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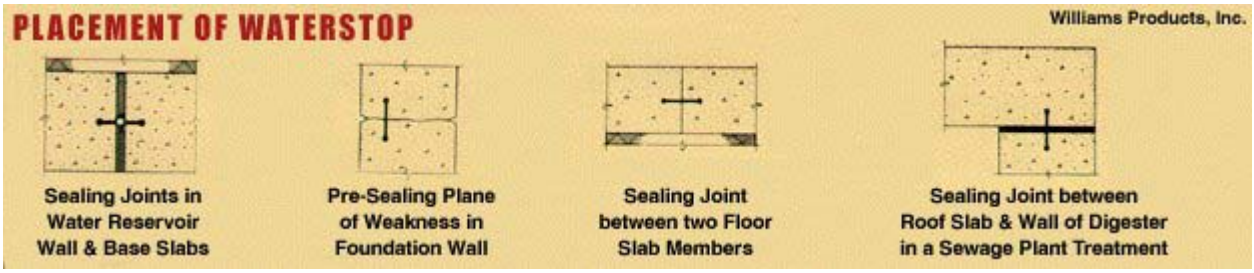
Williams SBR Hi-Tensile Rubber Waterstop
Williams Neoprene Hi-Tensile Rubber Waterstop



PRODUCT NAME:

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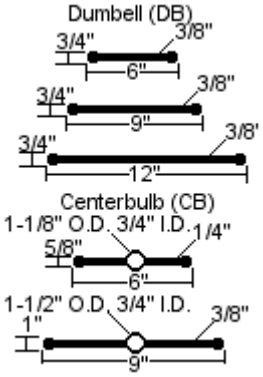
Williams Neoprene Hi-Tensile Waterstop.



DESCRIPTION:

Basic Use: "A Waterstop is usually a section of flexible waterproof material placed at any joint in concrete to prevent the passage of water." **Williams Products, Inc**. has been a pioneer supplier to constructors with the **Williams Everlastic® Waterstop System** since 1954. Joints in concrete structure, on one side of which is subject to hydrostatic load, are generally provided with waterstops bridging joints and embedded in concrete on either side. In concrete joints where expansion and contraction cause the joints to close and open, the waterstop must be designed to accommodate itself to movement. The primary reason for specifying **Rubber Waterstops** rather than metal or PVC is their superior performance in withstanding shear movements and to resisting hydrostatic pressure.

Rubber Waterstops will elongate over four times original size (**ASTM D 412-75**) and will continue returning to near original shape after repeated movement. They have very low compression set and perform well at low temperatures.

The **Williams System** features sleeve type fittings that provide fast positive splicing and precise waterstop alignment. Fittings are manufactured from the same elastomers/polymers as the waterstop.

- **TYPICAL INSTALLATIONS INCLUDE:**

  Sewer plants, water filtration plants, aqueducts, resevoirs, locks, tanks, channels, swimming pools, culverts, tunnels, underpasses, bridge decks and abutments, roofs, dams, foundations, mineshafts, retaining walls and any concrete structure requiring watertight joints.

- **LIMITATIONS**:

  The **Dumbell Waterstop** is adequate for all vertical and horizontal stress across the joint in the same plane as the waterstop. **6" Dumbell Waterstop** is adequate for all vertical and horizontal construction joints. **6" Dumbell** is also used on expansion joints up to 1". **9" and 12" Dumbell** is used in expansion joints of 1" to 2". **6" Centerbulb** is used in expansion joints up to 1" where shear movement is expected and **9" centerbulb** is used in expansion joints up to 2" where shear movement is expected. The **Centerbulb** is hollow so it can deform to absorb shear movements. **Split Waterstops** are used for short straight runs only. When **Split Waterstops** are spread against forms, connecting unions cannot be used.

- **COMPOSITION AND MATERIALS:**

  - SBR (Styrene Butadiene Rubber) is the industry standard and used in most applications. Neoprene rubber is more expensive and is used where hostile environmental conditions are present and the waterstop is exposed to continuous heavy concentrations of oil, gasoline, sewerage, ozone, ultra-violet rays or injurious chemicals. Special situations may require special materials and designs. These are available from **Williams Products, Inc.**

- **APPLICABLE STANDARDS:**

  - **Williams SBR Hi-Tensile Rubber Waterstop** meets Williams Products, Inc. specification 2010 and exceeds **U.S. Army Corps of Engineers** specification **CRD-C 513-71** (complete) and specification **CRD-C 513-74** (less ozone) and contains 100% neoprene polymer. Waterstops and fitting are manufactured in accordance with the **Rubber Manufacturers**.

- **ASSOCIATION STANDARDS**:

  - **Nuclear Standards: Williams Products Waterstops** that conform to the quality material and conditions of service (seismic movement, hydrostatic head and radiation dosage) standards set forth by the **U.S. Atomic Energy Commission, Nuclear Regulatory Commission** and the **Nuclear Power Plant Contractors**. **Williams Products SBR Hi-Tensile Waterstops** are currently being installed at numerous nuclear power plants.

Physical Properties

Physical Property	ASTM test Method	Williams Spec. 2010 Hi-Tensile (SBR) Styrene Butadiene	Williams Specification 1025 Hi-Tensile Neoprene
Tensile Strength, min (PSI)	ASTM D412-02	2250*	2250*
Ultimate Elongation, min (%)	ASTM D412-02	450	450
Hardness, Shore A durometer	ASTM D2240-81	65 +/-5%	65 +/-5%
Tensile Stress min PSI to produce 300% elongation	ASTM D412-02	1150	1150
Water Absorption, Max % by weight after immersion 7 days at 73.4 degrees F +/- 2 F	ASTM D471-98	5	5
Compression Set, max % after 22 hours at 158 degrees F.	ASTM D395-02 Method B	30	30
Tensile Strength after aging, min % of original after 7 days in air at 158 degrees +/- 2 degrees F, and 300 PSI	ASTM D572-99	80	80
Specific Gravity	ASTM D1817-01	1.17 +/- .03	1.17 +/- .03
Ozone cracking resistance after 20% elongation for 7 days 0.5 p/m at 38 degrees C (neoprene 3 p/m)	ASTM D1149-99	no cracks	no cracks
Tensile set, % max after 200% elongation for 10 min at 23 degrees +/- 1 degree C			
*2500 PSI from actual part 3000 PSI from Test Sheets.			

- **INSTALLATION:**

  Waterstop is joined with Williams Sleeve Type Fittings and Williams No. 37 A adhesive. First, cut the waterstop ends square. Brush Williams No. 37 A adhesive onto cleaned, butted surface of the waterstop and fitting, assemble, hold in place, allow to dry.

  Installation of Waterstop involves split forms. In the first pour the waterstop is held in place with blocks or other suitable arrangements on the outside of the split form (away from the concrete which is to he poured).

  After the first pour has set up, the split forms and block are removed. When the adjoining pour is made, care should be taken to support the waterstop.

- **AVAILABILITY AND COST:**

Availability: Comprehensive stocks are carried at all times assuring shipment, in most cases within 24 hours of receipt of order.

Williams Hi-Tensile Rubber Waterstop Table

STANDARD STOCK ITEMS

PRODUCT NO.	TYPE	MATERIAL
3366-3	6" Dumbell*	SBR
3327-3	6" Dumbell	NEOPRENE
3096-3	9" Dumbell	SBR
3416-3	9" Dumbell	NEOPRENE
3126-3	6" Centerbulb	SBR
3699-3	6" Centerbulb*	SBR
3299-3	9" Centerbulb*	SBR
3225-3	9" Centerbulb	NEOPRENE

* Slit Waterstop also in this size.

FITTINGS SELECTION TABLE STANDARD STOCK ITEMS

Specify Hi-Tensile SBR or Hi-Tensile Neoprene

Type	SIZE				
	6" DB	**9" DB**	**12" DB**	**6" CB**	**9" CB**
Union	6DB-U	9DB-U	12DB-U	6CB-U	9CB-U
Vertical Ell	6DB-VE	9DB-VE	12DB-VE	6CB-VE	9CB-VE
Vertical Tee	6DB-VT	9DB-VT	12DB-VT	6CB-VT	9CB-VT
Flat Ell	6DB-FE	9DB-FE	12DB-FE	6CB-FE	9CB-FE
Flat Tee	6DB-FT	9DB-FT	12DB-FT	6CB-FT	9CB-FT
Flat Cross	6DB-FC	9DB-FC	12DB-FC	6CB-FC	9CB-FC

Cost: The variety of materials and sizes and changes in raw material prices prevent anything but a general indication of cost range. Depending on material, quantities and job locations, prices may start under $2.00 per lineal foot and end near $10.00 per lineal foot.

- **WARRANTY:**

Williams Products, Inc. will replace any unused waterstop materials which prove defective in workmanship or material within one year from date of delivery to buyer.

Because we cannot anticipate or control the many different conditions under which this information and our products may be used, we do not guarantee the applicability or accuracy of this information or the suitability of our products in any given situation. Users of our products should make their own tests to determine the suitability of each such product for their particular purposes. The products discussed without warranty, either expressed or implied, and buyer assumes all reponsibility for loss or damage arising from the handling and use of our products, whether done in accordance with directions or not. Also, statements concerning the possible use of our products in the infringement of any patent.

- **TECHNICAL SERVICES:**

Complete technical services are available. Use the toll free number for any technical concerns or needs from the available technical staff at **Williams Products, Inc.**

Williams Products

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