

Type: _____

Style No.: _____

Provide hog rings or grommets spaced 12 inches (305 mm) on center for full length of waterstop flanges.

Properties:

Water absorption in accordance with ASTM D 570: 5 percent, max.

Tear Resistance in accordance with ASTM D 624: 285 lb/in (50 kN/m) min.

Ultimate Elongation in accordance with ASTM D 638: 360 percent max.

Tensile Strength in accordance with ASTM D 638: 2000 psi (13.78 MPa) min.

Low Temperature Brittleness in accordance with ASTM D 746: No failure at -35 degrees F (-37 degrees C).

Stiffness in Flexure in accordance with ASTM D 747: 600 psi (4.14 MPa) min.

Specific Gravity in accordance with ASTM D 792: 1.4 max.

Ozone Resistance in accordance with ASTM D 1149: No Failure.

Volatile Loss in accordance with ASTM D 1203: 0.50 percent max.

Hardness, Shore A, in accordance with ASTM D 2240: 65 to 80.

Tensile Strength after accelerated extraction in accordance with CRD-C 572: 1600 psi (11.03 MPa) min.

Elongation after accelerated extraction in accordance with CRD-C 572: 300 percent min.

Effect on Alkali after 7 days in accordance with CRD-C 572:

Weight Change: Plus 0.25 percent max, minus 0.0 percent max.

Hardness Change: 5 plus/minus max.

Hydrophilic Waterstops: HYDROTITE non-bentonite dual extrusion consisting of chloroprene rubber and modified chloroprene rubber with hydrophilic properties; with

delay coating to inhibit initial expansion due to moisture present in fresh concrete.
Shape: _____
Size: _____
Properties of chloroprene rubber:
Tensile strength in accordance with ASTM D 412: 1275 psi (8 MPa), minimum.
Ultimate elongation in accordance with ASTM D 412: 350 percent, minimum.
Hardness, Shore A, in accordance with ASTM D 2240: 55, plus/minus 5.
Properties of hydrophilic chloroprene rubber:
Tensile strength in accordance with ASTM D 412: 300 psi (2070 kPa), minimum.
Ultimate elongation in accordance with ASTM D 412: 600 percent, minimum.
Hardness, Shore A, in accordance with ASTM D 2240: 55, plus/minus 5.
Expansion ratio: Minimum 35 to 1 volumetric change in distilled water at 70 degrees F (21 degrees C).

PVC Waterstop Accessories: Provide factory-made pieces for changes of direction, intersections, and transitions; no splices other than straight butt joints allowed in field.

Hydrophilic Waterstop Accessories:
Rubber sensitive for securing HYDROTITE to concrete.
Provide cyanacrylate adhesive for all splices.
Leakmaster for joining HYDROTITE to PVC waterstops.

PART EXECUTION

INSTALLATION

General:
Maintain continuity of waterstops at all intersections and transitions.
Follow waterstop manufacturer's instructions.

PVC Waterstops:
Center waterstops in joints and secure, prior to placing concrete.
Use factory-fabricated corners and transitions, leaving only straight butt joint splices for the field.

Use teflon covered thermostatically controlled waterstop splicing iron at approximately 380 degrees F (190 degrees C).
Secure to reinforcing steel or formwork using wire at not greater than 12 inches (300 mm) on center.

Hydrophilic Waterstops:
Cut coil ends square with shears or sharp blade to make tight butt joints at splices without overlaps.
Seal splices with cyanacrylate adhesive and Leakmaster sealant.
Seal exposed cells with sealant.
Secure HYDROTITE to concrete using rubber adhesive for rough or wet concrete, following manufacturer's instructions.

END OF SECTION