

**SUGGESTED MASTER SPECIFICATION
SECTION 03 15 13 PVC WATERSTOPS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provision of waterstops embedded in concrete and spanning control, expansion, and/or construction joints to create a continuous diaphragm to prevent fluid migration.
- B. Non-metallic waterstops for use in concrete joints subjected to chlorinated water, seawater, and many waterborne chemicals.

1.02 REFERENCES

- A. PVC WATERSTOP
 - 1. Corps of Engineers: CRD-C 572-74
 - 2. American Society for Testing Materials (ASTM)
 - 3. Bureau of Reclamation: C-902
 - 4. Canadian General Standards Board: 41-GP-35M Types 1 & 3

1.03 QUALITY ASSURANCE

- A. Waterstop manufacturer shall demonstrate five years (minimum) continuous, successful experience in production of waterstops.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Store waterstops under tarps to protect from oil, dirt, and sunlight.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Provide flexible PVC (polyvinyl chloride) waterstop as manufactured by Southern Metal & Plastics, profile style number (fill in profile style number).
- B. The PVC waterstop shall be extruded from an elastomeric plastic material of which the basic resin is prime virgin polyvinyl chloride. The PVC compound shall not contain any scrapped or reclaimed material or pigment whatsoever.
- C. Performance Requirements as follows:

Property	Test Method	Required Limits
Water absorption	ASTM D 570	0.15% max
Tear Resistance	ASTM D 624	200 lb/in (35 kN/m) min.
Ultimate Elongation	ASTM D 638	350% min.
Tensile Strength	ASTM D 638	2000 psi (13.78 Mpa) min.
Low Temperature Brittleness	ASTM D 746	No Failure @ -35° F (-37° C)

Stiffness in Flexure	ASTM D 747	600 psi (4.13 Mpa) min.
Specific Gravity	ASTM D 792	1.45 max.
Hardness, Shore A	ASTM D 2240	79 +3
Tensile Strength after accelerated extraction	CRD-C 572	1850 psi (11.03 Mpa) min.
Elongation after accelerated extraction	CRD-C 572	300% min.
Effect of Alkalies after 7 days: Weight Change Hardness Change	CRD-C 572	between -0.10% / +0.25% +/- 5 points

2.02 ACCESSORIES

- A. Provide factory made waterstop fabrications for all changes of direction, intersections, and transitions leaving only straight butt joint splices for the field.
- B. Provide hog rings or grommets spaced at 12 inches on center along length of waterstop.
- C. Provide Teflon coated thermostatically controlled waterstop splicing irons for field butt splices.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Field butt splices shall be heat fused welded using a Teflon coated thermostatically controlled waterstop splicing iron at approximately 380 degrees F. Follow approved manufacturer recommendations. Lapping of waterstop, use of adhesives, or solvents shall not be allowed.
- B. Center waterstop in joint and secure waterstop in correct position using hog rings or grommets spaced at 12 inches on center along the length of the waterstop and wire tie to adjacent reinforcing steel.

3.02 FIELD QUALITY CONTROL

- A. Waterstop splicing defects which are unacceptable include, but are not limited to the following:
 - 1. Tensile strength less than 80 percent of parent section.
 - 2. Misalignment of centerbulb, ribs, and end bulbs greater than 1/16 inch.
 - 3. Bond failure at joint deeper than 1/16 inch or 15 percent of material thickness.
 - 4. Misalignment that reduces waterstop cross section more than 15 percent.
 - 5. Visible porosity in the weld.
 - 6. Bubbles or inadequate bonding.
 - 7. Visible signs of splice separation when cooled splice is bent by hand at a sharp angle.
 - 8. Charred or burnt material.

END OF SECTION