



PART 1. GENERAL (SECTION 03151 FOR BOMETALS PVC WATERSTOPS)

1.01. SECTION INCLUDES

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

1.02. REFERENCES

A. PVC WATERSTOP

- 1. U.S. Army Corp of Engineers: CRD-C572-74
- 2. American Society for Testing Materials (ASTM)
- 3. Bureau of Reclamation: C-902
- 4. Canadian General Standards Board: 41-GP-35M Types1 & 3
- 5. Section 03100-Concrete Forms and Accessories
- 6. Section 03300-Cast in Place Concrete.

1.03. QUALITY ASSURANCE

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

1.04. SUBMITTALS

- A. Comply with Section 01330 – Submittal Procedures
- B. Submit manufacturer's product data with physical properties and instructions for installation.
- C. Submit manufacturer's 6-inch sample of each PVC waterstop profile.
- D. Submit certification from manufacturer that materials comply with specifications.
- E. Submit warranty from manufacturer.

1.05. DELIVERY, STORAGE AND HANDLING

- A. A. Store PVC waterstops in storage containers or under tarps to protect from oil, dirt and sunlight.

PART 2. PRODUCTS

2.01 MANUFACTURER

- A. Provide flexible Polyvinyl Chloride (PVC) waterstop profile (s) as manufactured by BoMetals, Inc. (fill in profile type [s] and number [s])
- 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 pigments whatsoever.

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C. Performance Requirements as follows:

Typical Properties	Nominal Value	ASTM
Water Absorption	0.15%	D570
Tear Resistance	350	D634
Specific Gravity	1.33	D792
Shore A Hardness (+/-3, 10 sec delay)	74	D2240
Tensile, PSI	2074	D638 Type IV
Elongation, %	435	D638 Type IV
100% Modulus, PSI	725	D638 Type IV
Brittle Point (tb) F	-37 (passed)	D746
Stiffness in Flexure,	1440 PSI	D747
Ozone Resistance	No Failure	D1149
Accelerated Extraction		CRD-C-572
Tensile, PSI	2025	D638 Type IV
Elongation, %	420%	D638 Type IV
Effect of Alkali		CRD-C-572
Weight Change, %	+0.05	
Change in Hardness, Shore A	-3	D2240

2.02. ACCESSORIES

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

PART 3. EXECUTION

3.01 INSTALLATION

- A. Field butt splices shall be fused welded using a thermostatically controlled Teflon pvc waterstop iron at 400 degree F. Follow the Manufacture's recommended methods for welding . this will form a continuous water tight diaphragm. Lapping, gluing or use of adhesives shall not be permitted.



- B. Center waterstop in the joint and secure waterstop in correct position using hog rings, grommets or holes spaced 12 inch on center along the length of the pvc waterstop and wire tied to reinforcing steel.
- C. Always place the center bulb in the center of the expansion joint. Do not embed the centerbulb in concrete.
- D. Vibrate concrete around waterstops thoroughly to prevent honeycombing and to ensure contact between concrete and waterstop.

3.02. PREPARATION

- A. Uncoil waterstop 24 hours prior to installation for ease of fabrication and handling.
- B. Position waterstop to ensure proper distance from steel reinforcing bars.
- C. Clean concrete joint after first pour to remove dirt and debris.
- D. Protect waterstop from damage during progress of work.

3.03. EXAMINATION/INSPECTION

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

END OF SECTION