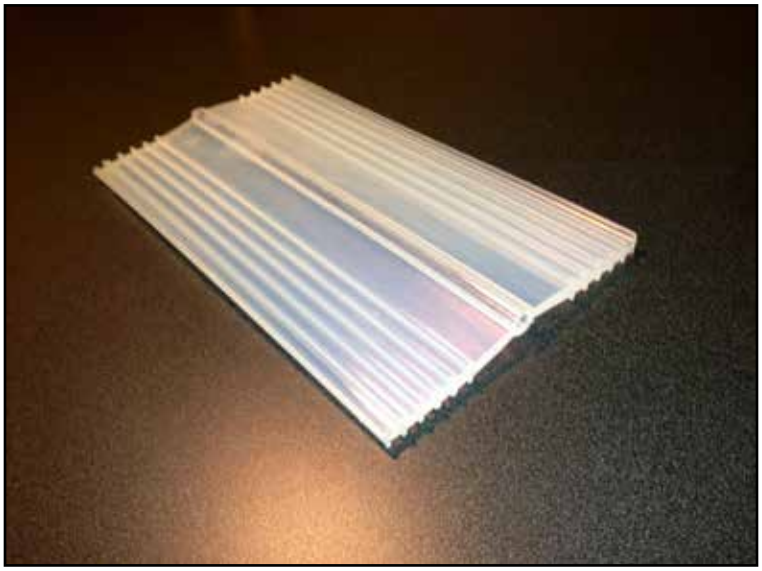
EARTH SHIELD®

HDPE
copolymer

Waterstops for Fuel, Petroleum, & Other Hydrocarbon Applications



Earth Shield® HDPE Waterstop offers the "clear advantage" for fuel containment, including diesel and ASTM oils.

Our newest product — Earth Shield® HDPE Waterstop — is a specialized thermoplastic copolymer that is ideally suited for hot petroleum oils, diesel fuel, arromatic hydrocarbons, industrial solvents, and other aggressive, non-polar fluids that would cause significant softening and swelling of other waterstop polymers.

Earth Shield® HDPE Waterstop is available in all the same shapes and profiles as our industry-leading, chemical resistant, Earth Shield® TPV polymer.

Earth Shield® Chemical Resistant Waterstop
Phone: 800-821-3859; 951-763-7077
Fax: 951-763-7074
www.earthshield.com
J P SPECIALTIES, INC.

Earth Shield® High Density Polyethylene (HDPE) Waterstop Basic Use

Earth Shield® HDPE Waterstop 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 ideally suited for fuel, oil, and other hydrocarbon applications.

Unlike polyvinyl chloride (PVC) waterstop, **Earth Shield® waterstop contains no plasticizer, stabilizer, or filler to leech out when exposed to chemicals, fuels, and aggressive industrial fluids**.

The superior chemical resistance of Earth Shield® HDPE Waterstop is enhanced by the use of a ribbed centerbulb configuration, which is available in a 4, 6, and 9-inch width. This provides for greater mechanical bonding with the concrete and a barrier against migration of liquid flow around the waterstop. The ribbed centerbulb style also allows for joint movement and may be used in above or below grade applications. Additional shapes are available for retrofit, extreme expansion, stainless steel and base seal applications.

Typical Applications

- *Primary and secondary containment*
- *Refineries*
- *Mining facilities*
- *Fueling areas*
- *Chemical factories*
- *Liner applications*

Installation

Install Earth Shield® HDPE 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. 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 380°F to 410°F.

More detailed installation instructions can be found in our Standard 3-part Specifications.

Technical Assistance

Qualified technical assistance is available during any phase of your construction project.

Specifications

Standard 3-part Specifications are available at our website in Microsoft® Word and Adobe® PDF format, and upon request in printed and a variety of computer word processor formats. Call our Technical Sales Staff for additional help with your specification.

Suggested Proprietary Short Form Guide Specification Section 03150 (Master Format 2004 — 03 15 13)

HDPE Chemical Resistant Waterstop

Waterstop indicated in drawings and specifications for contraction (control), expansion and construction joints shall be Earth Shield® HDPE Chemical Resistant Waterstop Part No. #### [Designer insert appropriate part number here] as manufactured by JP Specialties, Inc.; Murrieta, CA 92562; Phone 951-763-7077

1. *High Density Polyethylene (HDPE) Waterstop shall conform to EPA Title 40 CFR Section 265.193. The suitability of the waterstop for a specific application should be determined by specific testing for that particular requirement per ASTM D471. Project-specific certification to be provided by the manufacturer.*
2. *No equals or substitutions allowed.*

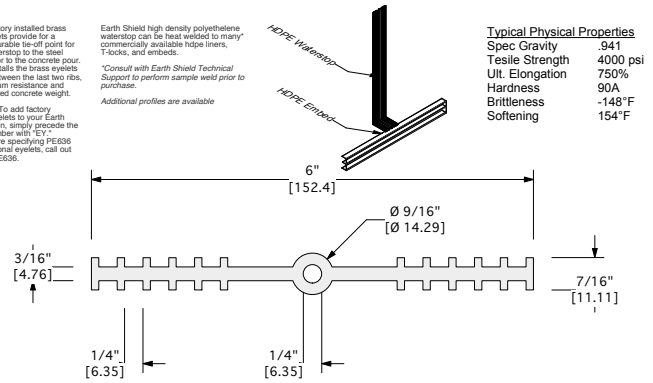
Available with factory installed brass eyelets. The eyelets provide for a convenient and durable tie-off point for wire tying the waterstop to the steel reinforcement prior to the concrete pour. JP Specialties installs the brass eyelets at 12" centers, between the last two ribs, to provide maximum resistance and rigidity to the poured concrete weight.

Note to specifier: To add factory installed brass eyelets to your Earth Shield specification, simply precede the specified part number with "EY". Example: If you are specifying PE636 and want the optional eyelets, call out part number EYPE636.

Earth Shield high density polyethelene waterstop can be heat welded to many* commercially available hdpe liners, T-locks, and embeds.

Consult with Earth Shield Technical Support to perform sample weld prior to purchase.

Additional profiles are available



Typical Physical Properties

Spec Gravity	.941
Tesile Strength	4000 psi
Ult. Elongation	750%
Hardness	90A
Brittleness	-148°F
Softening	154°F

Suggested Short Form Spec

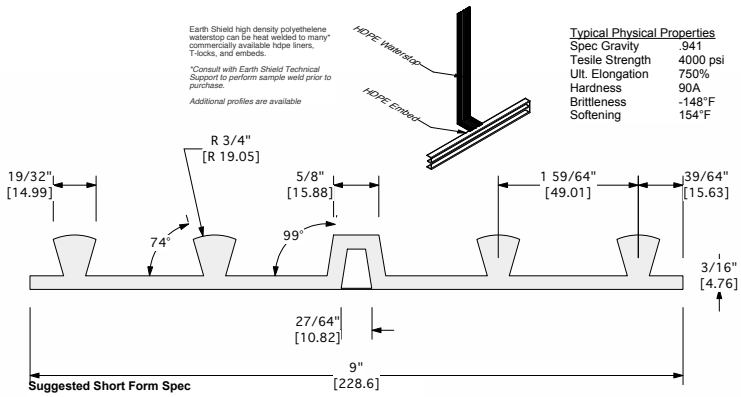
Flexible Waterstop
Waterstop indicated in drawings and specifications for contraction (control), expansion and construction joints to be Earth Shield® Polyethylene (PE) **Part No. PE636** as manufactured by **JP Specialties, Inc.** - 25811 Jefferson Avenue, Murrieta, CA 92562 - Phone 888-836-5778; International 951-763-7077; Fax 951-763-7074; Web www.earthshield.com; E-mail davidp@earthshield.com
1. Certified resistance to fuel, diesel fuel, and jet fuel.
2. No equals or substitutions allowed.

JP Specialties, Inc. / Earth Shield®		
www.jpspecialties.com phone 800-821-3859• international 951-763-7077• fax 951-763-7074		
TITLE: 6" RCB PE Waterstop		
PART NUMBER: PE636	DRAWN BY: DRP	DATE: 06/11
CAD FILE NAME: PE636	APPROVALS:	SIZE: A

Earth Shield high density polyethelene waterstop can be heat welded to many* commercially available hdpe liners, T-locks, and embeds.

Consult with Earth Shield Technical Support to perform sample weld prior to purchase.

Additional profiles are available



Typical Physical Properties

Spec Gravity	.941
Tesile Strength	4000 psi
Ult. Elongation	750%
Hardness	90A
Brittleness	-148°F
Softening	154°F

Suggested Short Form Spec

Flexible Waterstop
Waterstop indicated in drawings and specifications for contraction (control), expansion and construction joints to be Earth Shield® Polyethylene (PE) **Part No. PE211** as manufactured by **JP Specialties, Inc.** - 25811 Jefferson Avenue, Murrieta, CA 92562 - Phone 888-836-5778; International 951-763-7077; Fax 951-763-7074; Web www.earthshield.com; E-mail davidp@earthshield.com
1. Certified resistance to fuel, diesel fuel, and jet fuel.
2. No equals or substitutions allowed.

JP Specialties, Inc. / Earth Shield®		
www.jpspecialties.com phone 800-821-3859• international 951-763-7077• fax 951-763-7074		
TITLE: 9" Base Seal PE Waterstop		
PART NUMBER: PE211	DRAWN BY: DRP	DATE: 03/13
CAD FILE NAME: PE211	APPROVALS:	SIZE: A

Property	Test Method	Required Results
Specific Gravity	ASTM D792	.941
Shore A Hardness (5 sec.)	ASTM D2240	90±3 at 25°C (77°F)
Tensile Strength	ASTM D412	4,000 psi
Ultimate Elongation	ASTM D412	750%
Softening		154°F
Brittle Point	ASTM D746	-100°C (-148°F)
Chemical Resistance	ASTM D471	Meet or exceed specific testing standards for contained fluids as required by Owner and certified by Manufacturer

Earth Shield® HDPE Waterstop can be heat welded to polyethylene liners and their associated embed anchors.

Other Profiles Available

Visit Earth Shield® on the Web at

www.earthshield.com

for all our other available profiles

Availability

National and International Warehouses

Earth Shield® Chemical Resistant Waterstop is readily available from a variety of sources:

- **Preferred Regional Stocking Partners** — *We are partners with some of the very best Concrete Accessories Distributors in the world. All our preferred partners have large stocking inventories and are factory trained to provide the utmost in on-site assistance.*
- **Distributor Sales** — *Earth Shield® can be special ordered from many distributor sales channels throughout the world.*
- **Factory Direct** — *Earth Shield® may be contacted directly for project quotation and product purchase (call 800-821-3859).*
- **Web Store** — *Earth Shield® products can be ordered directly on our web store at http://waterstop.enstore.com*

Services

- *Project and Product Certification — We assist the Design Engineer and Project Owner with individual project and product certification.* **When you specify our waterstop, you can be assured it is the correct product for your application.**
- *Take-off Assistance — For the Contractor.*
- *Shop Drawings— 3-D isometric and 2-D CAD details are available to assist the project.*
- *On-site waterstop welding certification class — $500.00 flat fee*
- *On-site waterstop installation assistance — $1,000.00 per day*
- *Telephone and Web-based assistance — Always FREE*

Distributed by:

Visit Earth Shield® on the Web at

www.earthshield.com

Earth Shield® Waterstop Limited Warranty

JP 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 JP Specialties, Inc. recommendations; and, Second, the Buyer has selected the proper product for the specific application required.

Any information supplied in good faith by JP Specialties, Inc. with respect to its products is believed to be correct. JP 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 JP 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 JP Specialties, Inc.

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

Earth Shield® Chemical Resistant Waterstop
Phone: 800-821-3859; 951-763-7077
Fax: 951-763-7074
www.earthshield.com
J P SPECIALTIES, INC.
www.facebook.com/waterstop

Publication Date March 2013 • Earth Shield®, The Primary Choice for Secondary Containment®, and CAPwrap® are registered trademarks of JP Specialties, Inc.

SECTION 03150 — WATERSTOPS FOR CONCRETE JOINTS — rev. 10/10/13
***** MasterFormat™ 2004 — Section 03 15 13 *****

Note to Designer: Earth Shield® Chemical Resistant Waterstop is manufactured from proprietary compounds. It is strongly suggested that you specify Earth Shield as a sole source. There are no equals.

This specification is available in a variety of computer formats on CD-ROM or DVD. Contact Earth Shield Technical Sales for more information. It can also be found on the web at www.earthshield.com.

Suggested Short Form Guide Specification

Chemical Resistant HDPE Waterstop for Concrete Joints
Waterstop indicated in drawings and specifications for contraction (control), expansion, and construction joints shall be Earth Shield® High Density Polyethylene (HDPE) **Part No. ####** [Designer insert appropriate part number here] as manufactured and available from **JP Specialties, Inc.** — Murrieta, CA, USA 92562 — Phone 800-821-3859; 951-763-7077; Fax 951-763-7074; www.earthshield.com; E-mail davidp@earthshield.com

1. *High Density Polyethylene (HDPE) Waterstop shall conform to EPA Title 40 CFR Section 265.193. The suitability of the waterstop for a specific application should be determined by specific testing for that particular requirement per ASTM D 471. Project-specific certification to be provided by the manufacturer.*
2. *No equals or substitutions allowed.*

HDPE Waterstop Shop Made Fittings for Directional Changes
Intersection and change of direction waterstops shall be factory fabricated as manufactured and available from **JP Specialties, Inc.** — Murrieta, CA, USA 92562 — Phone 800-821-3859; 951-763-7077; Fax 951-763-7074; Web www.earthshield.com; E-mail davidp@earthshield.com and installed at all locations on the drawing by the Contractor. The Contractor shall only weld straight lengths of waterstop with all change of directions (fittings) being fabricated and supplied by Manufacturer.

1. *No equals or substitutions allowed.*

Suggested Long Form Guide Specification

PART 1 GENERAL

1. Provision Includes
   A. Embedded waterstop in concrete including contraction, expansion and construction joints creating a continuous diaphragm to prevent the passage of fluid.
   B. The use of nonmetallic waterstops for use in concrete joints subjected to chlorinated water, sea water, oils, solvents, acids, salts, fuels and many other aggressive chemicals and fluids.

1. References
The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
   A. American Society for Testing and Materials (ASTM)
      1. ASTM D 412 — Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers — Tension.
      2. ASTM D 471 — Test Method for Rubber Properties – Effects of Chemicals.
      3. ASTM D 746 — Test Method for Brittleness Temperature of Plastics by Impact.
      4. ASTM D 792 — Test Method for Specific Gravity (Gravity Density) and Density of Plastics by Displacement.
      5. ASTM D 2240 — Test Method for Shore Hardness.
   B. Federal Specifications
      1. COE CEGS-03250 July 1995 Guide Specification for Military Construction.

2. EPA Title 40 CFR Section 265.193.

C. American Concrete Institute
1. ACI 350.2R-04 — Concrete Structures for Containment of Hazardous Wastes.

D. Canadian Council of Ministers of the Environment
1. Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products.

3. Submittal Procedures

A. Chemical Resistant HDPE Waterstop
1. Earth Shield HDPE Waterstop submittal shall contain the following:
   a. Samples of each size and shape to be used.
   b. Plate drawings of the waterstop profile indicating all dimensions.
   c. Shop drawings of shop made fittings to be provided by the manufacturer or prepared by the contractor.
   d. Manufacturer's Literature, MSDS sheets, installation, safety, and splicing instructions.

2. Chemical Resistant HDPE Waterstop and Splices — Specimens identified to indicate manufacturer, type of material, size, quantity of material, and shipment or lot represented. Each sample shall be not less than 6 inches long of each type, size, and lot furnished. One splice sample of each size and type for every 50 splices made in the shop and every 10 splices made at the job site. The splice samples shall be made using straight run pieces with the splice located at the mid-length of the sample and finished as required for the installed waterstop. The total length of each splice shall be not less than 12 inches long.

4. Delivery and Storage

Material delivered and placed in storage shall be stored off the ground and protected from moisture, dirt, and other contaminants.

PART 2 PRODUCTS

1. Chemical Resistant HDPE Waterstop

Intersection and change of direction waterstops shall be factory fabricated.

A. Manufacturer:
JP Specialties, Inc. — Murrieta, CA, USA 92562 — Phone 800-821-3859; 951-763-7077; Fax 951-763-7074; Web www.earthshield.com; E-mail davidp@earthshield.com

B. Chemical Resistant Non-Metallic Waterstops — Non-metallic waterstops shall be manufactured from High Density Polyethylene (HDPE), containing no plasticizer, mineral fillers, scrap or reclaimed material.
1. High Density Polyethylene (HDPE) Waterstop shall conform to EPA Title 40 CFR Section 265.193. The suitability of the waterstop for a specific application should be determined by specific testing for that particular requirement by ASTM D 471.

High Density Polyethylene (HDPE) Waterstop shall conform to the following typical physical properties:

Property	Test Method	Required Results
Specific Gravity	ASTM D 792	0.941
Shore A Hardness (5 sec.)	ASTM D 2240	90±3 at 25°C (77°F)
Tensile Strength	ASTM D 412	4,000 psi
Ultimate Elongation	ASTM D 412	750%
Softening		154°F
Brittle Point	ASTM D 746	-100°C (-148°F)

Property	Test Method	Required Results
Chemical Resistance	ASTM D 471	Meet or exceed specific testing standards for contained fluids as required by Owner and *certified* by Manufacturer.

Unless otherwise specified or indicated on the drawings provide the following types:

1. **Part No. PE436** — 4” x 3/16” ribbed centerbulb, as manufactured by **JP Specialties, Inc.** *(all-purpose waterstop; if specified with factory installed brass eyelets use part no. EYPE436)*
2. **Part No. PE636** — 6” x 3/16” ribbed centerbulb, as manufactured by **JP Specialties, Inc.** *(all-purpose waterstop; if specified with factory installed brass eyelets use part no. EYPE636)*
3. **Part No. PE936** — 9” x 3/16” ribbed centerbulb, as manufactured **JP Specialties, Inc.** *(all-purpose waterstop; if specified with factory installed brass eyelets use part no. EYPE936)*
4. **Part No. PE678** — 6” x 3/16” ribbed tear web, as manufactured by **JP Specialties, Inc.** *(for extreme joint movement; if specified with factory installed brass eyelets use part no. EYPE678)*
5. **Part No. PE978** — 9” x 3/16” ribbed tear web, as manufactured by **JP Specialties, Inc.** *(for extreme joint movement; if specified with factory installed brass eyelets use part no. EYPE978)*
6. **Part No. PE211** — 9” x 3/16” base seal, as manufactured by **JP Specialties, Inc.** *(for runway and pavement applications)*
7. **Part No. PE320L** — 3” x 3/16” tear web retrofit, as manufactured by **JP Specialties, Inc.** *(for joining concrete to existing surface; if specified with factory installed brass eyelets use part no. EYPE320L)*
8. **Part No. PE336L** — 3” x 3/16” retrofit, as manufactured by **JP Specialties, Inc.** (*for joining concrete to existing surface; if specified with factory installed brass eyelets use part no. EYPE336L)*
9. **Part No. PE621L** — 4-1/2” x 3/16” large movement retrofit, as manufactured by **JP Specialties, Inc.** (*for joining concrete to existing surface; large shear movements)*
10. **Part No. PE325T** — 3” x 3/16” T-shaped retrofit, as manufactured by **JP Specialties, Inc.** *(for joining concrete to existing surface; if specified with factory installed brass eyelets use part no. EYPE325T)*
11. **Part No. PE450T** — 5” x 3/16” T-shaped retrofit, as manufactured by **JP Specialties, Inc.** *(for joining concrete to existing surface; if specified with factory installed brass eyelets use part no. EYPE450T)*
12. **Part No. PE500** — 4.5” x 3/16” post-applied flat retrofit, as manufactured by **JP Specialties, Inc.** *(for post-applied, surface sealing)*
13. **Part No. PE540L** — 4.5” x 3/16” post-applied corner retrofit, as manufactured by **JP Specialties, Inc.** *(for for post-applied, surface to wall sealing)*
14. **Part No. PE647** — 6” x 1/4” dumbbell, as manufactured by **JP Specialties, Inc.** *(for construction joints)*
15. **Part No. PE648** — 6” x 3/8” dumbbell, as manufactured by **JP Specialties, Inc.** *(especially designed for Carollo Engineers [construction joints])* NSF
16. **Part No. PE948** — 9” x 3/8” dumbbell, as manufactured by **JP Specialties, Inc.** *(for construction joints)*
17. **Part No. PE949** — 9” x 3/8” dumbbell centerbulb, as manufactured by **JP Specialties, Inc.** *(especially designed for Carollo Engineers [expansion joints])*
18. **Part No. PE1149** — 12” x 3/8” dumbbell centerbulb, as manufactured by **JP Specialties, Inc.** *(especially designed for Carollo Engineers [expansion joints])*
19. **Part No. PE158** — 1” screed key cap, as manufactured by **JP Specialties, Inc.** *(designed for keyed joints)*
20. **Part No. PE1225** — 1” integrated screed key cap seal waterstop, as manufactured by **JP Specialties, Inc.** *(designed for keyed joints; if specified with factory installed brass eyelets use part no. EYPE1225)*

21. **Part No. PEEB350** — 1/2" integrated cap seal waterstop, as manufactured by **JP Specialties, Inc.** *(designed for expansion joints; if specified with factory installed brass eyelets use part no. PEJPEB350)*
22. **Part No. PEEB375** — 3/4" integrated cap seal waterstop, as manufactured by **JP Specialties, Inc.** *(designed for expansion joints; if specified with factory installed brass eyelets use part no. PEJPEB375)*
23. **Part No. PEEB375R** — 3/4" integrated cap seal retrofit waterstop, as manufactured by **JP Specialties, Inc.** *(designed for expansion joints; if specified with factory installed brass eyelets use part no. EYPEEB375R)*

PART 3 EXECUTION

1. Waterstop, Installations and Splices — Waterstops shall be installed at the locations shown to form a continuous fluid-tight diaphragm. Adequate provision shall be made to support and completely protect the waterstops during the progress of the work. Any waterstop punctured or damaged shall be repaired or replaced. Exposed waterstops shall be protected during application of form release agents to avoid being coated. Suitable guards shall be provided to protect exposed projecting edges and ends of partially embedded waterstops from damage when concrete placement has been discontinued. Splices shall be made by certified, trained personnel using approved equipment and procedures.
   A. Non-Metallic Shop Made Fittings — Fittings shall be shop made using a machine specifically designed to mechanically weld the waterstop. A miter guide, proper template (profile dependent), and portable power saw shall be used to miter cut the ends to be joined to ensure good alignment and contact between joined surfaces. The splicing of straight lengths shall be done by squaring the ends to be joined and using an ST-10® waterstop splicing tool. Continuity of the characteristic features of the cross section of the waterstop (ribs, tabular center axis, protrusions, etc.) shall be maintained across the splice.
   B. High Density Polyethylene Waterstop — The splicing of straight lengths shall be done by squaring the ends to be joined and using an ST-10® waterstop splicing tool utilizing a thermoplastic splicing iron with a non-stick surface specifically designed for waterstop welding. The correct temperature (410°F to 430°F) shall be used to sufficiently melt without charring the plastic. The spliced area, when cooled, shall show no signs of separation, holes, or other imperfections when bent by hand in as sharp an angle as possible.

2. Preparation
   A. Uncoil waterstop 24 hours prior to installation for ease of handling and fabrication.
   B. Position waterstop to ensure proper distance from steel reinforcing bars to prevent rock pockets and honeycomb (see installation section 3.04).
   C. Protect waterstop from damage during progress of work.
   D. Clean concrete joint after first pour to remove debris and dirt.

3. Examination/Inspection
   A. Prior to placement of concrete notify engineer for field inspection approval.
   B. Inspect waterstop and field splices for defects and conformance to Quality Assurance Standard section 3.05.
   C. Upon inspection of waterstop installation, replace any damaged or unacceptable waterstop and dispose of defective material.

4. Installation
   A. Position waterstop in joint as indicated on drawings.
   B. Center waterstop on joint, with approximately one-half of waterstop width to be embedded in concrete on each side of the joint.

C. Allow clearance between waterstop and reinforcing steel of a minimum two times the largest aggregate size. Prevent rock pockets and air voids caused by aggregate bridging.
D. Ensure centerbulb is not embedded at expansion joints.
E. Secure waterstop in correct position using optional factory-installed brass eyelets (or JPS hog rings crimped between last two ribs on 12 inch maximum centers), and wire tie to adjacent reinforcing steel. Center-to-center spacing may be increased upon written request and approval from ENGINEER.
F. Carefully place concrete without displacing waterstop from proper position.
G. Thoroughly and systematically vibrate concrete in the vicinity of the joint, and to maximized intimate contact between concrete and waterstop.
H. After first pour, clean unembedded waterstop leg to ensure full contact of second concrete pour. Remove laitance, spillage, form oil and dirt.

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.

All information is presented in good faith and the results are believed to be accurate. All testing was done independently of Earth Shield and JP Specialties, Inc.; therefore, neither Earth Shield nor JP Specialties, Inc. makes any guarantee as to the testing data accuracy or the results obtained.

END OF SECTION

MATERIAL SAFETY DATA SHEET

FILE NO.: Earth Shield® HDPE Waterstop
MSDS DATE: 07/17/2013

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Earth Shield® HDPE Waterstop
PRODUCT DESCRIPTION: HDPE Copolymer Waterstop

MANUFACTURER: JP Specialties, Inc.
ADDRESS: 25811 Jefferson Ave Murrieta, CA 92562

EMERGENCY PHONE: 1-800-821-3859
FAX PHONE: 1-951-763-7074

SECTION 2: HAZARDS IDENTIFICATION

ROUTES OF ENTRY:

EYES: Yes

SKIN: Yes

INGESTION: Not probable

INHALATION: Yes

HEALTH HAZARDS (Acute & Chronic): Processing temperatures that exceed those described in Section 7, Sub Section "Conditions to Avoid", may evolve fumes irritating to the eyes, nose and throat. Exposure may result in reddening, tearing and itching of the eyes and soreness in the nose and throat together with coughing. May irritate skin. Resin particles, like other inert materials, are mechanically irritating to eyes.

SIGNS AND SYMPTOMS OF EXPOSURE: Eye, nose or throat irritation. Reddening, tearing or itching of the eyes. Soreness in nose or throat. Coughing. Skin irritation.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Not available

TOXICOLOGICAL DATA:

NTP: No
I.A.R.C: No
OSHA: No

COMPONENT	**TEST RESULTS**
ETHYLENE COPOLYMER	Dermal Rabbit: No irritation Optical Rabbit: No irritation Repeated dose toxicity: Oral - feed rat liver effects

FURTHER INFORMATION: The substance is a polymer and is not expected to produce toxic effects.

SECTION 3: FIRST AID MEASURES

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT: The material is not likely to be hazardous by skin contact but cleaning the skin after use is advisable. Cool skin rapidly with cold water after contact with molten material. Do not attempt to remove material from the skin. Obtain medical treatment for thermal burn. Wash contaminated clothing before reuse.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

INGESTION: In case of accidental ingestion, call a physician.

SECTION 4: FIRE-FIGHTING MEASURES

APPEARANCE AND ODOR: Clear waterstop profile with mild ester-like odor (odor threshold is not available)

SOLUBILITY IN WATER: Negligible

FIRE AND EXPLOSION DATA

FLASH POINT: 260°C (500°F) **TEST METHOD:** C.O.C.

EXTINGUISHING MEDIA: Water, Foam, Dry chemical, Carbon dioxide (CO2)

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective suit. The solid polymer can only be burned with difficulty. Evacuate personnel and keep upwind of fire. Grounding and elimination of the static charge is recommended.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material in pellet form may accumulate static charge when poured from one container to another.

SECTION 5: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Before using, read the product bulletin. Store in a cool, dry place. Keep container closed to prevent contamination.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Review SECTION 4 FIREFIGHTING MEASURES and read the product bulletin before proceeding with clean up. Use appropriate personal protective equipment during clean up. Shovel or sweep up spills. Do not discharge into streams, ponds, lakes or sewers.

WASTE DISPOSAL: Preferred options for disposal are recycling, incineration with energy recovery, and landfill. The high fuel value of this product makes incineration very desirable for material that cannot be recycled. Treatment, storage, transportation, and disposal must be in accordance with applicable local, state/provincial, and federal regulations.

SECTION 6: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION:

LOCAL: Yes - when hot processing **SPECIAL:** N/A
MECHANICAL: N/A **OTHER:** Yes - when hot processing use General exhaust and/or in addition to Local

Use sufficient ventilation to keep employee exposure below recommended limits. Use static controls. Static charges can cause explosions in solvent and dust laden atmospheres. See Bulletin “Proper Use of Local Exhaust Ventilation During Processing of Plastics”.

RESPIRATORY PROTECTION: A respiratory protection program that meets country requirements must be followed whenever workplace conditions warrant respirator use. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer. Consult the OSHA respiratory protection information located at 29 CFR 1910.134.

EYE/FACE PROTECTION: Wear safety glasses with side shields. Wear tightly fitted chemical splash goggles and a face shield when the possibility exists for eye and face contact due to spattering or splashing of molten material.

SKIN PROTECTION: If there is a potential for contact with hot/molten material, wear heat resistant clothing and footwear.

WORK HYGIENIC PRACTICES: Do not get in eyes. Keep away from food an drink. Handle in accordance with good industrial hygiene and safety practice.

OTHER:

OCCUPATIONAL EXPOSURE LIMITS
Dust (inhalable and respirable fraction)

ACGIH TLV

Components	Type	Value	Form
EARTH SHIELD® HDPE WATERSTOP	TWA	10 mg/m3	Inhalable particles
	TWA	3 mg/m3	Respirable particles
VINYL ACETATE	STEL	15 ppm	
	TWA	10 ppm	

OSHA PEL

Components	Type	Value	Form
EARTH SHIELD® HDPE WATERSTOP	TWA	5 mg/m3	Respirable fraction
	TWA	15 mg/m3	Total dust

SECTION 7: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal temperatures and storage conditions.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: Contact with incompatible materials
Temperature > 230°C (> 446°F) short residence times
Temperature > 204°C (> 399°F) long residence times

MATERIALS TO AVOID: Strong acids and oxidizing agents

HAZARDOUS DECOMPOSITIONS OR BY-PRODUCTS: Material does not decompose at ambient temperatures

SECTION 8: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Preferred options for disposal are recycling, incineration with energy recovery, and landfill. The high fuel value of this product makes incineration very desirable for material that cannot be recycled. Treatment, storage, transportation, and disposal must be in accordance with applicable local, state/provincial, and federal regulations.

SECTION 9: OTHER INFORMATION

COMPONENTS	**CAS#**	**Percent**
ETHYLENE COPOLYMER	N/A	> 99

ECOLOGY

ECO-TOXICITY -

ETHYLENE COPOLYMER: The substance is a polymer and is not expected to produce toxic effects.

No data is available on the product itself. Toxicity is expected to be low based on insolubility in water.

TRANSPORT INFORMATION

DOT

Not classified as dangerous in the meaning of transport regulations.

REGULATORY INFORMATION

TSCA Status	In compliance with TSCA Inventory requirements for commercial purposes.
Superfund Amendments & Reauthorization Act of 1986 (SARA)	
Section 313 Regulated Chemical(s)	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
California Prop. 65	Chemicals known to the State of California to cause cancer, birth defect or any other harm: none known
PA Right to Know Regulated Chemical(s)	Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.1% for Special Hazardous Substances): none known
NJ Right to Know Regulated Chemical(s)	Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identifies as carcinogens, mutagens or teratogens): none known

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The information and recommendations contained herein are not intended to relieve the reader of responsibility to investigate and understand the laws, procedures, and regulations applicable to the readers enterprise, not to relieve the reader of responsibility to comply with laws applicable to the readers enterprise and place of business and to verify independently the information provided in this document as it may relate to the reader's specific process or application.

This Material Safety Data Sheet supersedes all other previously dated sheets for this product.

End of Section