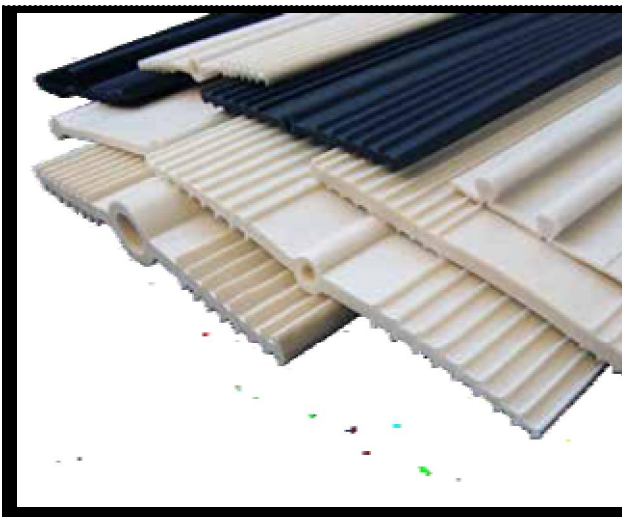




Waterstops

For 60 years, **Sika Greenstreak** has been the leading source for joint sealing technologies and innovative products for concrete. Offering a variety of solutions across all categories of waterstops, **Sika Greenstreak** has the knowledge and time tested products to meet the most demanding applications.

- Water/Waste Water Treatment Plants
- Lock and Dam Systems
- Reservoirs and Aqueducts
- Flood Walls
- Retaining Walls
- Foundations
- Tunnels and Culverts
- Bridge Abutments
- Containment Structures and Tanks
- Slabs-on-Ground

When you specify **Sika Greenstreak**, you are specifying the first name in waterstops and the trusted source for superior technical and customer service.

Greenstreak

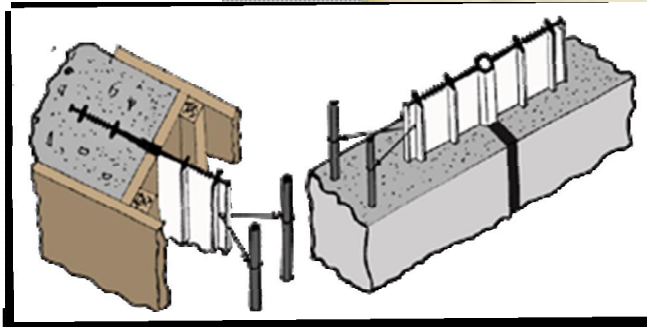


BUILDING TRUST

Choose The Right Waterstop

Waterstop Basic Use

Embedded in concrete, across and/or along the joint, waterstops form a watertight diaphragm that prevents the passage of liquid through the joint.



Suggested Waterstop Design Checklist

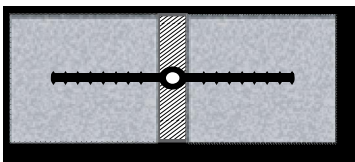
- Verify chemical containment requirements, if any
- Verify hydrostatic head pressure requirements
- Determine joint type and joint movement requirements
- Specify material type for best water sealing performance
- Specify profile and size (by product number, if possible)
- Verify joinery details of dissimilar or asymmetric waterstop profiles, if any (consider using one profile throughout to simplify intersections)
- Specify factory fabrications and fittings for transitions and intersections
- Specify appropriate method for securing waterstop in position (see **Sika Greenstreak** CSI-formatted product specifications for additional guidance)



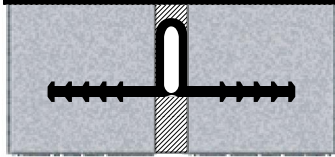
Photo courtesy of Paul C. Rizzo Associates, Inc.

Selecting A Waterstop Shape

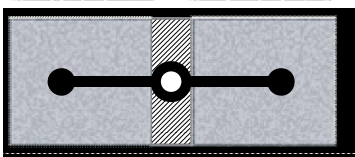
MOVEMENT JOINTS are typically designed to accommodate significant movement due to drying shrinkage, temperature changes, settlement, creep, or live load deflections. The waterstop profile selected must have the ability to accommodate expected joint movement, typically achieved through the use of a centerbulb, tear web, or other suitable waterstop geometry designed to accommodate joint movement. Movement joints typically include contraction joints, expansion joints, and isolation joints. The following profiles are suitable for Movement joints:



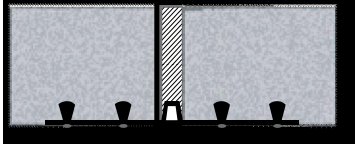
Ribbed with Centerbulb shapes are the most versatile type of waterstops available. The centerbulb accommodates lateral, transverse, and shear movement. Larger centerbulbs will accommodate greater movement.



Tear Web shapes accommodate large movements. When joint movement occurs, the tear web ruptures and allows the U-bulb to deform without placing the material in tension.

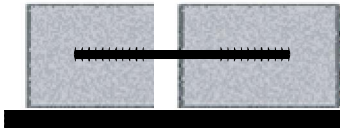


Dumbbell with Centerbulb shapes accommodate lateral, transverse, and shear movement. Larger centerbulbs will accommodate greater movement. Consider using Ribbed with Centerbulb for better sealing characteristics.

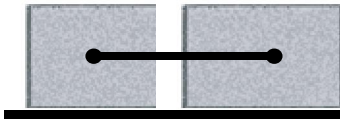


Base Seal with Tear Web shapes accommodate lateral, transverse, and shear movement. Larger tear web bulbs will accommodate greater movement. Base Seal waterstops have some limitations with transitions and intersections.

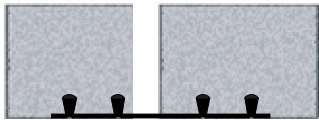
NONMOVING JOINTS typically have 100% of the bonded steel reinforcement continuous through the joint, and expose the waterstop to negligible or no movement. Flat waterstop profiles without a centerbulb or tear web are suitable for nonmoving joints. Other waterstop materials may be considered for nonmoving joints as well, such as strip-applied or injectable profiles suitable for nonmoving joints are as follows:



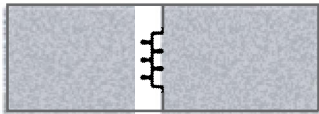
Flat Ribbed shapes are preferred for nonmoving joints and provide the best sealing characteristics.



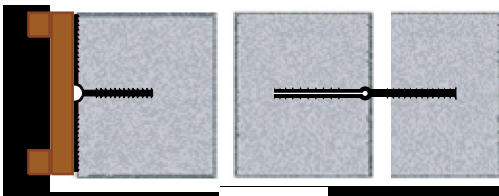
Dumbbell shapes are an alternate profile for nonmoving joint. Consider ribbed shapes for better sealing characteristics.



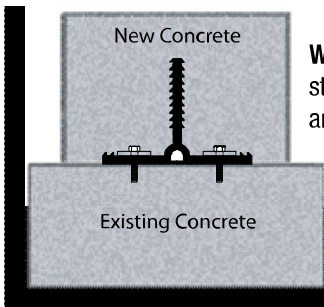
Base Seal is ideal for slab-on-grade joints or backfilled walls and are easy to form. Base Seal waterstops have some limitations with transitions and intersections.



Labyrinth is primarily used in vertical joints. Labyrinth shapes create a keyed joint and do not require split bulkheads. Labyrinth can be difficult to use in horizontal joints and there are some limitations with transitions and intersections.



Split Flange shapes can simplify forming. The split flange is opened and attached to the bulkhead for placement of the first concrete element. After stripping the bulkhead, the flange is closed and anchored for placement of the adjoining element. Split waterstops are suitable for straight runs only. Transitions and intersections are not practical with these profiles.

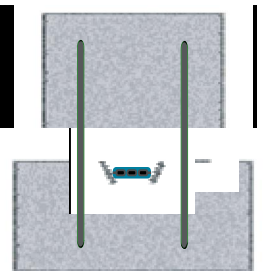


Waterstops for Retrofit Applications seal joints where new construction meets an existing structure and can be suitable for moving joints. Systems include stainless steel batten bars and fasteners for anchoring to the existing structure with the aid of an epoxy gel.

Strip-applied Waterstops are adhered along concrete joints or penetrations and encapsulated by a subsequent concrete placement.

Hydrotite is the state of the art for hydrophilic waterstop and is a high-performance, chloroprene rubber material that expands when exposed to moisture to create a compression seal within and along the joint. For less critical applications, **Sika Greenstreak** also offers

SikaSwell A and **Swellstop** expanding waterstops.



Product and Material Options

Sika Greenstreak has the industry's most comprehensive collection of waterstop products and solutions to meet the most demanding applications. This catalog is primarily dedicated to PVC (polyvinyl chloride) waterstops, but general information is included for chemical resistant waterstops (**TPER, PE, Stainless Steel**), strip-applied waterstops (**Hydrotite, SikaSwell A, Swellstop, Lockstop**) and for **SikaFuko®** Injection Hose Systems. Complete catalogs and technical data for each of these products are available in print or online.

Sika Greenstreak PVC Waterstop

Sika Greenstreak, one of the first manufacturers of polyvinyl chloride (PVC) waterstop, has formulated, compounded and manufactured PVC waterstop for years. **Sika Greenstreak** has the knowledge, experience and desire to provide the highest quality joint sealing solutions and services available.

PVC is the industry standard for flexible waterstops, which are typically embedded across and along the joint. PVC is the most versatile waterstop material, offering the broadest design selection and is accepted under the ACI 350 "**Code Requirements for Environmental Engineering Concrete Structures**". It has great inherent elasticity and is resistant to many waterborne chemicals. It will not discolor concrete or produce electrolytic action.

Sika Greenstreak offers the industry's widest array of PVC waterstop designs, typically ranging in widths from 4" to 12" and thicknesses from 1/8" to 1/2". Depending on size, most waterstop shapes are provided in 50 or 100 ft. coils. Please contact **Sika Greenstreak** for further information or if you need assistance in selecting a waterstop.

Physical Properties

All **Sika Greenstreak** PVC waterstops are specially formulated and manufactured to meet or exceed industry standard product specifications.

Sika Greenstreak PVC Waterstop Physical Properties		
Property	Test	Value
Water absorption	ASTM D570	0.15% max.
Tear resistance	ASTM D624	300 lb./in. min.
Ultimate elongation	ASTM D638	350% min.
Tensile strength	ASTM D638	2000 psi min.
Low temperature brittleness	ASTM D746	Passes @ -35°F / -37°C
Stiffness in flexure	ASTM D747	700 psi min.
Specific gravity	ASTM D792	1.38 max.
Hardness Shore A15	ASTM D2240	79±3
Accelerated extraction		
-Tensile strength	Corps of Engineers	1600 psi min.
-Elongation		300% min.
Effect of Alkali		
-Weight change	CRD-C 572	+0.25% -0.10%
-Hardness change		+/-5 points

Sika Greenstreak conducts regular testing of materials. Call **Sika Greenstreak** for the latest test values.

Independent laboratory tests are available for the following applicable standards:

- Corps of Engineers CRD-C 572-74
- Bureau of Reclamation
- CH2M HILL
- MWH
- Various State Highway and/or Public Works Department Standards

Test results conducted using British Standards are also available. Consult a **Sika Greenstreak** engineer for more information.

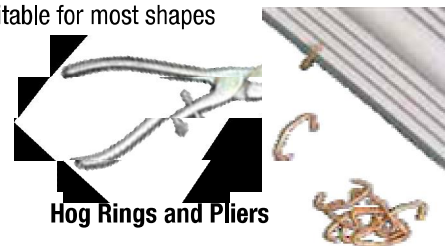


NSF-61 Certified PVC waterstops are also available from Sika Greenstreak for drinking water applications. Please contact a Sika Greenstreak engineer for assistance in ordering or specifying NSF-61 Certified PVC waterstop.

Installation Aids and Fabrications

PVC waterstops must be securely positioned in the forms to prevent deflection or misalignment during concrete placement. This is achieved by tying off the outer edge of the waterstop to adjacent reinforcing steel. **Sika Greenstreak** offers options to properly anchor PVC waterstop, including:

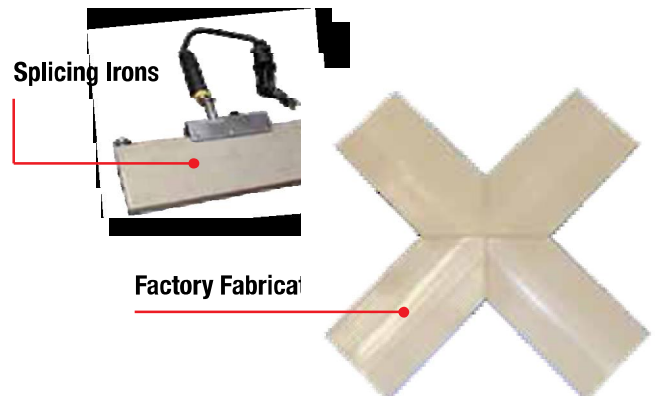
- **Punched Flanges** - most ribbed shapes can be provided with punched flanges
- **Grommets** - select shapes can be provided with brass grommets
- **Hog Rings and Pliers** - available for field application and suitable for most shapes



Virtually every concrete structure requiring a PVC waterstop is going to encounter a joint that will change direction or intersect with another joint. One of the benefits PVC offers is the ability to heat weld the material to create a continuous sealing diaphragm within the joints of a concrete structure.

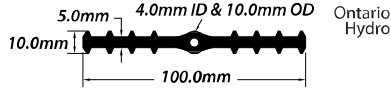
Waterstop failures are often the result of improper field fabricated transitions and intersections. To avoid potential problems, **Sika Greenstreak strongly recommends factory fabrications** and maintains an inventory of the most common fabrications to meet the demands of a construction schedule.

Splicing irons are available in various sizes for field welding lengths of PVC waterstop. More information can be found on page 11.

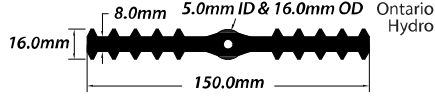


Ribbed Centerbulb

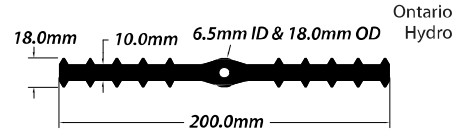
643 STD. WT. 0.58 lbs/ft 0.86 Kg/m HEAD PRESS. 50' 149 KPa



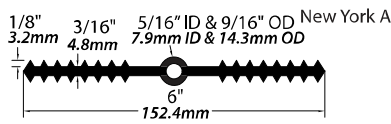
644 STD. WT. 1.37 lbs/ft 2.04 Kg/m HEAD PRESS. 100' 299 KPa



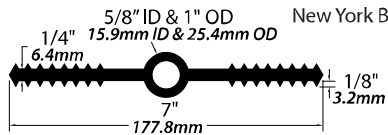
645 STD. WT. 2.13 lbs/ft 3.17 Kg/m HEAD PRESS. 150' 448 KPa



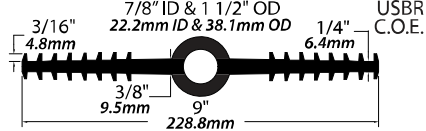
647 STD. WT. 0.92 lbs/ft 1.37 Kg/m HEAD PRESS. 100' 299 KPa



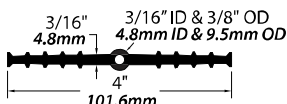
649 STD. WT. 1.28 lbs/ft 1.90 Kg/m HEAD PRESS. 100' 299 KPa



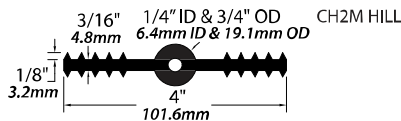
696 STD. WT. 2.65 lbs/ft 3.94 Kg/m HEAD PRESS. 175' 523 KPa



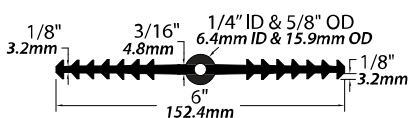
701 STD. WT. 0.42 lbs/ft 0.63 Kg/m HEAD PRESS. 65' 194 KPa



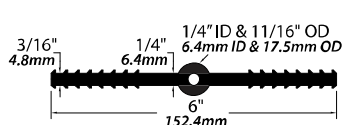
702 STD. WT. 0.74 lbs/ft 1.10 Kg/m HEAD PRESS. 65' 194 KPa



703 STD. WT. 0.73 lbs/ft 1.09 Kg/m HEAD PRESS. 100' 299 KPa

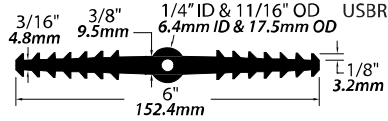


704 STD. WT. .98 lbs/ft 1.46 Kg/m HEAD PRESS. 100' 299 KPa

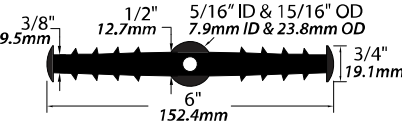


Ribbed Centerbulb

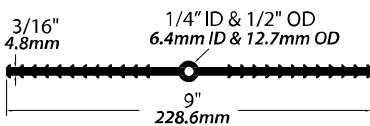
705 STD. WT. 1.19 lbs/ft 1.77 Kg/m HEAD PRESS. 125' 373 KPa



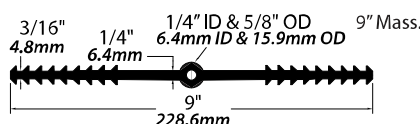
706 STD. WT. 1.90 lbs/ft 2.83 Kg/m HEAD PRESS. 150' 448 KPa



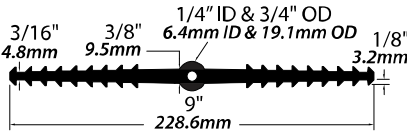
707 STD. WT. 1.19 lbs/ft 1.77 Kg/m HEAD PRESS. 100' 299 KPa



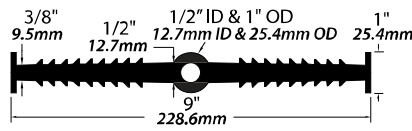
708 STD. WT. 1.45 lbs/ft 2.15 Kg/m HEAD PRESS. 125' 373 KPa



709 STD. WT. 1.63 lbs/ft 2.43 Kg/m HEAD PRESS. 175' 523 KPa



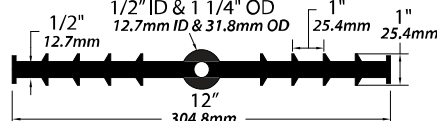
710 STD. WT. 2.72 lbs/ft 4.05 Kg/m HEAD PRESS. 200' 598 KPa



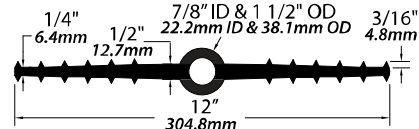
711 STD. WT. 1.56 lbs/ft 2.32 Kg/m HEAD PRESS. 150' 448 KPa



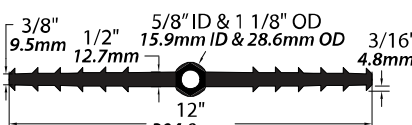
712 STD. WT. 4.38 lbs/ft 6.52 Kg/m HEAD PRESS. 225' 672 KPa



713 STD. WT. 3.60 lbs/ft 5.36 Kg/m HEAD PRESS. 225' 672 KPa

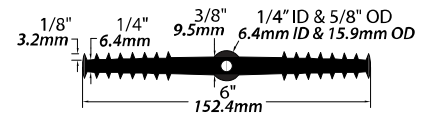


714 STD. WT. 3.62 lbs/ft 5.39 Kg/m HEAD PRESS. 225' 672 KPa

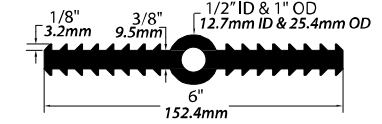


Ribbed Centerbulb

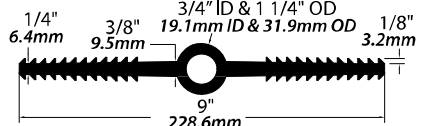
716 STD. WT. 1.55 lbs/ft 2.31 Kg/m HEAD PRESS. 125' 373 KPa



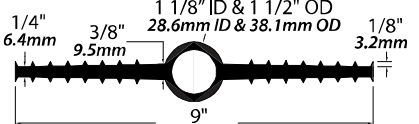
717 STD. WT. 1.52 lbs/ft 2.26 Kg/m HEAD PRESS. 125' 373 KPa



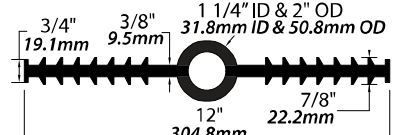
718 STD. WT. 2.22 lbs/ft 3.30 Kg/m HEAD PRESS. 175' 523 KPa



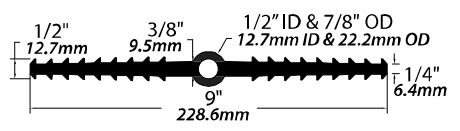
719 STD. WT. 2.05 lbs/ft 3.05 Kg/m HEAD PRESS. 150' 448 KPa



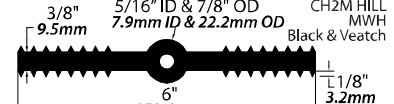
726 STD. WT. 3.97 lbs/ft 5.91 Kg/m HEAD PRESS. 200' 598 KPa



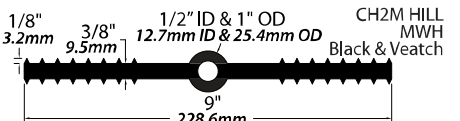
731 STD. WT. 2.00 lbs/ft 2.98 Kg/m HEAD PRESS. 175' 523 KPa



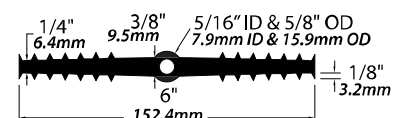
732 STD. WT. 1.60 lbs/ft 2.38 Kg/m HEAD PRESS. 125' 373 KPa



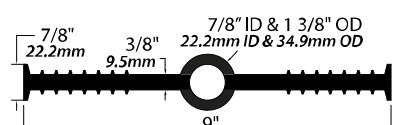
735 STD. WT. 2.45 lbs/ft 3.65 Kg/m HEAD PRESS. 175' 523 KPa



736 STD. WT. 1.41 lbs/ft 2.10 Kg/m HEAD PRESS. 125' 373 KPa



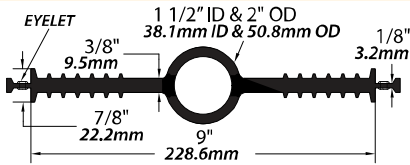
738 STD. WT. 2.73 lbs/ft 4.06 Kg/m HEAD PRESS. 150' 448 KPa



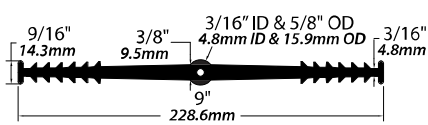
Shapes are drawn to varying scales

Ribbed Centerbulb

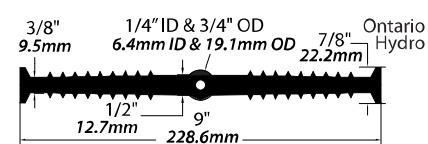
739 STD. WT. 2.75 lbs/ft 4.09 Kg/m HEAD PRESS. 150' 448 KPa



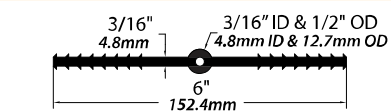
745 STD. WT. 1.79 lbs/ft 2.66 Kg/m HEAD PRESS. 175' 523 KPa



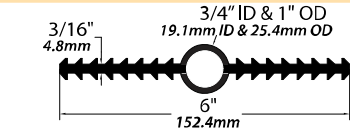
778 STD. WT. 2.85 lbs/ft 4.24 Kg/m HEAD PRESS. 200' 598 KPa



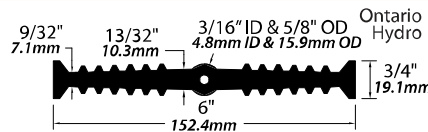
779 STD. WT. 0.86 lbs/ft 1.28 Kg/m HEAD PRESS. 100' 299 KPa



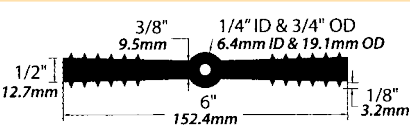
780 STD. WT. 0.98 lbs/ft 1.46 Kg/m HEAD PRESS. 100' 299 KPa



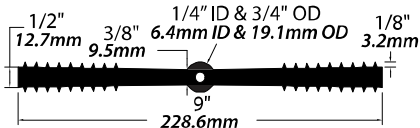
788 STD. WT. 1.66 lbs/ft 2.47 Kg/m HEAD PRESS. 175' 523 KPa



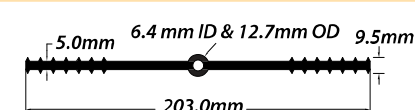
827 STD. WT. 1.63 lbs/ft 2.43 Kg/m HEAD PRESS. 125' 373 KPa



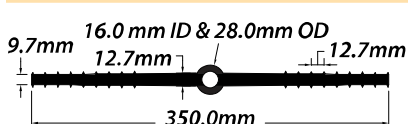
829 STD. WT. 2.67 lbs/ft 3.97 Kg/m HEAD PRESS. 175' 523 KPa



838 STD. WT. 1.10 lbs/ft 1.64 Kg/m HEAD PRESS. 150' 448 KPa

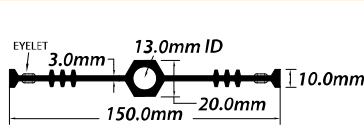


905 STD. WT. 3.80 lbs/ft 5.65 Kg/m HEAD PRESS. 260' 776 KPa

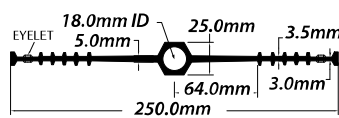


Ribbed Centerbulb

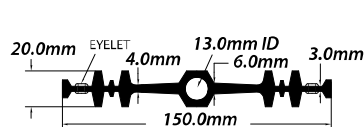
915 STD. WT. 0.68 lbs/ft 1.01 Kg/m HEAD PRESS. 65' 194 KPa



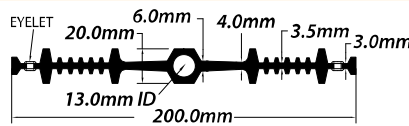
935 STD. WT. 1.21 lbs/ft 1.80 Kg/m HEAD PRESS. 125' 373 KPa



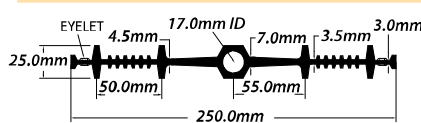
951 STD. WT. 1.06 lbs/ft 1.58 Kg/m HEAD PRESS. 75' 224 KPa



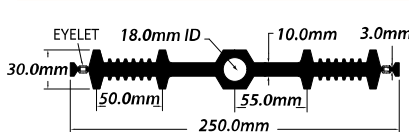
952 STD. WT. 1.32 lbs/ft 1.97 Kg/m HEAD PRESS. 125' 373 KPa



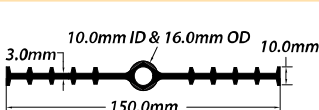
953 STD. WT. 1.77 lbs/ft 2.64 Kg/m HEAD PRESS. 150' 448 KPa



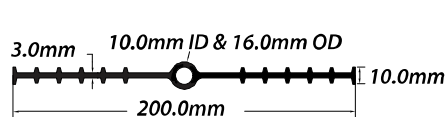
954 STD. WT. 3.07 lbs/ft 4.56 Kg/m HEAD PRESS. 200' 598 KPa



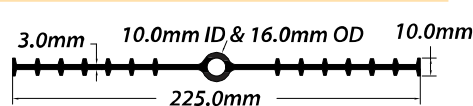
961 STD. WT. .63 lbs/ft .94 Kg/m HEAD PRESS. 50' 150 KPa



962 STD. WT. .77 lbs/ft 1.15 Kg/m HEAD PRESS. 75' 224 KPa



963 STD. WT. .87 lbs/ft 1.30 Kg/m HEAD PRESS. 100' 299 KPa

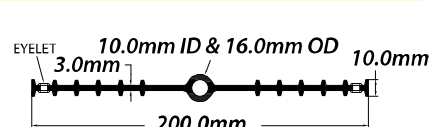


964 STD. WT. .63 lbs/ft .94 Kg/m HEAD PRESS. 50' 150 KPa

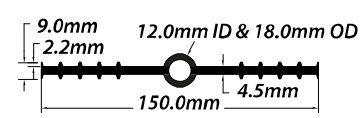


Ribbed Centerbulb

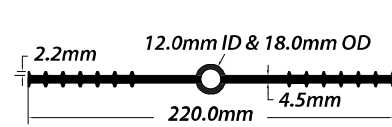
965 STD. WT. .77 lbs/ft 1.15 Kg/m HEAD PRESS. 75' 224 KPa



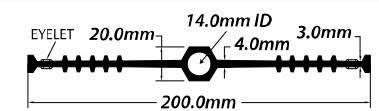
972 STD. WT. .75 lbs/ft 1.12 Kg/m HEAD PRESS. 100' 299 KPa



973 STD. WT. 1.07 lbs/ft 1.59 Kg/m HEAD PRESS. 100' 299 KPa

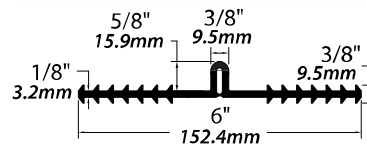


992 STD. WT. .92 lbs/ft 1.37 Kg/m HEAD PRESS. 100' KPa

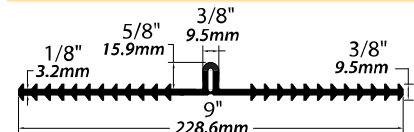


Ribbed Tear Web

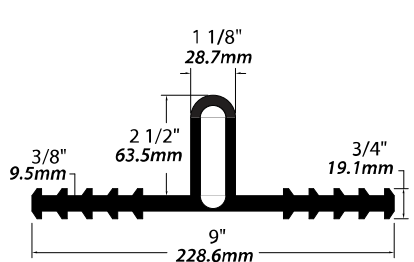
698 STD. WT. 0.78 lbs/ft 1.16 Kg/m HEAD PRESS. 65' 194 KPa



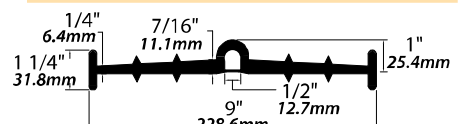
699 STD. WT. 1.00 lbs/ft 1.49 Kg/m HEAD PRESS. 100' 299 KPa



700 STD. WT. 3.78 lbs/ft 5.63 Kg/m HEAD PRESS. 150' 448 KPa

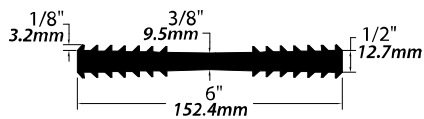


728 STD. WT. 2.68 lbs/ft 3.99 Kg/m HEAD PRESS. 175' 523 KPa

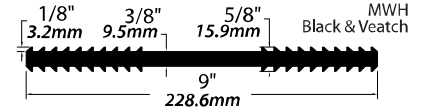


Flat Ribbed

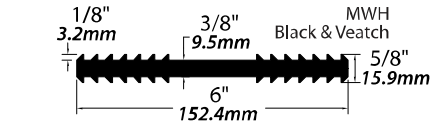
580 STD. WT. 1.71 lbs/ft 2.54 Kg/m HEAD PRESS. 125' 373 KPa



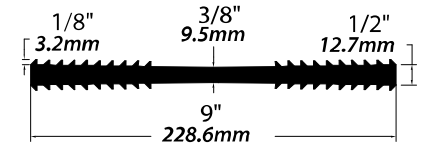
646 STD. WT. 2.37 lbs/ft 3.53 Kg/m HEAD PRESS. 175' 523 KPa



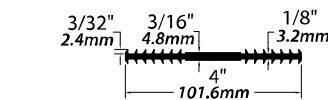
679 STD. WT. 1.50 lbs/ft 2.23 Kg/m HEAD PRESS. 125' 373 KPa



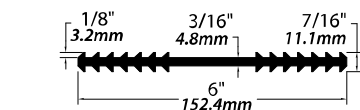
773 STD. WT. 2.40 lbs/ft 3.57 Kg/m HEAD PRESS. 175' 523 KPa



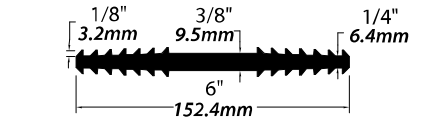
781 STD. WT. .43 lbs/ft .64 Kg/m HEAD PRESS. 65' 194 KPa



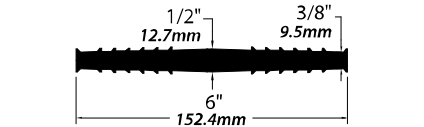
782 STD. WT. .84 lbs/ft 1.25 Kg/m HEAD PRESS. 75' 224 KPa



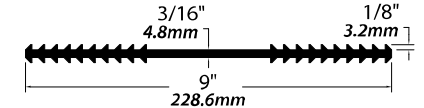
783 STD. WT. 1.39 lbs/ft 2.07 Kg/m HEAD PRESS. 125' 373 KPa



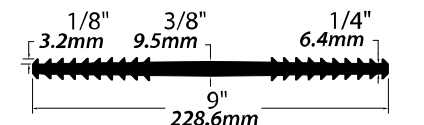
784 STD. WT. 1.60 lbs/ft 2.38 Kg/m HEAD PRESS. 150' 448 KPa



785 STD. WT. 1.22 lbs/ft 1.82 Kg/m HEAD PRESS. 100' 299 KPa

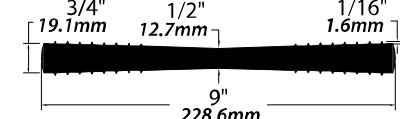


786 STD. WT. 2.07 lbs/ft 3.08 Kg/m HEAD PRESS. 175' 523 KPa

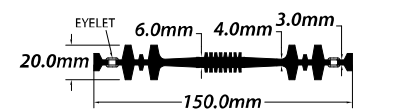


Flat Ribbed

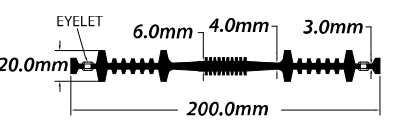
825 STD. WT. 3.22 lbs/ft 4.79 Kg/m HEAD PRESS. 200' 598 KPa



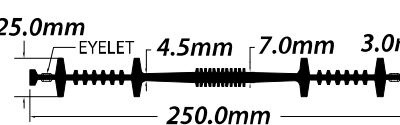
955 STD. WT. 1.01 lbs/ft 1.51 Kg/m HEAD PRESS. 75' 224 KPa



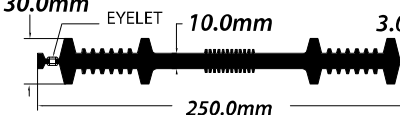
956 STD. WT. 1.32 lbs/ft 1.96 Kg/m HEAD PRESS. 125' 373 KPa



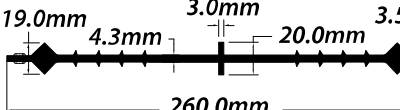
957 STD. WT. 1.75 lbs/ft 2.60 Kg/m HEAD PRESS. 150' 448 KPa



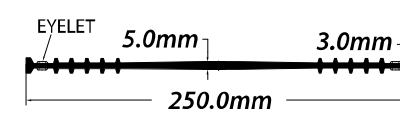
958 STD. WT. 2.95 lbs/ft 4.39 Kg/m HEAD PRESS. 200' 598 KPa



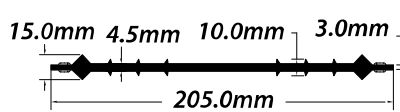
970 STD. WT. 1.27 lbs/ft 1.89 Kg/m HEAD PRESS. 125' 373 KPa



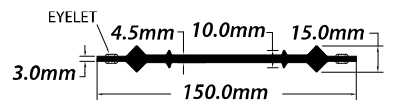
975 STD. WT. 1.07 lbs/ft 1.59 Kg/m HEAD PRESS. 100' 299 KPa



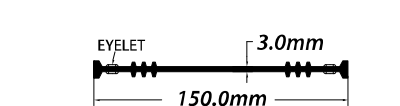
976 STD. WT. .97 lbs/ft 1.44 Kg/m HEAD PRESS. 125' 373 KPa



978 STD. WT. .72 lbs/ft 1.07 Kg/m HEAD PRESS. 75' 224 KPa

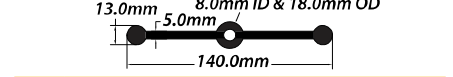


995 STD. WT. .54 lbs/ft .80 Kg/m HEAD PRESS. 65' 194 KPa

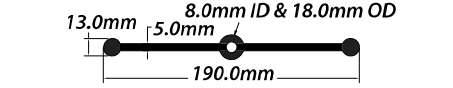


Dumbbell Centerbulb

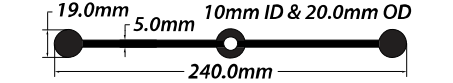
640 STD. WT. .92 lbs/ft 1.37 Kg/m HEAD PRESS. 65' 194 KPa



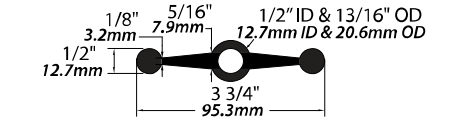
641 STD. WT. 1.15 lbs/ft 1.71 Kg/m HEAD PRESS. 100' 299 KPa



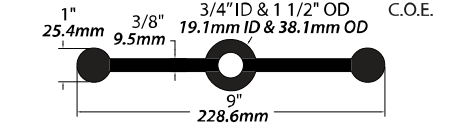
642 STD. WT. 1.68 lbs/ft 2.50 Kg/m HEAD PRESS. 150' 448 KPa



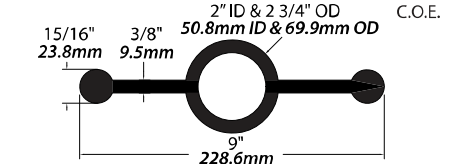
654 STD. WT. 0.68 lbs/ft 1.01 Kg/m HEAD PRESS. 65' 194 KPa



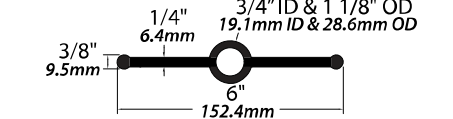
753 STD. WT. 3.10 lbs/ft 4.61 Kg/m HEAD PRESS. 150' 448 KPa



754 STD. WT. 3.70 lbs/ft 5.51 Kg/m HEAD PRESS. 150' 448 KPa



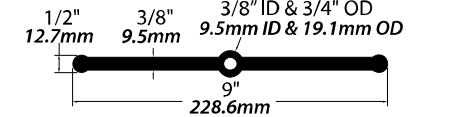
756 STD. WT. 1.20 lbs/ft 1.79 Kg/m HEAD PRESS. 100' 299 KPa



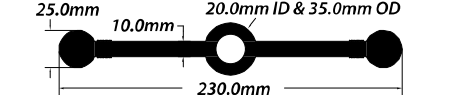
757 STD. WT. 1.41 lbs/ft 2.10 Kg/m HEAD PRESS. 100' 299 KPa



758 STD. WT. 2.06 lbs/ft 3.06 Kg/m HEAD PRESS. 125' 373 KPa



933 STD. WT. 2.87 lbs/ft 4.27 Kg/m HEAD PRESS. 150' 448 KPa



936 STD. WT. 1.71 lbs/ft 2.54 Kg/m HEAD PRESS. 125' 373 KPa

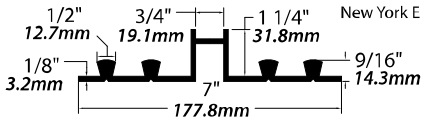


Ribbed waterstops provide the best sealing characteristics

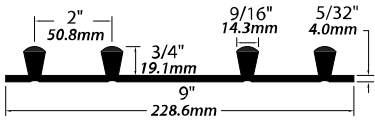
Shapes are drawn to varying scales

Base Seal

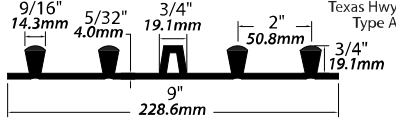
648 STD. WT. 1.21 lbs/ft 1.80 Kg/m HEAD PRESS. 100' 299 KPa



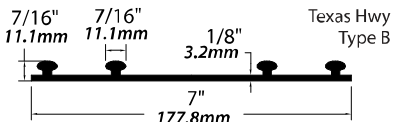
771 STD. WT. 1.53 lbs/ft 2.28 Kg/m HEAD PRESS. 100' 299 KPa



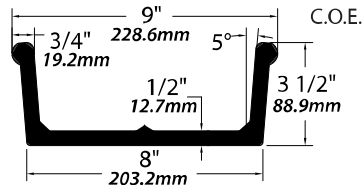
772 STD. WT. 1.85 lbs/ft 2.75 Kg/m HEAD PRESS. 100' 299 KPa



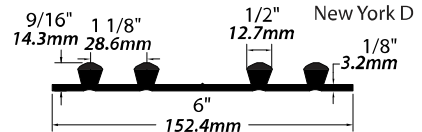
774 STD. WT. .79 lbs/ft 1.18 Kg/m HEAD PRESS. 75' 224 KPa



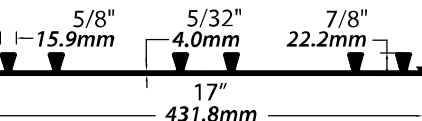
775 STD. WT. 4.64 lbs/ft 6.91 Kg/m



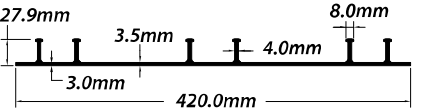
776 STD. WT. .83 lbs/ft 1.24 Kg/m HEAD PRESS. 100' 299 KPa



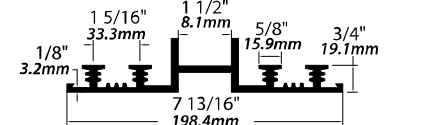
777 STD. WT. 2.75 lbs/ft 4.09 Kg/m



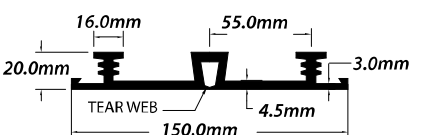
787 STD. WT. 1.81 lbs/ft 2.69 Kg/m



914 STD. WT. 1.61 lbs/ft 2.40 Kg/m HEAD PRESS. 125' 373 KPa

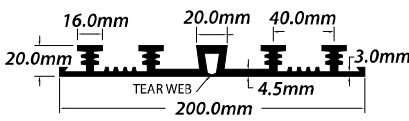


923 STD. WT. 1.02 lbs/ft 1.51 Kg/m HEAD PRESS. 75' 224 KPa

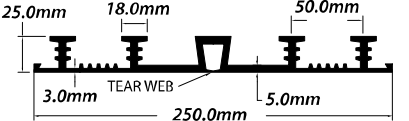


Base Seal

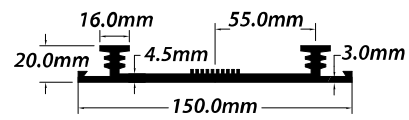
924 STD. WT. 1.45 lbs/ft 2.16 Kg/m HEAD PRESS. 125' 373 KPa



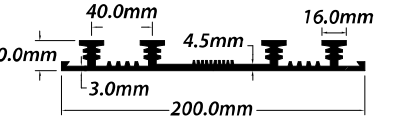
925 STD. WT. 1.84 lbs/ft 2.74 Kg/m HEAD PRESS. 150' 448 KPa



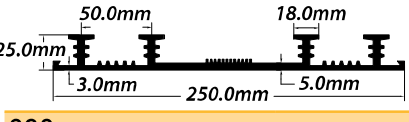
927 STD. WT. .89 lbs/ft 1.32 Kg/m HEAD PRESS. 75' 224 KPa



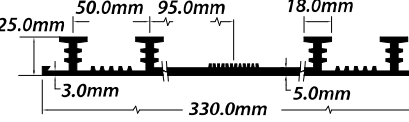
928 STD. WT. 1.32 lbs/ft 1.97 Kg/m HEAD PRESS. 125' 373 KPa



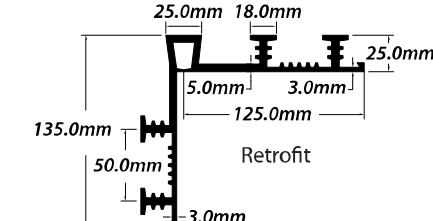
929 STD. WT. 1.68 lbs/ft 2.49 Kg/m HEAD PRESS. 150' 448 KPa



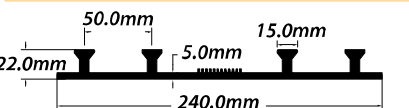
930 STD. WT. 2.04 lbs/ft 3.04 Kg/m HEAD PRESS. 175' 523 KPa



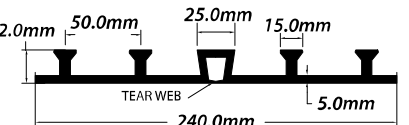
931 STD. WT. 1.81 lbs/ft 2.69 Kg/m



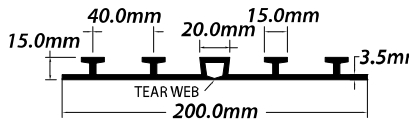
937 STD. WT. 1.71 lbs/ft 2.55 Kg/m HEAD PRESS. 100' 299 KPa



938 STD. WT. 1.85 lbs/ft 2.76 Kg/m HEAD PRESS. 100' 299 KPa

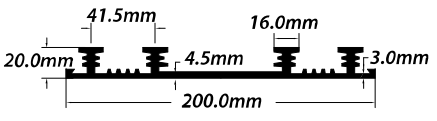


939 STD. WT. 1.05 lbs/ft 1.56 Kg/m HEAD PRESS. 100' 299 KPa

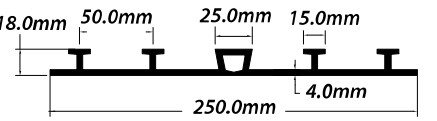


Base Seal

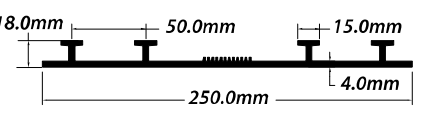
944 STD. WT. 1.30 lbs/ft 1.93 Kg/m HEAD PRESS. 125' 373 KPa



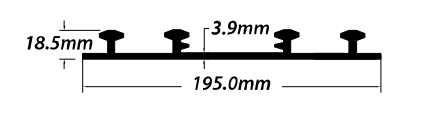
959 STD. WT. 1.41 lbs/ft 2.10 Kg/m HEAD PRESS. 150' 448 KPa



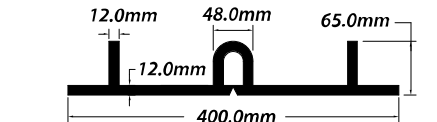
960 STD. WT. 1.30 lbs/ft 1.94 Kg/m HEAD PRESS. 150' 448 KPa



982 STD. WT. 1.15 lbs/ft 1.71 Kg/m HEAD PRESS. 125' 373 KPa

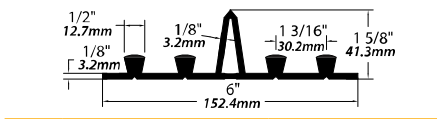


990 STD. WT. 6.81 lbs/ft 10.14 Kg/m

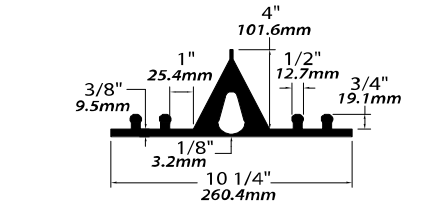


Crack Inducer

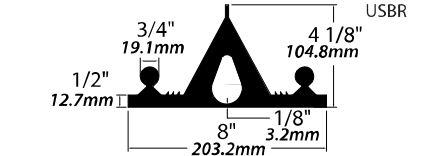
639 STD. WT. 1.03 lbs/ft 1.53 Kg/m HEAD PRESS. 100' 299 KPa



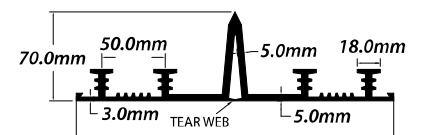
652 STD. WT. 5.00 lbs/ft 7.44 Kg/m



806 STD. WT. 5.00 lbs/ft 7.44 Kg/m

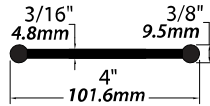


926 STD. WT. 2.26 lbs/ft 3.36 Kg/m HEAD PRESS. 150' 448 KPa

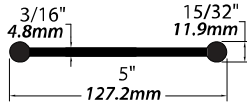


Dumbbell

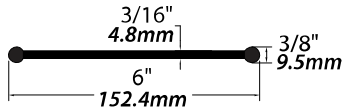
741 STD. WT. 0.47 lbs/ft 0.70 Kg/m HEAD PRESS. 65' 194 KPa



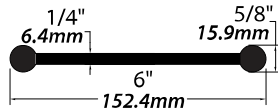
744 STD. WT. 0.63 lbs/ft 0.94 Kg/m HEAD PRESS. 65' 194 KPa



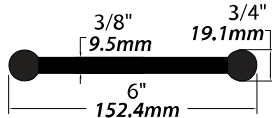
746 STD. WT. 0.71 lbs/ft 1.06 Kg/m HEAD PRESS. 75' 224 KPa



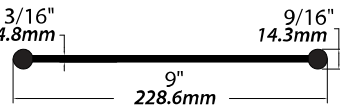
747 STD. WT. 1.11 lbs/ft 1.65 Kg/m HEAD PRESS. 100' 299 KPa



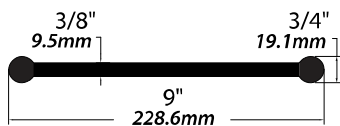
748 STD. WT. 1.51 lbs/ft 2.25 Kg/m HEAD PRESS. 125' 373 KPa



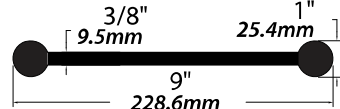
750 STD. WT. 1.18 lbs/ft 1.76 Kg/m HEAD PRESS. 100' 299 KPa



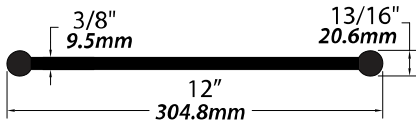
751 STD. WT. 2.18 lbs/ft 3.24 Kg/m HEAD PRESS. 150' 448 KPa



752 STD. WT. 2.55 lbs/ft 3.79 Kg/m HEAD PRESS. 150' 448 KPa



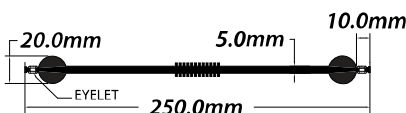
755 STD. WT. 2.99 lbs/ft 4.44 Kg/m HEAD PRESS. 200' 598 KPa



932 STD. WT. 2.66 lbs/ft 3.97 Kg/m HEAD PRESS. 150' 448 KPa

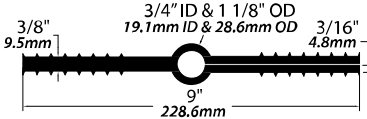


934 STD. WT. 1.58 lbs/ft 2.36 Kg/m HEAD PRESS. 125' 373 KPa

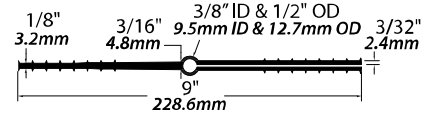


Split Flange

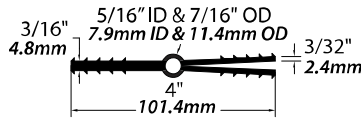
653 STD. WT. 2.25 lbs/ft 3.35 Kg/m HEAD PRESS. 150' 448 KPa



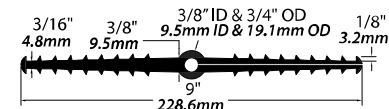
720 STD. WT. 1.20 lbs/ft 1.79 Kg/m HEAD PRESS. 100' 299 KPa



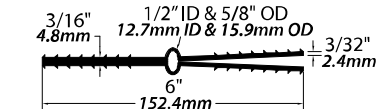
721 STD. WT. .50 lbs/ft .74 Kg/m HEAD PRESS. 65' 194 KPa



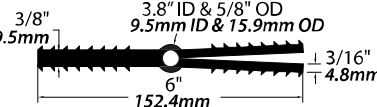
722 STD. WT. 1.90 lbs/ft 2.83 Kg/m HEAD PRESS. 150' 448 KPa



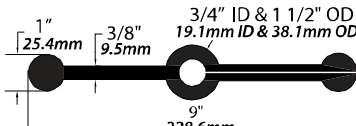
723 STD. WT. .76 lbs/ft 1.13 Kg/m HEAD PRESS. 100' 299 KPa



724 STD. WT. 1.54 lbs/ft 2.29 Kg/m HEAD PRESS. 125' 373 KPa



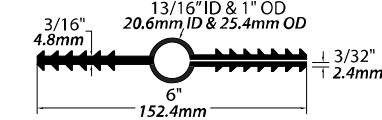
725 STD. WT. 3.10 lbs/ft 4.61 Kg/m HEAD PRESS. 150' 448 KPa



727 STD. WT. 2.25 lbs/ft 3.35 Kg/m HEAD PRESS. 150' 448 KPa



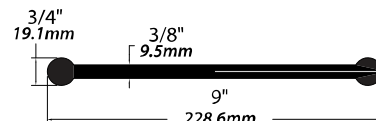
730 STD. WT. 1.02 lbs/ft 1.52 Kg/m HEAD PRESS. 100' 299 KPa



759 STD. WT. 1.49 lbs/ft 2.22 Kg/m HEAD PRESS. 125' 373 KPa

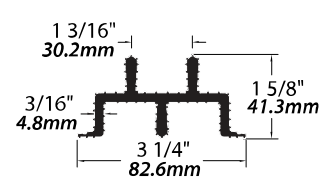


760 STD. WT. 2.20 lbs/ft 3.27 Kg/m HEAD PRESS. 150' 448 KPa

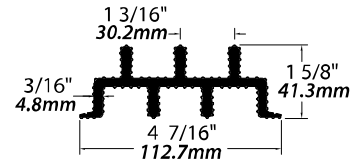


Labyrinth

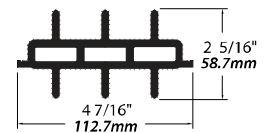
789 STD. WT. .84 lbs/ft 1.25 Kg/m HEAD PRESS. 25' 75 KPa



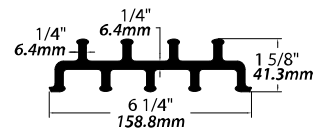
790 STD. WT. 1.24 lbs/ft 1.85 Kg/m HEAD PRESS. 50' 149 KPa



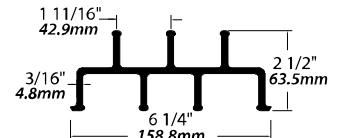
807 STD. WT. 2.00 lbs/ft 2.98 Kg/m HEAD PRESS. 50' 149 KPa



830 STD. WT. 1.81 lbs/ft 2.69 Kg/m HEAD PRESS. 50' 149 KPa



835 STD. WT. 1.80 lbs/ft 2.68 Kg/m HEAD PRESS. 50' 149 KPa

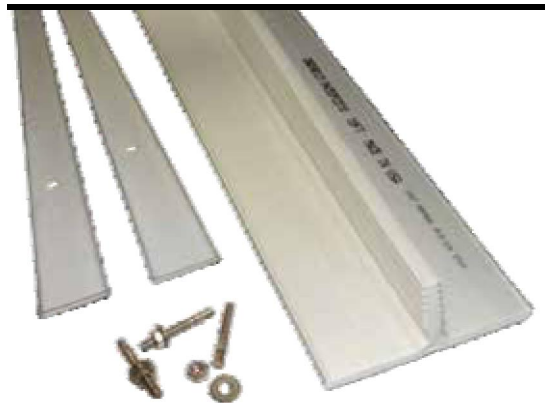


A Note About Head Pressure Ratings:

Head Pressure Ratings are based on parameters published in the Corps of Engineers document, Waterstops and Other Preformed Joint Materials for Civil Works Structures EM 1110-2-2101, dated 30 September 1995. Sample testing conducted by Sika Greenstreak on select profiles has indicated a conservative tendency in these ratings. That said, the published Head Pressure Ratings should be considered to be ultimate values. An appropriate safety factor should be applied to these values.

Contact a **Sika Greenstreak** engineer for more information.

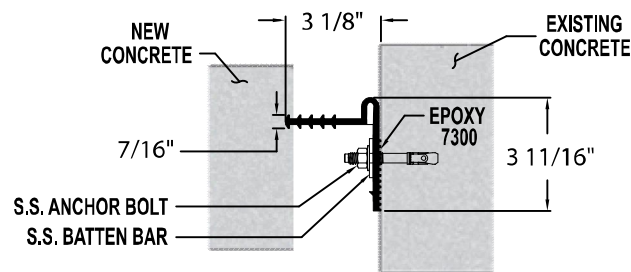
Retrofit/Special Applications



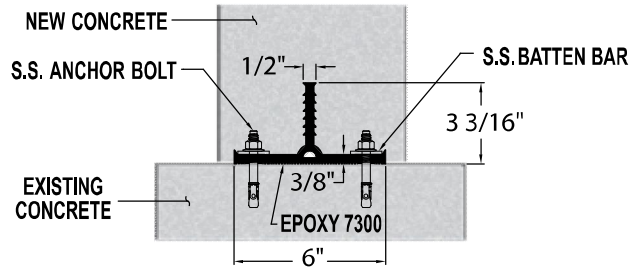
Retrofit Waterstop Systems

Retrofit waterstops seal joints where new construction meets an existing structure and can be suitable for working joints. Systems include waterstop profile, stainless steel batten bars and anchor bolts. **Epoxy 7300** is sold separately.

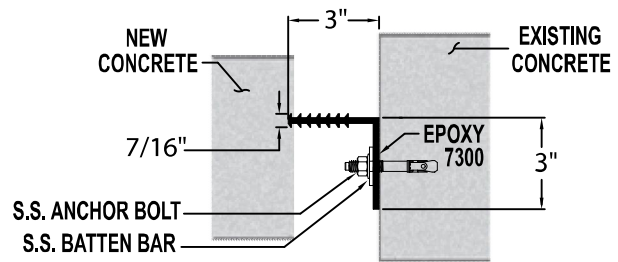
581 SYSTEM STD. WT. with hardware 1.51 lbs/ft 2.25 Kg/m



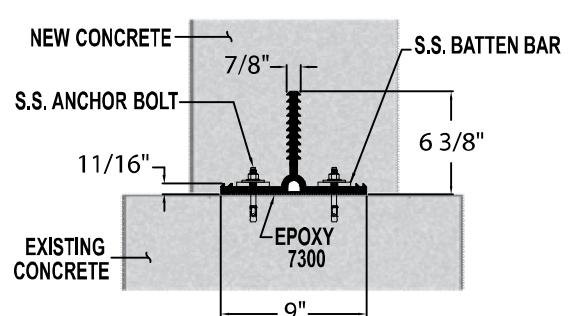
609 SYSTEM STD. WT. with hardware 2.92 lbs/ft 4.35 Kg/m



655 SYSTEM STD. WT. with hardware 1.38 lbs/ft 2.05 Kg/m



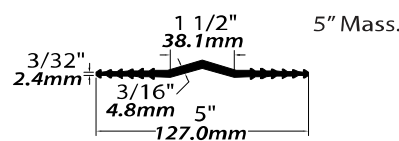
667 SYSTEM STD. WT. with hardware 8.27 lbs/ft 12.31 Kg/m



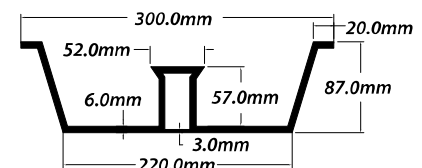
Specialty Shapes

These shapes have been developed to meet unique requirements of clients or other specifying groups. Consult a **Sika Greenstreak** engineer for more information or for special applications.

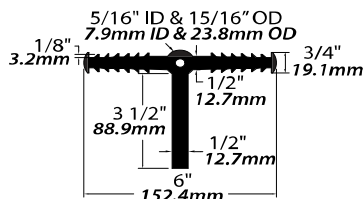
729 STD. WT. .64 lbs/ft .95 Kg/m HEAD PRESS. 35' 105 KPa



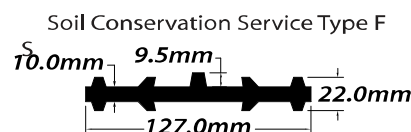
770 STD. WT. 3.15 lbs/ft 4.69 Kg/m



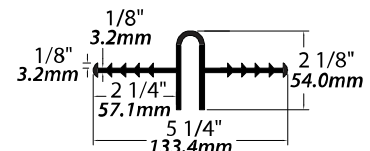
606 STD. WT. 2.92 lbs/ft 4.35 Kg/m



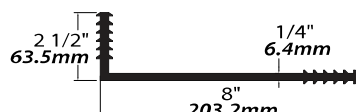
762 STD. WT. 1.51 lbs/ft 2.25 Kg/m HEAD PRESS. 100' 299 KPa



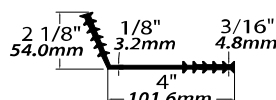
791 STD. WT. 0.86 lbs/ft 1.28 Kg/m HEAD PRESS. 35' 105 KPa



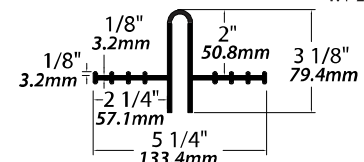
650 STD. WT. 1.64 lbs/ft 2.44 Kg/m



765 STD. WT. .64 lbs/ft .95 Kg/m



792 STD. WT. 1.10 lbs/ft 1.63 Kg/m HEAD PRESS. 35' 105 KPa



W1-2 Calif.

Fabrications/Splicing Irons

Typical PVC Fabrications

Sika Greenstreak strongly recommends factory fabricated transitions and intersections. Typical fabrications for the most common shapes are inventoried by **Sika Greenstreak** and available to meet construction schedules. **Sika Greenstreak** can provide customized fabrications to suit unusual configurations or a convergence of differing profiles.



Vertical L, T, and Cross Fabrications



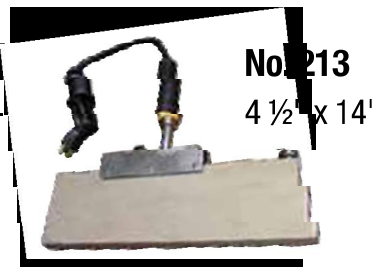
Flat L, T, and Cross Fabrications

Splicing Irons For Field Welding

As noted, a quality waterstop installation requires quality welds. **Sika Greenstreak Splicing Irons** are specifically designed for welding thermoplastic waterstop and are constructed of the highest quality components for superior and long lasting performance. No other means or methods can be used.

Temperature controls are adjustable for various conditions and products. Irons are typically 120V operation, but 240V is available for the 213 and 214 irons.

The 213 and 215 irons have an integral thermometer to display the iron temperature for accurate welding. The splicing iron should be large enough to melt the entire cross-section of the waterstop profile. All irons are supplied with a teflon coated cover necessary for welding. Replacement covers are available for purchase.



Chemical Resistant Waterstop

Sika Greenstreak's companion brand, **Westec®**, offers waterstop solutions for secondary containment in petrochemical and industrial applications. **Westec's Envirostop® TPER (Thermoplastic Elastomer Rubber) Waterstops** resist a wide range of oils, solvents, and aggressive chemicals. Alcohols, glycols, esters and aqueous solutions of acids, bases, and salts have little effect on **Westec's Envirostop Waterstop**.

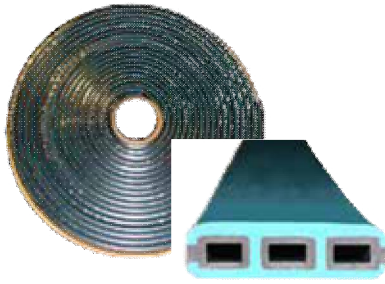
TPER has excellent ozone resistance, low temperature flexibility, excellent high temperature (up to 250° F) performance and is heat weldable. **Westec TPER Waterstop** can also be defined as a Thermoplastic Vulcanizate, TPV.



Westec's TPER Waterstop is certified to **NSF/ANSI Standard 61 for Drinking Water System Components**

Contact a **Sika Greenstreak** engineer or visit www.Chemstop.com for more information.

Strip-applied Waterstops And Injection Hose Systems



Hydrotite is a world renowned hydrophilic waterstop. Composed of modified chloroprene rubber protected with a special delay coating, **Hydrotite** expands when exposed to water, creating an effective compression seal within joints where limited movement will occur.

Hydrotite is used extensively in sealing concrete construction joints, pipe penetrations, precast concrete segments, tunnel lining segments and for repair of existing joints or retrofit applications. Several shapes and sizes are available.



SikaSwell A (formerly Duroseal Gasket) is a water-swelling acrylate-ester that expands upon contact with water to form a compression seal in nonmoving concrete joints. **SikaSwell A** is available in three sizes and is adhered to varying substrates with **Sika MK Adhesive** or **Quellpaste Type E**.

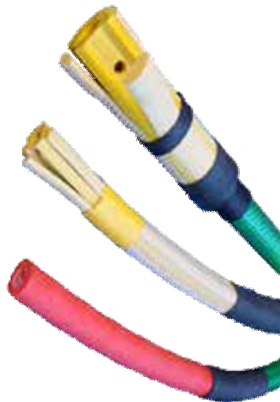


Swellstop is a flexible butyl rubber and swellable clay waterproofing compound that expands upon contact with water to form a compression seal in nonmoving concrete joints. **Swellstop** is available in two sizes and must be used in conjunction with **Swellstop Primer Adhesive** to create a watertight bond.

As with all hydrophilic waterstops, Hydrotite, SikaSwell A and Swellstop are suggested for applications where exposure to moisture is constant.



Lockstop is a single component and self-sealing mastic waterstop which bonds to concrete to prevent moisture from penetrating nonmoving joints. **Lockstop** must be used in conjunction with **Lockstop Primer Adhesive** to create a watertight bond.



Sika Greenstreak offers **SikaFuko® VT** injection hose, the world's number one injection hose system. **SikaFuko® VT** systems are available in two sizes and can deliver Portland Cement, Microfine Cement, or a variety of resins to seal cracks or voids in the joint area. **SikaFuko® VT** has a unique "re-injectable" design, which allows the hose to be cleaned. This key feature allows for a complete maintenance program if leaks appear and future re-injections are required.

SikaFuko® Eco 1 (formerly Duroject) is an injection hose for delivering cements or resins for planned sealing of construction joints. It is for single injection applications. **Sika Greenstreak** offers a variety of injection materials for **SikaFuko® VT** injection hose systems.

Most Strip-applied waterstops and Injection Hose Systems are suitable for nonworking joints only.

LIMITED WARRANTY: Sika Greenstreak warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. Sika Greenstreak SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Our most current General Sales Conditions shall apply.
Please consult the Product Data Sheet prior to any use and processing.

Sika Greenstreak®
3400 Tree Court Industrial Blvd.
St. Louis, Missouri 63122 USA
Phone 800 325-9504
Fax 800 551-5145
www.Greenstreak.com

Greenstreak





KCI Construction Company, Inc.
10315 Lake Bluff Drive
St. Louis, MO 63123
O: 314.894.8888 | F: 314.894.7418

Submittal Cover Page

Webster University

Interdisciplinary Science Building

8274 Big Bend Blvd

Webster Groves, MO 63119

KCI Project #: 16-008

Specification Section: 03 3000 - Cast-In-Place Concrete

Submittal: Waterstops

Subcontractor: Carter-Waters

Paragraph #	Description	Type
2.6 B.	Greenstreak: #773 - Ribbed Flat Waterstop	Product Data: Cut Sheet
	*FOR ALL VERTICAL CONCRETE WALL POUR JOINTS	
	Greenstreak: #667 - Retrofit Waterstop System	Product Data: Cut Sheet
	*FOR CONNECTIONS TO EXISTING CONCRETE JOINTS	
	Greenstreak: 7300 Epoxy	Product Data
	*FOR CONNECTIONS TO EXISTING CONCRETE JOINTS	
2.6 C.	Greenstreak: Swellstop	Product Data
	*FOR ALL HORIZONTAL FOOTING AND CONCRETE WALL POUR JOINTS	
	Greenstreak: Swellstop Primer Adhesive	Product Data
	*FOR ALL HORIZONTAL FOOTING AND CONCRETE WALL POUR JOINTS	
2.6	Greenstreak: Waterstop Catalog	Product Data
	Greenstreak: Data Sheet	Product Data

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME	
ADDRESS	
NUMBER	
OWNER	
ARCHITECT / ENGINEER	
SUBMITTED BY	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY
☐ CRITICAL	

ITEM BEING SUBMITTED (check only one)

- | | | |
|---|--|--|
| ☐ Shop Drawings | ☐ Certification / Qualifications | ☐ Coordination Drawing |
| ☐ Samples (____ copies) | ☐ Record Documents | ☐ Calculations |
| ☐ LEED Submittal | ☐ Product Data | ☐ Schedules |
| ☐ Other _____ | ☐ O&M Manuals | |

ITEM BEING SUBMITTED FOR (check only one)

- ☐ Action
 ☐ Information Only
 ☐ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION (SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)



PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By: **Devin D. Gates**

REVIEWED BY

DATE

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER
RECEIVED DATE
☐ A. No Exceptions Taken No further review of submittal is required.
☐ B. Make Corrections Noted Incorporate corrections in work; resubmission is not required.
☐ C. Revise and Resubmit Revise as noted, and resubmit for review.
☐ D. Rejected Submittal is not in compliance with Contract Documents; provide new submittal.
☐ E. For Record / Information Only Submittal was reviewed for Record / Information purposes only.
☐ F. Not Required for Review Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS

☐ See attached sheet(s) for additional comments

SHOP DRAWING / SUBMITTAL REVIEW	
☒ NO EXCEPTION TAKEN	☐ EXCEPTIONS NOTED, RESUBMITTAL NOT REQUIRED
☐ REJECTED	
☐ REVIEWED FOR INFORMATION ONLY	☐ REVISE AND RESUBMIT AS NOTED
Checking is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for: Dimensions which shall be confirmed and correlated at the job site, fabrication processes and techniques of the construction, coordination of his work with that of all other trades and the satisfactory performance of his work.	
DAVID MASON & ASSOCIATES, INC.	
REVIEW BY: JYW / DMA	DATE: 04/22/2016

REVIEWED BY

DATE



77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0021

Paric Corporation

PROJECT: Webster University Interdisciplinary Science Building

DATE: 04/21/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Waterstop product data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:		SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings		☐ Approval	☐ Approved as Submitted
☐ Letter		☐ Your Use	☐ Approved as Noted
☐ Prints		☐ As Requested	☐ Returned After Loan
☐ Change Order		☐ Review and Comment	☐ Resubmit
☐ Plans			☐ Submit
☐ Samples		SENT VIA:	☐ Returned
☐ Specifications		☐ Attached	☐ Returned for Corrections
☒ Other:		☐ Separate Cover Via:	☒ Due Date: 03/07/2016

Item	Package	Code	Rev.	Copies	Date	Description	Status
Submittal		033000-013	1		04/21/2016	Waterstop product data	Open

NOTES:

CC:

Signed: _____
Devin Gates



KCI Construction Company, Inc.
ST. LOUIS: 10315 Lake Bluff Drive | St. Louis, MO 63123
LEBANON: 119 West Fremont | Lebanon, MO 65536

O: 314.894.8888
F: 314.894.7418
www.kciconstruction.com

SUBMITTAL TRANSMITTAL

Date Sent: 04/21/2016

Project: Webster University –
Interdisciplinary Science Building

Project #: 16-008

Subject: 03 3000 Cast-In-Place Concrete –
Waterstops

Submittal ID: 0004

Type: Submittal

Purpose: For Approval

Sent Via: Email (PDF)

Transmitted To:

Devin Gates
Paric
77 Westport Plaza, Suite 250
St. Louis, MO, 63146
Phone: (636) 561-9592
Email: ddgates@paric.com

Transmitted From:

Kyle Nieman
KCI Construction Company
10315 Lake Bluff Drive
St. Louis, MO 63123
Phone: (314) 200-6486
Email: knieman@kciconstruction.com

Contents:

Qty: 1

Dated: 04/21/2016

Submittal Package No.: 0004 – 03 3000 – 00

Description: 03 3000-00_Cast-In-Place Concrete – Waterstops

Remarks: Please review and return at your earliest opportunity. Thanks,

 04/21/16

Kyle Nieman
KCI Construction Company

A BUILDER, NOT A BROKER.

General Building | Design/Build | Heavy Industrial | Transportation



KCI Construction Company, Inc.

ST. LOUIS: 10315 Lake Bluff Drive | St. Louis, MO 63123

LEBANON: 119 West Fremont | Lebanon, MO 65536

O: 314.894.8888

F: 314.894.7418

www.kciconstruction.com

WEBSTER UNIVERSITY – INTERDISCIPLINARY SCIENCE BUILDING

St. Louis, MO

Submittal Description: Cast-In-Place Concrete – Waterstops

Submittal #: 0004 – 03 3000 – 00

Notes:

This submittal/drawing has been reviewed and found to be in general conformance with the contract documents.

APPROVED

APPROVED AS NOTED

REVISE AND RESUBMIT

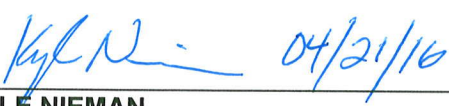
X

03 3000

SPEC SECTION

04/21/2016

DATE


KYLE NIEMAN

KCI CONSTRUCTION CO.

A BUILDER, NOT A BROKER.

General Building | Design/Build | Heavy Industrial | Transportation