

EARTH SHIELD®

Manufactured by



J P SPECIALTIES, INC.

WATERSTOPS FOR CHEMICAL, INDUSTRIAL, & ENVIRONMENTAL APPLICATIONS

The collage features several images illustrating the use of Earth Shield waterstops:

- Top Left:** A photograph of a construction site showing a concrete wall with Earth Shield waterstops installed along its length.
- Top Middle:** A technical drawing of a waterstop with dimensions: 6" [152.4] height, 3" [76.2] width, and 5/16" I.D. and 7/8" O.D. for the circular end.
- Top Right:** A photograph of a construction site showing a concrete slab with a grid of rebar and Earth Shield waterstops installed at the joints.
- Middle Left:** A photograph of a roll of red, corrugated Earth Shield waterstop material.
- Middle Middle-Left:** A photograph showing a white Earth Shield waterstop being installed in a concrete joint.
- Middle Middle-Right:** A photograph of a blue-handled tool used for installing waterstops.
- Middle Right:** A photograph of construction workers in safety gear working on a concrete slab.
- Bottom Left:** The NSF logo, a blue circle with the letters NSF in white.
- Bottom Middle-Left:** A photograph of a woman in a white hard hat and safety vest holding a large black frame.
- Bottom Middle-Right:** A technical drawing of a waterstop with dimensions: 7/8" [22.23] height, 3 9/32" [83.34] length, 9/16" [14.29] height for the curved end, 3/16" [4.76] width for the curved end, 7/16" [11.11] height for the straight end, 3 11/16" [93.66] length for the straight end, 1/4" [6.35] diameter for the hole, and 3/16" [4.76] width for the straight end.
- Bottom Right:** A photograph of a large circular water treatment tank with Earth Shield waterstops installed around its perimeter.
- Bottom Far Left:** A photograph of several pieces of silver-colored Earth Shield waterstop material.
- Bottom Far Middle-Left:** A photograph of a blue-handled tool mounted on a metal base with the text "JP Specialties, Inc. 800-821-8856".
- Bottom Far Middle-Right:** A photograph of a construction worker in a white hard hat and safety vest working on a concrete slab.
- Bottom Far Right:** A technical drawing showing a cross-section of a concrete wall with an Earth Shield waterstop installed at the joint.

PVC WATERSTOP

CRD C572-74, CEGS 03250, and NSF 61 Certified PVC Waterstop for Concrete

“WATER IS OUR MOST VALUABLE COMMODITY. IT IS IMPORTANT TO PROTECT IT, EITHER FROM LOSS OR POLLUTION. PROPERLY INSTALLED WATERSTOP ACHIEVES BOTH GOALS.” – **DAVID R. POOLE**



David R. Poole CSI, ACI, Assoc. AIA

PRESIDENT

Earth Shield® Polyvinyl Chloride (PVC) Waterstop is used as a fluid-tight diaphragm, embedded in concrete, across and along the joint, for environmental engineered concrete structures. Earth Shield® Flexible PVC Waterstops are resistant to a wide range of water and wastewater treatment chemicals and are certified to meet or exceed the performance requirements of CRD C572-74.

Install Earth Shield® Flexible PVC Waterstop in all concrete joints. Waterstop should be centered in, and run the extent of the joint. All changes of directions should be prefabricated, leaving only butt-welding for the field. If installing in an expansion joint, keep center bulb unembedded to allow it to accommodate movement as designed. Use optional factory installed brass eyelets (or #3 hog rings) and tie wire to secure waterstop to reinforcing steel to avoid displacement during the concrete pour. Splice straight lengths of waterstop and Shop Made Fittings to straight lengths, with an ST-10® In-Line Waterstop Splicer with the iron temperature set to 350°F to 380°F.

More detailed installation instructions are in our Standard 3-part Specifications.



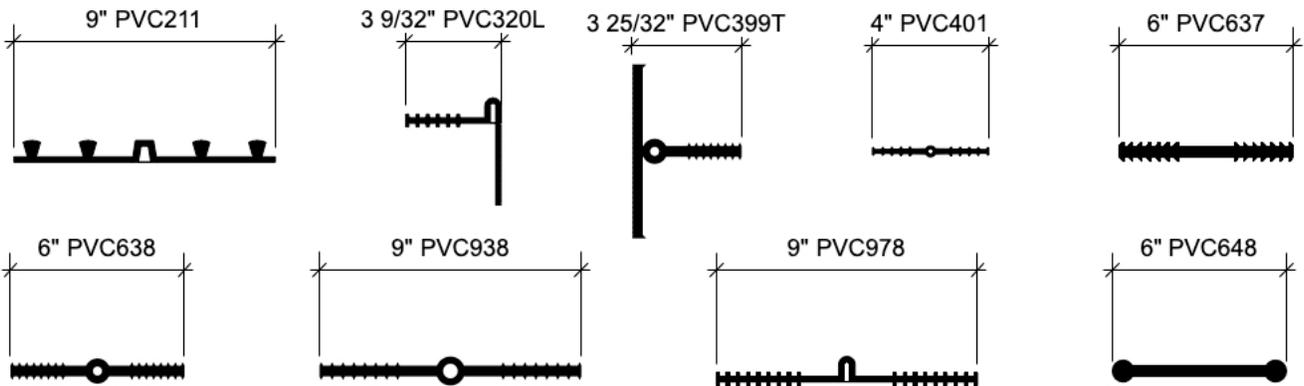
*ALL EARTH SHIELD WATERSTOPS ARE MADE OF PRIME VIRGIN RESIN UNLESS SPECIFIED EXPLICITLY AS RECYCLED BY THE PROJECT DESIGNER. TO SPECIFY EARTH SHIELD PLUS, ADD AN "R" TO THE FRONT OF THE STANDARD PART NUMBER. EXAMPLE: "RPVC636" INSTEAD OF THE STANDARD "PVC636" CALLOUT.

Earth Shield Plus is an optional*, advanced waterstop solution made exclusively from renewed or recycled materials, aligning with J P Specialties' commitment to sustainability. Despite its eco-friendly composition, Earth Shield Plus offers nearly identical physical properties and functionality to the standard prime virgin resin waterstop products, ensuring consistent performance in preventing water leakage in concrete structures. This product is ideal for projects that prioritize both environmental responsibility and structural integrity, offering a durable, high-performing solution that meets green building standards while maintaining the same quality and reliability.



Water and wastewater treatment plants, dams, locks and canals, tunnels and culverts, foundations

Popular PVC Waterstop Profiles (Complete profiles on website) – See QR Code



[HTTPS://WWW.JPSPECIALTIES.COM/WATERSTOP-TECHNICAL-LIBRARY/WATERSTOP-CAD-DETAILS/](https://www.jpspecialties.com/waterstop-technical-library/waterstop-cad-details/)



RECYCLABLE



NSF 61 & 372 CERTIFIED

Property	Test Method	Typical Results
Specific Gravity	ASTM D792	1.37
Shore A Hardness (15 sec.)	ASTM D2240	77±3 at 25°C (77°F)
Tensile Strength	ASTM D638	2,100 psi
Ultimate Elongation	ASTM D638	350%
Stiffness in Flexure	ASTM D747	700 psi
Tear Resistance	ASTM D624	310 lbs./inch
Brittle Point	ASTM D746	-37°C (-35°F)
Accelerated Extraction Tensile Strength	Corps of Engineers	2,100 psi
Accelerated Extraction Elongation	Corps of Engineers	310%
Effect of Alkali Weight Change	CRD C572-74	+0.11%
Effect of Alkali Hardness Change	CRD C572-74	±1.0 point
Drinking Water Safe	NSF/ANSI 61	Waterstop certified by NSF for use in potable water

Flexible PVC Waterstop for Concrete Joints

Waterstop indicated in drawings and specifications for contraction (control), expansion, and construction joints shall be Earth Shield® Polyvinyl Chloride (PVC) Part No. ##### [Designer insert appropriate part number here] as manufactured and available from J P Specialties, Inc. – Murrieta, CA, USA 92562 – Phone 800-821-3859; 951-763-7077; www.jpspecialties.com; E-mail jpspec@jpspecialties.com

1. Polyvinyl Chloride (PVC) Waterstop shall be certified for use in potable water per NSF/ANSI Standard 61. Third-party certified documentation to be provided by manufacturer.
2. All waterstop welders on the jobsite shall be Manufacturer-certified as waterstop installers. (Certificate in job file).
3. A complete waterstop location map (including all straight runs and change of directions) is required at submittal.
4. Intersection and change of direction waterstops shall be factory fabricated as manufactured and available from J P Specialties, Inc.
5. Quality Assurance – Edge welding will not be permitted. Centerbulbs shall be compressed or closed when welding to non-centerbulb type. Waterstop splicing defects which are unacceptable include, but are not limited to the following:
 - A. Tensile strength not less than 60 percent of parent sections
 - B. Free lap joints.
 - C. Misalignment of centerbulb, ribs, and end bulbs greater than 1/16 inch.
 - D. Misalignment which reduces waterstop cross section ore than 15 percent.
 - E. Bond failure at joint deeper than 1/16 inch or 15 percent of material thickness.
 - F. Misalignment of waterstop splice resulting in misalignment of waterstop in excess of 1/2 inch in 10 feet.
 - G. Visible porosity in the weld.
 - H. Charred or burnt material.
 - I. Bubbles or inadequate bonding.
 - J. Visible signs of splice separation when cooled splice (24 hours or greater) is bent by hand at sharp angle.
6. No equals or substitutions allowed.

TPV WATERSTOP

EPA Title 40 and NSF 61 Certified TPV Waterstop for Concrete



THE CHEMICAL RESISTANCE OF THE WATERSTOP MATERIAL, EXPOSURE, TEMPERATURE, CHEMICAL CONCENTRATION OF THE CONTAINED MATERIAL, AND ANY REQUIREMENTS FOR JOINT MOVEMENT SHOULD BE CONSIDERED WHEN SELECTING THE WATERSTOP MATERIAL. **ACI PRC-350.2-21**



Primary and secondary containment, water and wastewater treatment plants, refineries, ozone contactors, mining facilities, fueling areas, chemical factories, manure pits

"THE PRIMARY CHOICE FOR SECONDARY CONTAINMENT ®" CALL "THE WATERSTOP EXPERTS" AT 800-821-3859 (951-763-7077)
WWW.JPSPECIALTIES.COM

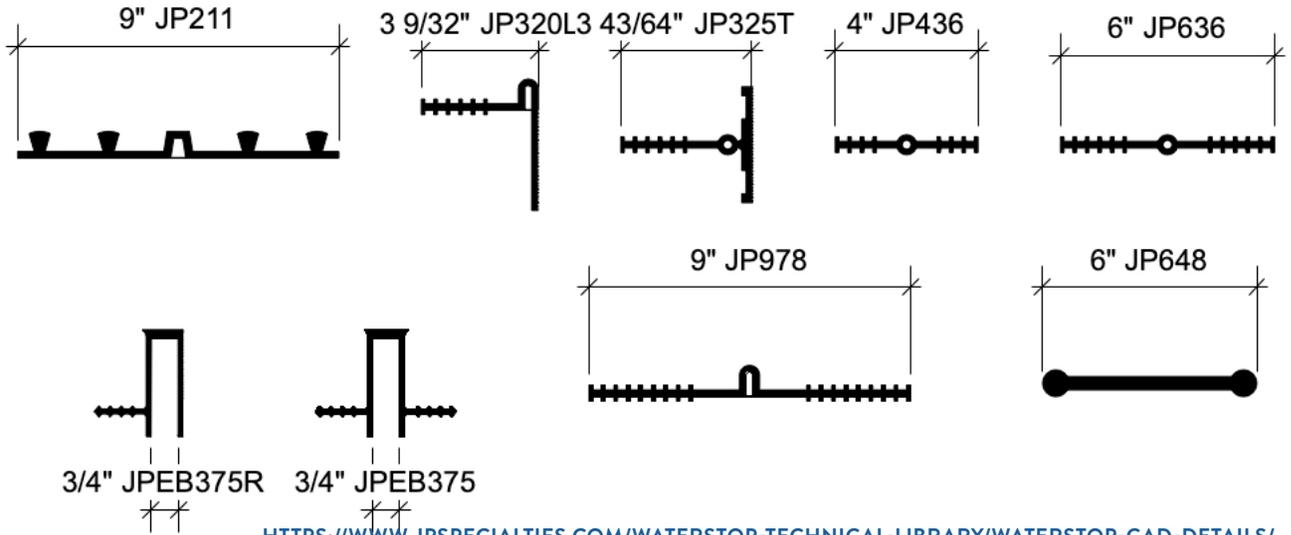
Earth Shield® Thermoplastic Vulcanizate Waterstop (TPV) (aka TPE-R), by J P Specialties dramatically expands the scope of conventional waterstop by offering unmatched chemical resistance to a broad spectrum of aggressive chemicals, solvents, and hot petroleum oils.

Earth Shield® Thermoplastic Vulcanizate Waterstop (TPV) (aka TPE-R) is used as a fluid-tight diaphragm, embedded in concrete, across and along the joint, for primary and secondary containment structures. Earth Shield® Chemical Resistant Waterstops are resistant to a wide range of oils, solvents, and aggressive chemicals. Alcohol, ketones, glycols, esters, and aqueous solutions of acids, salts, and bases have little effect on Earth Shield® Thermoplastic Vulcanizate Waterstop.

Unlike polyvinyl chloride (PVC) waterstop, Earth Shield® waterstop contains no plasticizer, stabilizer, or filler to leech out when exposed to chemicals, fuels, ozone, and aggressive industrial fluids. Also, unlike PVC waterstop, Earth Shield® can withstand prolonged exposure to high and low temperatures (-78°F to 275°F long term) without detrimental effect. Earth Shield® TPV Waterstop is NSF Standard 61 certified for use in drinking water and is made of a recyclable polymer, so it's good for your health and the environment.



Popular TPV Waterstop Profiles (Complete profiles on website) – See QR Code



[HTTPS://WWW.JPSPECIALTIES.COM/WATERSTOP-TECHNICAL-LIBRARY/WATERSTOP-CAD-DETAILS/](https://www.jpspecialties.com/waterstop-technical-library/waterstop-cad-details/)



SUSTAINABILITY



RECYCLABLE



NSF 61 & 372 CERTIFIED

Property	Test Method	Typical Results
Specific Gravity	ASTM D792	.96
Shore A Hardness (5 sec.)	ASTM D2240	90±3 at 25°C (77°F)
Tensile Strength	ASTM D412	2,300 psi
Ultimate Elongation	ASTM D412	530%
100% Modulus	ASTM D746	1,000 psi
Tear Strength	ASTM D624	278 pli at 25°C (77°F)
Compression Set	ASTM D395	29% at 25°C (77°F)
Brittle Point	ASTM D746	-61°C (-78°F)
Drinking Water Safe	NSF/ANSI 61	Waterstop certified by NSF for use in potable water
Ozone Resistance	ASTM D1171	Passed, no cracking at 600 pphm
Chemical Resistance	ASTM D471	Meet or exceed specific testing standards for contained fluids as required by Owner and certified by Manufacturer
Green Certification	GreenSpec	Approved

Flexible TPV Waterstop for Concrete Joints

Waterstop indicated in drawings and specifications for contraction (control), expansion, and construction joints shall be Earth Shield® Thermoplastic Vulcanizate (TPV) Part No. #### [Designer insert appropriate part number here] as manufactured and available from J P Specialties, Inc. – Murrieta, CA, USA 92562 – Phone 800-821-3859; 951-763-7077; www.jpspecialties.com; E-mail jpspec@jpspecialties.com

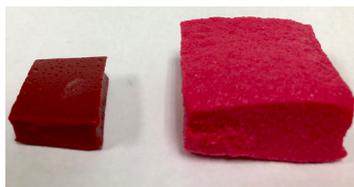
1. Thermoplastic Vulcanizate (TPV) Waterstop shall be certified for use in potable water per NSF/ANSI Standard 61. Third-party certified documentation to be provided by manufacturer.
2. All waterstop welders on the jobsite shall be Manufacturer-certified as waterstop installers. (Certificate in job file).
3. A complete waterstop location map (including all straight runs and change of directions) is required at submittal.
4. Intersection and change of direction waterstops shall be factory fabricated as manufactured and available from J P Specialties, Inc.
5. Quality Assurance – Edge welding will not be permitted. Centerbulbs shall be compressed or closed when welding to non-centerbulb type. Waterstop splicing defects which are unacceptable include, but are not limited to the following:
 - A. Tensile strength not less than 60 percent of parent sections
 - B. Free lap joints.
 - C. Misalignment of centerbulb, ribs, and end bulbs greater than 1/16 inch.
 - D. Misalignment which reduces waterstop cross section ore than 15 percent.
 - E. Bond failure at joint deeper than 1/16 inch or 15 percent of material thickness.
 - F. Misalignment of waterstop splice resulting in misalignment of waterstop in excess of 1/2 inch in 10 feet.
 - G. Visible porosity in the weld.
 - H. Charred or burnt material.
 - I. Bubbles or inadequate bonding.
 - J. Visible signs of splice separation when cooled splice (24 hours or greater) is bent by hand at sharp angle.
6. No equals or substitutions allowed.

MCR WATERSTOP

NSF 61 Certified MCR Waterstop for Concrete



Type NB190®



Type NB190® is a modern, hydrophilic chloroprene rubber waterstop with unmatched durability and water sealing capabilities. Manufactured NON-BENTONITE, modified chloroprene rubber, Type NB190® more than doubles its original size (400% in 36 days) when exposed to water. This expansion creates an effective compression seal within joints of limited to no movement. Type NB190® can expand and reexpand unlimited times with virtually no loss of physical properties. Additionally, Type NB190® has excellent resistance to many chemicals, is heat-resistant, and is NSF 61 certified-safe for drinking water.



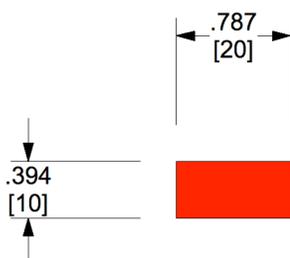
SUSTAINABILITY



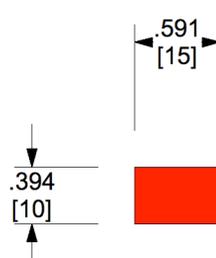
NSF 61 & 372
CERTIFIED



Popular MCR Waterstop Profiles
(Complete profiles on website)
– See QR Code



Profile A
For concrete
construction joints and
pipe penetrations



Profile B
For concrete
construction joints with
minimal concrete clear
cover



Profile C
For joint repair and
special applications

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CONTAINMENT ®” CALL “THE WATERSTOP
EXPERTS” AT 800-821-3859 (951-763-7077)
WWW.JPSPECIALTIES.COM

Water and wastewater treatment plants, pipe penetrations, storage tanks, slab on grade, foundations, tunnel segments



Type NB190® Hydrophilic Waterstop Paste

Earth Shield® Type NB190® Hydrophilic Waterstop Paste is for use in concrete cold joints, pre-cast joints, tunnel segments, pipe penetrations, and as an optional adhesive for Type NB190® hydrophilic chloroprene rubber waterstops. The product has a 250% expansion when immersed in fresh water for 30 days.

Suggested Proprietary Short Form Guide Specification

Waterstop indicated in drawings and specifications for non-moving construction joints shall be Earth Shield® Modified Chloroprene Strip Applied Waterstop Type NB190® Profile No. #### [Designer insert appropriate profile number here [A, B, or C]] as manufactured by J P Specialties, Inc.; Murrieta, CA 92562; Phone 951-763-7077

1. Earth Shield® Modified Chloroprene Strip Applied Waterstop shall be manufactured from chloroprene and contain no bentonite.
2. Earth Shield® Modified Chloroprene Strip Applied Waterstop shall have a maximum compression set of 45% or under.
3. Minimum concrete cover shall be no less than 3 inches.
4. Adhere to concrete using Type NB190® Adhesive.
5. No equals or substitutions allowed.

- Comprised of **NON-BENTONITE**, modified chloroprene rubber
- 100-plus year lifespan
- Simple, low cost installation
- Ideal for retrofit and new construction
- Most profiles have a minimum of 231 ft (100 psi) resistance to water head pressure

Type NB190® more than doubles its original size when exposed to water, creating an effective compression seal within concrete construction joints of limited to no movement.

METAL WATERSTOP

Stainless Steel Waterstop

EARTH SHIELD® STAINLESS STEEL WATERSTOP CAN STOP EVEN THE MOST CORROSIVE FLUIDS IN THEIR TRACKS, EVEN AT SEVERELY ELEVATED TEMPERATURES. A VARIETY OF METALS, GRADES, AND GAUGES ARE AVAILABLE. EARTH SHIELD® UTILIZES 20 GAUGE 316 LOW CARBON AS OUR STANDARD ALLOY, WHICH OFFERS BROAD-SPECTRUM CORROSION RESISTANCE TO MOST AGGRESSIVE MEDIA, AND IS VIRTUALLY UNTOUCHED BY THE DELETERIOUS EFFECTS OF OZONE, MAKING IT AN IDEAL CHOICE FOR OZONE CONTACTOR STRUCTURES USED IN MODERN WATER TREATMENT PLANTS.

Install Earth Shield® Stainless Steel Waterstop in all concrete joints. Waterstop should be centered in, and run the extent of the joint. All changes of directions should be prefabricated (see Shop Made Fittings), leaving only butt-welding for the field. Splices in stainless steel waterstops shall be welded using a TIG (recommended) or MIG process utilizing a welding rod to match the stainless (weld rod: 316ELC; diameter – .035 to .045). Repair damaged waterstops by removing damaged portions and patching. Patches shall overlap a minimum of 1 inch onto an undamaged portion of the waterstop. Weld all straight run material edge-to-edge (no overlapping). If installed in an expansion joint, assure backside (or open end of the center “V”) is covered completely with tape and the annulus (between tape and waterstop) is filled with 7/8” diameter backer rod before concrete pour. The tape and backer rod allows the center “V” to remain open allowing for joint movement. (Tape and backer rod is not necessary for non-moving contraction and construction joints.) More detailed installation instructions are in our Standard 3-part Specifications.



SUSTAINABILITY



RECYCLABLE

Profiles on Website
— See QR Code



Primary and secondary containment, Wastewater treatment plants, refineries, ozone contactors, fueling areas, chemical factories, LNG plants, fire resistance

STOP

Carbon Steel Waterstop

EARTH SHIELD® CARBON STEEL WATERSTOP IS AVAILABLE IN A VARIETY OF GRADES, GAUGES, WIDTHS, AND FINISHES. ALL WATERSTOP IS MADE TO ORDER TO THE REQUIRED ASTM OR SPECIFICATION REQUIREMENTS.

Many projects, especially those designed by Black & Veatch Engineers, require the use of Carbon Steel Waterstop. J P Specialties manufactures Carbon Steel Waterstop in a variety of shapes, gauges, and grades.

Reference ASTM Specifications – Hot-Rolled Carbon

ASTM A569 – Standard Specification for Steel, Carbon (0.15 Maximum, Percent), Hot-Rolled sheet and Strip Commercial.

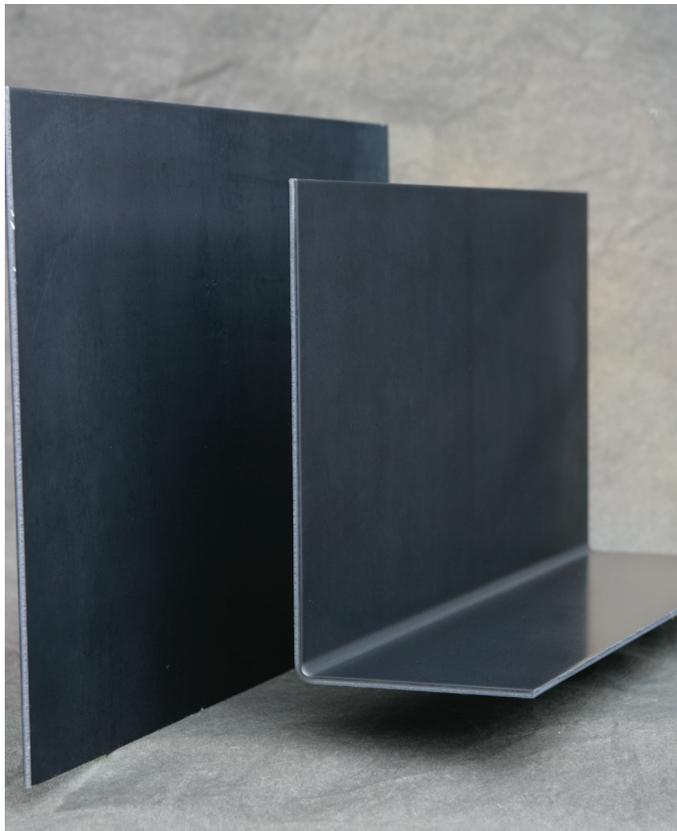
ASTM A505 – Standard Specification for Steel, Sheet and Strip, Alloy, Hot-Rolled and Cold-Rolled, General Requirements For.

ASTM A506 – Standard Specification for Steel, Sheet and Strip, Alloy, Hot-Rolled and Cold-Rolled, Regular Quality and Structural Quality.

ASTM A570 – Standard Specification for Steel, Sheet and Strip, Alloy, Carbon, Hot-Rolled (Replaced by ASTM A1011).

ASTM A1011 – (Replaces ASTM A570) Standard Specification for Steel, sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low Alloy with Improved Formability.

ASTM A36 – Standard Specification for Carbon Structural Steel.



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SERVICES

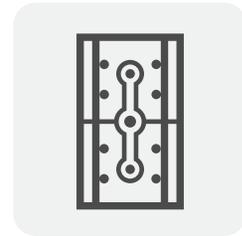
[HTTPS://CALENDLY.COM/WATERSTOP](https://calendly.com/waterstop)

WE PROVIDE TECHNICAL SUPPORT FOR A COMPLETE RANGE OF WATERSTOPS AND WATERSTOP ACCESSORIES. OUR WATERSTOP PRODUCTS (PVC, TPV, STAINLESS STEEL, AND STRIP-APPLIED) HAVE THE BEST PHYSICAL PROPERTIES IN THE INDUSTRY, AND MORE IMPORTANTLY, WE PROVIDE UNMATCHED SERVICE AND TECHNICAL SUPPORT.



Waterstop Engineering Webinar

Waterstops for Environmental Compliance of Liquid Tight Concrete Structures is a targeted course of instruction and professional development for engineering firms engaged in the design of chemical, industrial, and environmental projects. The course is technical in nature and describes waterstops role in fluid-proofing concrete joints, chemical resistant polymers and steels, and state and federal regulations of compliance. The course is one (1) hour time frame. The course is certified for one (1) Professional Development Hour (PDH) credit.



One-on-One Zoom Meeting

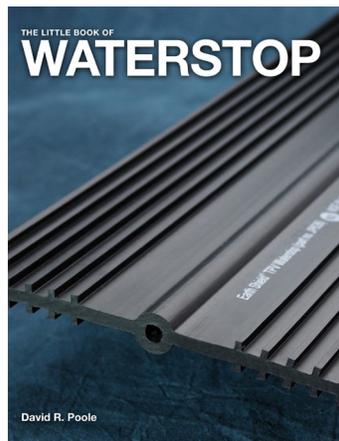
Discuss your waterstop application with our technical engineering team.





Waterstop Welding Webinar

J P Specialties is a leading manufacturer of waterstop and we have presented our plastic welding certification course to hundreds of contractors all over the world. This training program is a live interactive broadcast from our manufacturing facility and our trainers present an on-camera program that is the same as we teach in person. The job site crew can observe, interact, and ask clarification questions. Our expert staff will work hand in hand with the contractor's on-site leader and his crew so they can learn correct waterstop welding procedures to make liquid tight joints.

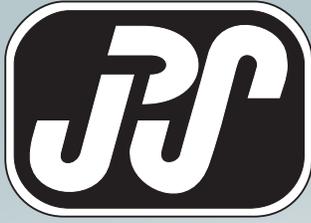


Earth Shield® Waterstop Limited Warranty

J P Specialties, Inc. warrants to the Buyer that this product is new and will be free from defects and will perform as represented in writing subject to the two (2) following conditions: First, the application of the product and the concrete construction practices used in the application are in accordance with J P Specialties, Inc. recommendations; and, Second, the Buyer has selected the proper product for the specific application required. Any information supplied in good faith by J P Specialties, Inc. with respect to its products is believed to be correct. J P Specialties, Inc. Makes no representation or warranties, expressed or implied, as to the accuracy or completeness of such information. The exclusive remedies of the Buyer and the limit of the liability of J P Specialties, Inc. from any and all losses or damages resulting from the use of this product shall be either full refund of the purchase price to the Buyer of this product or the replacement of the quantity of product purchased by the Buyer at the discretion of J P Specialties, Inc.

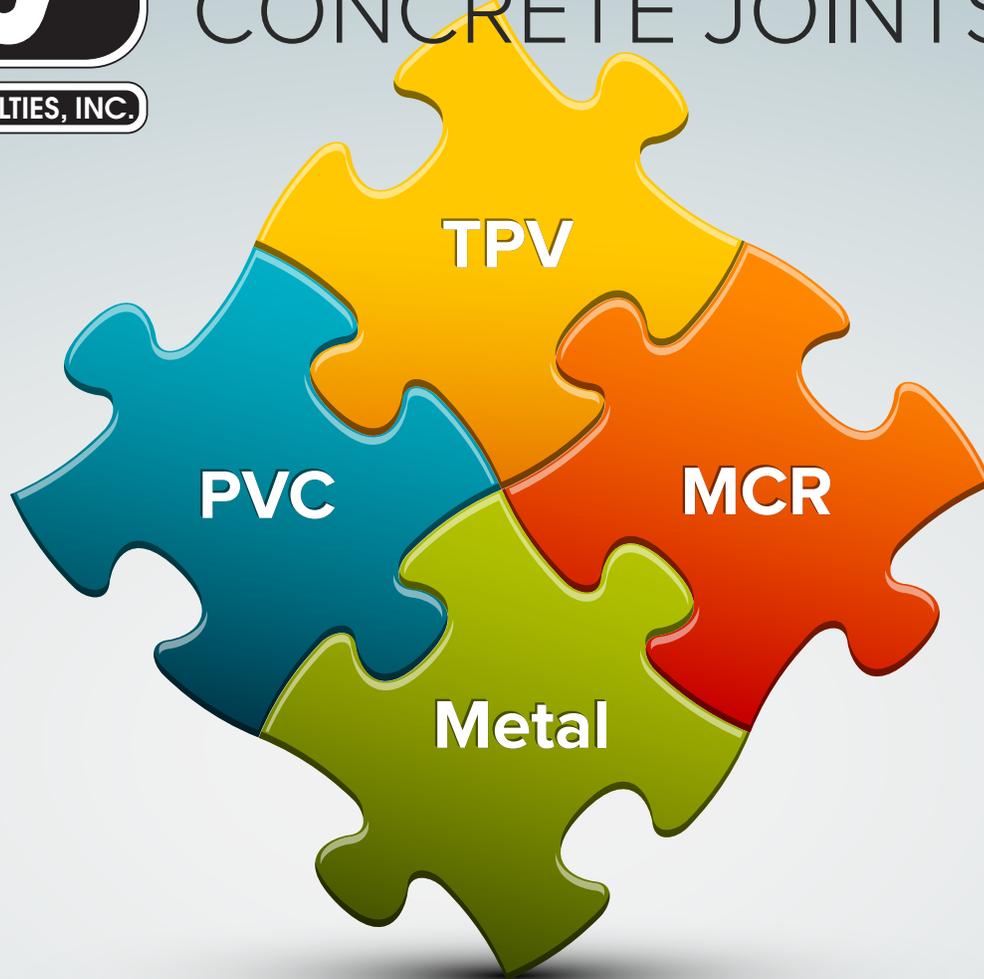
All supplied testing data has been performed by independent testing laboratories.





J P SPECIALTIES, INC.

WATERSTOPS FOR CONCRETE JOINTS



EARTH SHIELD® at WWW.JPSPECIALTIES.COM

J P Specialties, Inc. provides technical support for a complete range of waterstops and waterstop accessories. Our waterstop products (PVC, TPV, stainless steel, and MCR strip-applied) have the best physical properties in the industry, and more importantly, we provide unmatched service and technical support. J P Specialties also provides on-site and on-line waterstop welding schools and certifies attendees for the proper welding of waterstops.

WWW.JPSPECIALTIES.COM

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