

NEW

State of Maine**Master Agreement****Effective Date:** 05/17/19**Expiration Date:** 05/31/21**Master Agreement Description:** Culvert Liner, HDPE, Profile Wall**Buyer Information**

William Allen

207-624-7871 ext. NULL WJE.Allen@maine.gov

Issuer Information

SHARON KRECHKIN

207-624-3038 ext. sharon.krechkin@maine.gov

Requestor Information

Sharon Krechkin

207-624-3038 ext. sharon.krechkin@maine.gov

Authorized Departments

17A TRANSPORTATION

Vendor Information**Vendor Line #: 1****Vendor ID**

VC1000037800

Vendor Name

ISCO INDUSTRIES INC

Alias/DBA**Vendor Address Information**

926 BAXTER AVE

LOUISVILLE, KY 40204

US

Vendor Contact Information

Don LeBlanc

207-992-3080 ext.

don@dlviews.com

Commodity Information

Vendor Line #: 1

Vendor Name: ISCO INDUSTRIES INC

Commodity Line #: 1

Commodity Code: 65856

Commodity Description: Culvert Liner, HDPE, Profile Wall

Commodity Specifications:

Commodity Extended Description: Culvert Liner, HDPE, Profile Wall

Quantity

0.00000

UOM

Unit Price

\$0.00

Delivery Days

0

Free on Board

Contract Amount

\$0.00

Service Start Date

Service End Date

Catalog Name

ISCO Culver Liner

Discount

0.0000 %

Discount Start Date

05/17/19

Discount End Date

05/31/21

Commodity Information

Vendor Line #: 1

Vendor Name: ISCO INDUSTRIES INC

Commodity Line #: 2

Commodity Code: 65856

Commodity Description: Freight Charges, ISCO Indust,.Culvert Liner,HDPE,Profile Wal

Commodity Specifications:

Commodity Extended Description: This line is for freight charges only.

Quantity

0.00000

UOM

Unit Price

\$0.00

Delivery Days

0

Free on Board

Contract Amount

\$0.00

Service Start Date

05/17/19

Service End Date

05/31/21

Catalog Name

Discount

%

Discount Start Date

Discount End Date

TERMS& CONDITIONS
MA 190517-176

COMMODITY ITEM: Culvert Liner, HDPE, Profile Wall

CONTRACT PERIOD: May 20, 2019 through May 31, 2021. The State of Maine with vendor approval can opt to issue up to two (2) one (1) year extensions.

CONTACT PERSON: The contact person will help consumers place orders, inquire about orders that have not been delivered, all shipping issues, quality issues, and any issues pertaining to this Master Agreement. All orders not submitted through a DO will be sent through the contractor's contact person. **The contact person will be:** Don LeBlanc **Tel:** 207-992-3080 **Email:** don@dlviews.com

EXTENSION OF CONTRACT: The Director of Procurement Services may, with the consent of the contractor extend the Contract period beyond the indicated expiration date.

CANCELLATION OF CONTRACT: The Division of Procurement Services reserves the right to cancel a contract with a thirty-day written notice OR cancel immediately if the contractor does not conform to terms and conditions and specifications of contract.

PRICES: Prices shown do not include shipping. ISCO Industries agrees to charge only the costs directly related to the shipping of the material and provide documentation for all freight charges.

QUANTITIES: It is understood and agreed that the contract will cover the **actual quantities** required by State Agency over the length of the contract.

PROCUREMENT CARD: State policy requires vendors to accept the State of Maine Procurement Card (P-Card) as a form of payment, with very rare exceptions. Your company will be required to accept these cards. The pricing offered to the State of Maine shall be the final cost to the State of Maine regardless of payment method. No surcharge or other compensation will be allowed. The State of Maine reserves the right to reject your bid if you are unwilling to accept this condition.

ORDERING PROCEDURE: Delivery orders (DO) will be created in AdvantageME for all orders over \$5000.00. If a DO is used, the DO will be e-mailed to the email address set up in AdvantageME by the Vendor as a .pdf file. Orders less than \$5000.00 can be ordered using a DO or P-Card.

DELIVERY: The Contractor will be responsible for the delivery of material in first class condition at the point of delivery, and in accordance with good commercial practice. List of Delivery Addresses below. The Contractor must deliver to the following DOT locations: Scarborough, West Gardiner, Dixfield, Carmel and Presque Isle. The State will always have the option of picking up, in full unit quantities, lifts of ply form at the vendor's location.

QUARTERLY REPORT: The Division of Procurement Services **requires a quarterly report of sales** be faxed to 207-287-6578 within 30 days of the end of each calendar quarter. It will be the responsibility of the vendor to produce a quarterly report. The report must include the dollar value of goods purchased, broken down by Department as well as the total dollar value of purchases made by all Departments.

Specifications

Profile Wall HDPE Pipe Liner

These specifications cover the purchase of high density polyethylene (HDPE) pipe liners for lining existing culvert pipes. Pipe liners furnished to these specifications shall meet or exceed all requirements.

- The liner pipe shall be made of high density polyethylene resins in accordance with the requirements of ASTM D3350. The Cell Classification shall be a minimum of 334433C. The supplier shall furnish a manufacturer's certification stating that the material in the pipe meets these requirements and the dimension requirements of ASTM F894.
- The polyethylene raw material shall contain a minimum of 2%, well dispersed finely divided carbon black for UV stabilization.
- The pipe manufacturers' Quality System shall be certified by an appropriate independent body to meet the requirements of the ISO 9001-2000 Quality Management Program.
- The nominal inside diameter of the pipe shall be true to the specified pipe size. The pipe shall be manufactured by the continuous winding of a closed profile onto suitably sized mandrels and shall be produced to constant internal diameters.
- The pipe shall have a "smooth" OD for ease of installation.
- Lengths of pipe shall be manufactured with end treatments that allows for consecutive lengths of pipe, with a profile cut end treatment along the helix to be field extrusion welded.
- The pipe shall be homogenous throughout and free from visible cracks, holes, foreign inclusions or other injurious defects. The pipe shall be as uniform as commercially practical in color, opacity, density and other physical properties.
- The liner pipe should have sufficient wall stiffness to safely resist external hydrostatic pressures generated by ground water levels above the top of the pipe and/or by grouting pressures (if appropriate). When grouted, the liner pipe will react as though it was buried in soil; thus flexible pipe/soil backfill design equations apply.

[illegible]

SUPPLIER PART NUMBER	ITEM DESCRIPTION	EXTENDED DESCRIPTION	UNIT OF MEASURE	LIST PRICE	DELIVERY DAYS
30x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 30 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 143.00	45
33x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 33 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 155.29	45
36x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 36 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 209.42	45
40x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 40 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 232.85	45
42x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 42 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 254.90	45
48x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 48 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 322.00	45
54x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 54 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 358.00	45
60x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 60 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 447.00	45
66x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 66 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 562.00	45
72x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 72 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 610.00	45
78x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 78 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 676.00	45
84x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 84 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 778.52	45
90x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 90 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 852.00	45
96x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 96 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 998.50	45
108x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 108 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,123.00	45
120x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 120 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,205.00	45
132x25t160	Pipe Liner, Profile Wall, Rnd, Thread, 132 Dia, Class 160	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,650.00	45
36x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 36 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 185.00	45
40x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 40 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 218.88	45
42x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 42 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 238.77	45
48x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 48 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 298.00	45
54x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 54 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 358.55	45
60x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 60 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 379.98	45
66x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 66 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 582.00	45
72x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 72 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 700.25	45
78x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 78 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 785.25	45
84x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 84 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 950.27	45
90x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 90 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,100.89	45
96x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 96 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,262.23	45
108x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 108 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,429.00	45
120x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 120 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,650.00	45
132x25t250	Pipe Liner, Profile Wall, Rnd, Thread, 132 Dia, Class 250	Culvert Liner, HDPE, Threaded, price does not include shipping costs	EA	\$ 1,775.00	45

Appendix D

**STATE OF MAINE
DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
DIVISION OF PROCUREMENT SERVICES**

**MUNICIPALITY POLITICAL SUBDIVISION and SCHOOL DISTRICT PARTICIPATION
CERTIFICATION**

RFQ # 17A 190416-304

REVISED Specifications and List of Items – April 24, 2019

Culvert Liner, HDPE, Solid & Profile Wall

The Division of Procurement Services is committed to providing purchasing opportunities for **municipalities, political subdivisions and school districts** in Maine by allowing them access, through our vendors, to our contract pricing. A bidder's willingness to extend contract pricing to these entities will be taken into consideration in making awards.

Will you accept orders from political subdivisions and school districts in Maine at the prices quoted?

Yes

Yes, with conditions as follows:

No

Name of Company: _____

Address:

Signature: _____

Date: 5/6/19

STATE OF MAINE

GENERAL TERMS AND CONDITIONS FOR GOODS AND/OR SERVICES UNDER BUYER PURCHASE ORDERS (BPOs) AND MASTER AGREEMENTS (MAs)

- 1. DEFINITIONS:** The following definitions are applicable to these standard terms and conditions:
 - a. The term “Buyer” or “State” shall refer to the Government of the State of Maine or a person representing the Government of the State of Maine.
 - b. The term “Department” or “DAFS” shall refer to the State of Maine Department of Administrative and Financial Services.
 - c. The term “Bureau” or “BGS” shall refer to the State of Maine Bureau of General Services.
 - d. The term “Division” shall refer to the State of Maine Division of Purchases.
 - e. The term “Contractor”, “Vendor”, or “Provider” shall refer to the organization that is providing goods and/or services through the contract to which these standard terms and conditions have been attached and incorporated.
 - f. The term “Contract” or “Agreement” shall refer to the contract document to which these standard terms and conditions apply, taking the format of a Buyer Purchase Order (BPO) or Master Agreement (MA) or other contractual document that is mutually agreed upon between the State and the Contractor.
- 2. WARRANTY:** The Contractor warrants the following:
 - a. That all goods and services to be supplied by it under this Contract are fit and sufficient for the purpose intended, and
 - b. That all goods and services covered by this Contract will conform to the specifications, drawing samples, symbols or other description specified by the Division, and
 - c. That such articles are merchantable, good quality, and free from defects whether patent or latent in material and workmanship, and
 - d. That all workmanship, materials, and articles to be provided are of the best grade and quality, and
 - e. That it has good and clear title to all articles to be supplied by it and the same are free and clear from all liens, encumbrances and security interest.

Neither the final certificate of payment nor any provision herein, nor partial nor entire use of the articles provided shall constitute an acceptance of work not done in accordance with this agreement or relieve the Contractor liability in respect of any warranties or responsibility for faulty material or workmanship. The Contractor shall remedy any defects in the work and pay any damage to other work resulting therefrom, which shall appear within one year from the date of final acceptance of the work provided hereunder. The Division of Purchases shall give written notice of observed defects with reasonable promptness.

3. TAXES: Contractor agrees that, unless otherwise indicated in the order, the prices herein do not include federal, state, or local sales or use tax from which an exemption is available for purposes of this order. Contractor agrees to accept and use tax exemption certificates when supplied by the Division as applicable. In case it shall ever be determined that any tax included in the prices herein was not required to be paid by Contractor, Contractor agrees to notify the Division and to make prompt application for the refund thereof, to take all proper steps to procure the same and when received to pay the same to the Division.

4. PACKING AND SHIPMENT: Deliveries shall be made as specified without charge for boxing, carting, or storage, unless otherwise specified. Articles shall be suitably packed to secure lowest

transportation cost and to conform to the requirements of common carriers and any applicable specifications. Order numbers and symbols must be plainly marked on all invoices, packages, bills of lading, and shipping orders. Bill of lading should accompany each invoice. Count or weight shall be final and conclusive on shipments not accompanied by packing lists.

5. DELIVERY: Delivery should be strictly in accordance with delivery schedule. If Contractor's deliveries fail to meet such schedule, the Division, without limiting its other remedies, may direct expedited routing and the difference between the expedited routing and the order routing costs shall be paid by the Contractor. Articles fabricated beyond the Division's releases are at Contractor's risk. Contractor shall not make material commitments or production arrangements in excess of the amount or in advance of the time necessary to meet delivery schedule, and, unless otherwise specified herein, no deliveries shall be made in advance of the Division's delivery schedule. Neither party shall be liable for excess costs of deliveries or defaults due to the causes beyond its control and without its fault or negligence, provided, however, that when the Contractor has reason to believe that the deliveries will not be made as scheduled, written notice setting forth the cause of the anticipated delay will be given immediately to the Division. If the Contractor's delay or default is caused by the delay or default of a subcontractor, such delay or default shall be excusable only if it arose out of causes beyond the control of both Contractor and subcontractor and without fault of negligence or either of them and the articles or services to be furnished were not obtainable from other sources in sufficient time to permit Contractor to meet the required delivery schedule.

6. FORCE MAJEURE: The State may, at its discretion, excuse the performance of an obligation by a party under this Agreement in the event that performance of that obligation by that party is prevented by an act of God, act of war, riot, fire, explosion, flood or other catastrophe, sabotage, severe shortage of fuel, power or raw materials, change in law, court order, national defense requirement, or strike or labor dispute, provided that any such event and the delay caused thereby is beyond the control of, and could not reasonably be avoided by, that party. The State may, at its discretion, extend the time period for performance of the obligation excused under this section by the period of the excused delay together with a reasonable period to reinstate compliance with the terms of this Agreement.

7. INSPECTION: All articles and work will be subject to final inspection and approval after delivery, notwithstanding prior payment, it being expressly agreed that payment will not constitute final acceptance. The Division of Purchases, at its option, may either reject any article or work not in conformity with the requirements and terms of this order, or re-work the same at Contractor's expense. The Division may reject the entire shipment where it consists of a quantity of similar articles and sample inspection discloses that ten (10%) percent of the articles inspected are defective, unless Contractor agrees to reimburse the Division for the cost of a complete inspection of the articles included in such shipment. Rejected material may be returned at Contractor's risk and expense at the full invoice price plus applicable incoming transportation charges, if any. No replacement of defective articles of work shall be made unless specified by the Division.

8. INVOICE: The original and duplicate invoices covering each and every shipment made against this order showing Contract number, Vendor number, and other essential particulars, must be forwarded promptly to the ordering agency concerned by the Vendor to whom the order is issued. Delays in receiving invoice and also errors and omissions on statements will be considered just cause for withholding settlement without losing discount privileges. All accounts are to be carried in the name of the agency or institution receiving the goods, and not in the name of the Division of Purchases.

9. ALTERATIONS: The Division reserves the right to increase or decrease all or any portion of the work and the articles required by the bidding documents or this agreements, or to eliminate all or any portion of such work or articles or to change delivery date hereon without invalidating this Agreement. All such alterations shall be in writing. If any such alterations are made, the contract amount or amounts shall be adjusted accordingly. In no event shall Contractor fail or refuse to continue the performance of the work in providing of articles under this Agreement because of the inability of the parties to agree on an adjustment or adjustments.

10. TERMINATION: The Division may terminate the whole or any part of this Agreement in any one of the following circumstances:

- a. The Contractor fails to make delivery of articles, or to perform services within the time or times specified herein, or
- b. If Contractor fails to deliver specified materials or services, or
- c. If Contractor fails to perform any of the provisions of this Agreement, or
- d. If Contractor so fails to make progress as to endanger the performance of this Agreement in accordance with its terms, or
- e. If Contractor is adjudged bankrupt, or if it makes a general assignment for the benefit of its creditors or if a receiver is appointed on account of its insolvency, or
- f. Whenever for any reason the State shall determine that such termination is in the best interest of the State to do so.

In the event that the Division terminates this Agreement in whole or in part, pursuant to this paragraph with the exception of 8(f), the Division may procure (articles and services similar to those so terminated) upon such terms and in such manner as the Division deems appropriate, and Contractor shall be liable to the Division for any excess cost of such similar articles or services.

11. NON-APPROPRIATION: Notwithstanding any other provision of this Agreement, if the State does not receive sufficient funds to fund this Agreement and other obligations of the State, if funds are de-appropriated, or if the State does not receive legal authority to expend funds from the Maine State Legislature or Maine courts, then the State is not obligated to make payment under this Agreement.

12. COMPLIANCE WITH APPLICABLE LAWS: Contractor agrees that, in the performance hereof, it will comply with applicable laws, including, but not limited to statutes, rules, regulations or orders of the United States Government or of any state or political subdivision(s) thereof, and the same shall be deemed incorporated herein by reference. Awarding agency requirements and regulations pertaining to copyrights and rights in data. Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers and records of the Contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions. Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h), section 508 of the Clean Water Act, (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000). Mandatory standards and policies relating to energy efficiency which are

contained in the state energy conservation plan issued in compliance with Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

13. INTERPRETATION: This Agreement shall be governed by the laws of the State of Maine as to interpretation and performance.

14. DISPUTES: The Division will decide any and all questions which may arise as to the quality and acceptability of articles provided and installation of such articles, and as to the manner of performance and rate of progress under this Contract. The Division will decide all questions, which may arise as to the interpretation of the terms of this Agreement and the fulfillment of this Agreement on the part of the Contractor.

15. ASSIGNMENT: None of the sums due or to become due nor any of the work to be performed under this order shall be assigned nor shall Contractor subcontract for completed or substantially completed articles called for by this order without the Division's prior written consent. No subcontract or transfer of agreement shall in any case release the Contractor of its obligations and liabilities under this Agreement.

16. STATE HELD HARMLESS: The Contractor agrees to indemnify, defend, and save harmless the State, its officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, material men, laborers and other persons, firm or corporation furnishing or supplying work, services, articles, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the performance of this Agreement.

17. SOLICITATION: The Contractor warrants that it has not employed or written any company or person, other than a bona fide employee working solely for the Contractor to solicit or secure this Agreement, and it has not paid, or agreed to pay any company, or person, other than a bona fide employee working solely for the Contractor any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon, or resulting from the award for making this Agreement. For breach or violation of this warranty, the Division shall have the absolute right to annul this agreement or, in its discretion, to deduct from the Agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gifts, or contingent fee.

18. WAIVER: The failure of the Division to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of this order or to exercise any right hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such term, covenant, or condition or the future exercise of such right, but the obligation of Contractor with respect to such future performance shall continue in full force and effect.

19. MATERIAL SAFETY: All manufacturers, importers, suppliers, or distributors of hazardous chemicals doing business in this State must provide a copy of the current Material Safety Data Sheet (MSDS) for any hazardous chemical to their direct purchasers of that chemical.

20. COMPETITION: By accepting this Contract, Contractor agrees that no collusion or other restraint of free competitive bidding, either directly or indirectly, has occurred in connection with this award by the Division of Purchases.

21. INTEGRATION: All terms of this Contract are to be interpreted in such a way as to be consistent at all times with this Standard Terms and Conditions document, and this document shall take precedence over any other terms, conditions, or provisions incorporated into the Contract.



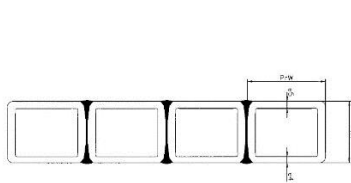
INFRAPIPE
SOLUTIONS LTD.

**WEHOLITE® STRUCTURAL PROFILE
WALL HDPE PIPE**

PRODUCT BULLETIN

Typical Applications:

Weholite structural profile wall HDPE pipe is design for a variety of applications such as sanitary and storm sewers, irrigation, hydroelectric, stormwater detention, reline, culverts, odor control and ventilation, rainwater harvesting, wastewater storage, marine installations (intakes and outfalls), geothermal vaults, above and below ground tanks, pump stations and manholes.



Manufacturing Standard:

ASTM F894 - *Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe*. Weholite is certified by 3rd party auditors¹ to confirm that the requirements of ASTM F894 are met.

Sizes and Available Lengths:

Weholite is available in diameters from 18 in (460 mm) to 132 in (3355 mm) inches. For sizes $\leq 96"$ NPS the standard laying length are 16.5 ft/5.03 m, 25 ft/7.62 m and 50 ft/15.24 m. For sizes $> 96"$ NPS the standard laying length are 20 ft/6.09 m and 40 ft/12.19 m.

Pressure Ratings:

Weholite is designed for standard working pressure up to 7.5 psi / 0.5 bar. With profile wall design modifications continuous pressures up to 29 psi / 2 bar can be accommodated.

¹ Le Bureau de normalisation du Québec (BNQ) for Huntsville plant, NSF International for Huntsville and Saskatoon plant.

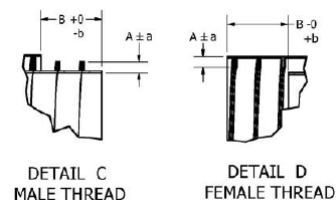
Typical Material Properties¹:

Manufactured from a high-density polyethylene pressure grade material which meets or exceeds the minimum cell classification requirements of 334433C for PE plastic compound as specified in ASTM F894 when classified in accordance with ASTM D3350.

Cell class per ASTM D3350	Density (g/cm ³)	Melt Index (g/10 minutes)	Flexural Modulus (psi)	Tensile Strength at Yield (psi)	Slow Crack Resistance, PENT (hours)	HDB (psi)
334433C (minimum per ASTM F894)	>0.940-0.947	<0.4-0.15	80,000 to <110,000	3000 to <3500	unspecified	1250
345464C (PE3608)	>0.940-0.947	<0.15	110,000 to <160,000	3000 to <3500	>100	1600
445574C (PE4710)	>0.947-0.955	<0.15	110,000 to <160,000	3500 to <4000	>500	1600

Joining Methods:

Extrusion welding joint (watertight), Threaded joints (sand and silt tight).



Surge Pressure for continuous pressure applications:

Infra Pipe Solution deem the resistance to surge pressures of Weholite pipe for continuous pressure applications (i.e. hydropower) just as the resistance to polyethylene solid wall pressure pipe...i.e. occasional surge pressure may induce pressure surges of 2 x the working pressure rating of the pipe, and recurring surge may induce pressure surges of 1.5 x the working pressure rating of the pipe. The math for determination of the surge pressure associated with flow of water in Weholite is the same as for the solid wall polyethylene pressure pipe. Please refer to PPI Handbook, Chapter 6.

Temperature Range:

The maximum allowable temperature of the pipe contents for long-term applications is 140°F/ 60. Short-term applications up to 180°F/ 82°C are permissible. For buried applications, exposure to variable temperatures is generally not a design concern because of the restraining action of the surrounding soil and the inherent stress relieving characteristics of the pipe material.

Weatherability:

Weholite is produced from the PE compound containing a minimum of 2% carbon black. It has been demonstrated that this amount of well-dispersed very fine particle carbon black is sufficient protection for continuous outdoor service.

¹ Typical properties will vary within specification limits.

Corrosion and Chemical Resistance:

Weholite HDPE pipe will not rust, rot, pit, corrode, tuberculate or support biological growth. It is resistant to corrosion resulting from the presence of Hydrogen Sulfide and pH values between 2 and 13. HDPE is generally resistant to attack from many chemicals. The PPI TR-19 *Chemical Resistance of Thermoplastic Piping Materials* has been developed as an informative guide on resistance of thermoplastic materials to chemical attack.

Bending Radius:

The long-term bend radius of Weholite is 200 times the pipe OD. Only pipe joined by extrusion welded joints is suitable for bending.

Installation:

The ASTM D2321-*Standard Practice for Underground Installation of Thermoplastic Pipe for Sewer and Other Gravity – Flow Applications* serves as the basis for successfully installation of Weholite pipe.

Major Dimensions:

	NPS		OD ave		OD max		ID min		Shipping Weight		Burial Depth min ¹		Unconstrained Pipe Wall Buckling ²	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lbs/ft)	(kg/m)	(ft)	(m)	kPa	psi
RSC160	18	460	20.3	516	20.8	528	17.6	448	15	23	2.0	0.61	72	10.5
	19.5	495	22.0	558	22.4	570	19.1	486	17	25	2.0	0.61	67	9.6
	21	530	23.6	600	24.1	612	20.6	524	18	27	2.0	0.61	62	9.0
	24	609.6	26.9	684	27.4	697	23.6	600	21	32	2.0	0.61	54	7.9
	27	690	30.2	768	30.8	781	26.6	676	24	36	2.0	0.61	49	7.1
	30	760	33.5	851	34.0	864	29.6	752	27	40	2.0	0.61	42	6.1
	33	840	36.7	932	37.2	946	32.6	829	31	47	2.0	0.61	38	5.6
	36	910	40.5	1028	41.0	1043	35.6	905	36	54	2.0	0.61	46	6.7
	40	1016	44.5	1130	45.1	1145	39.6	1006	40	60	2.0	0.61	34	5.0
	42	1070	46.5	1181	47.1	1196	41.6	1056	42	62	2.0	0.61	30	4.3
	48	1220	52.8	1341	53.5	1359	47.5	1207	50	75	2.0	0.61	24	3.5
	54	1370	59.4	1509	60.2	1529	53.5	1358	65	96	2.0	0.61	25	3.6
	60	1520	65.4	1662	66.3	1683	59.4	1509	71	106	2.0	0.61	18	2.7
	66	1680	71.9	1825	72.8	1849	65.4	1660	86	128	2.0	0.61	18	2.6
	72	1830	78.3	1989	79.3	2014	71.3	1811	101	150	2.0	0.61	17	2.5
	78	1980	84.7	2152	85.8	2179	77.2	1961	116	172	2.0	0.61	16	2.3
	84	2130	91.1	2315	92.3	2344	83.1	2112	133	197	2.0	0.61	16	2.3
	90	2290	97.5	2478	98.8	2509	89.1	2263	150	223	2.0	0.61	15	2.2
	96	2440	103.5	2630	104.8	2663	95.0	2414	159	237	2.0	0.61	12	1.8
	102	2591	110.0	2793	111.3	2828	101.0	2565	179	266	2.0	0.61	12	1.8
	108	2740	116.3	2955	117.8	2992	106.9	2716	200	297	2.0	0.61	12	1.7
	120	3050	129.1	3280	130.7	3320	118.8	3018	241	359	2.0	0.61	11	1.6
	132	3355	141.5	3594	143.2	3638	130.7	3319	277	412	2.0	0.61	10	1.4

¹ Minimum covers presented were calculated assuming Class II backfill material compacted to 95% SPD, no hydrostatic pressure and with AASHTO HS-25 or CL-625 vehicle loading. For maximum burial depths of Weholite refer to Infra Pipe online burial calculator available at www.infrapipes.com

² Factor of Safety used in calculations is 1.5. Pipe ovality is assumed not to exceed 2%. Poisson's ratio of 0.35 has been used. 10 hr / 100° F material modulus of elasticity value of 46,900 psi has been used. Use PPI's Engineering Handbook, Chapter 6 to determine 'collapse resistance' characteristics at temperatures and load durations different from those indicated above.

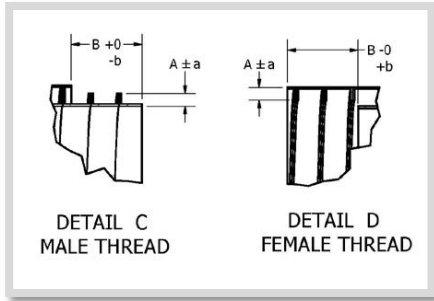
Major Dimensions (continued):

	NPS		OD ave		OD max		ID min		Shipping Weight		Burial Depth min ¹		Unconstrained Pipe Wall Buckling ²	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(lbs/ft)	(kg/m)	(ft)	(m)	kPa	psi
RSC250	33	840	37.5	952	38.0	966	32.6	829	33	50	2.0	0.61	59	8.6
	36	910	40.8	1036	41.4	1051	35.6	905	38	57	2.0	0.61	55	8.0
	40	1016	44.8	1138	45.4	1153	39.6	1006	43	64	2.0	0.61	41	6.0
	42	1070	46.9	1192	47.6	1209	41.6	1056	47	69	2.0	0.61	40	5.7
	48	1220	53.4	1357	54.1	1375	47.5	1207	58	86	2.0	0.61	35	5.1
	54	1370	59.9	1521	60.7	1541	53.5	1358	71	105	2.0	0.61	31	4.5
	60	1520	66.3	1684	67.2	1706	59.4	1509	84	125	2.0	0.61	29	4.1
	66	1680	72.7	1847	73.7	1871	65.3	1660	99	147	2.0	0.61	26	3.8
	72	1830	79.1	2010	80.2	2036	71.3	1811	114	170	2.0	0.61	24	3.5
	78	1980	85.5	2173	86.6	2201	77.2	1961	130	194	2.0	0.61	22	3.3
	84	2130	92.0	2336	93.1	2366	83.2	2112	149	221	2.0	0.61	21	3.1
	90	2290	98.3	2498	99.6	2530	89.1	2263	167	248	2.0	0.61	20	2.9
	96	2440	104.7	2660	106.1	2694	95.0	2414	185	276	2.0	0.61	19	2.7
	102	2591	111.1	2822	112.5	2858	101.0	2565	206	307	2.0	0.61	18	2.6
	108	2740	117.5	2984	119.0	3022	106.9	2716	227	337	2.0	0.61	17	2.5
	120	3050	130.2	3308	131.9	3350	118.8	3018	271	404	2.0	0.61	16	2.3
	132	3355	143.0	3631	144.8	3677	130.7	3319	319	475	2.0	0.61	15	2.1
RSC400	72	1830	80.7	2051	81.8	2078	71.3	1811	141	209	2.0	0.61	43	6.2
	78	1980	87.1	2213	88.3	2242	77.2	1961	160	238	2.0	0.61	39	5.6
	84	2130	93.5	2375	94.7	2406	83.2	2112	180	267	2.0	0.61	35	5.1
	90	2290	100.2	2546	101.6	2580	89.1	2263	207	308	2.0	0.61	36	5.2
	96	2440	106.2	2699	107.6	2734	95.0	2414	220	327	2.0	0.61	30	4.3
	102	2591	113.0	2869	114.5	2907	101.0	2565	249	370	2.0	0.61	30	4.4
	108	2740	119.0	3022	120.5	3061	106.9	2716	263	391	2.0	0.61	26	3.7

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Weholite Threading Guide:

Threaded Weholite pipe is the preferred joining methods for culvert reline applications. The pipe thread is formed by factory removal of a portion of the profile wall of the pipe.



Step 1: Prior to threading pipe, grease the threads to reduce the threading force required.



Step 2: Place pipes in straight alignment



Step 3: Use nylon slings with lever or excavator arm to rotate the pipe.



Step 4: Visually inspect the joint to ensure that male and female threads are engaged.

Methods to Prevent Possible Grout Migration through Weholite Threaded Joints:

There are two methods to prevent flowable cellular grout from potentially penetrating the threaded joint. One method is the use of closed cell polyurethane spray foam just prior to completing the threading process and the other by the use of Wehoseal as supplied by Uponor around the completed threaded joint. Both options are outlined below.

Option 1 – Closed cell spray polyurethane foam (commonly used for crack & gap filling installations such as: Great Stuff, Dap, Profoam):



Step 1: Thread pipe together until 1 complete turn is remaining to complete threading.



Step 2: Using closed cell polyurethane spray foam, spray foam in joint around entire circumference of the pipe.



Step 3: Finish spinning the threaded joint until thread will not spin anymore.



Step 4: Wipe off excess foam if necessary.

Option 2 – Wehoseal (Heat shrinkable sleeve for protection of threaded pipe joints):

Wehoseal is a high performance, heat shrinkable product intended for sealing polyethylene pipe joints. Wehoseal provides superior barrier against grout ingress. Specifically designed for bonding to polyethylene pipes and casings, Wehoseal offers low substrate pre-heat temperature thus making the installation of this product simple, forgiving, and most importantly, reliable.

A combination of cross-linked polyethylene backing with a layer of unique hot melt adhesive, results in a long term barrier impermeable to moisture. Low installation pre-heat temperature ensures uniform and consistent bond to the substrate.

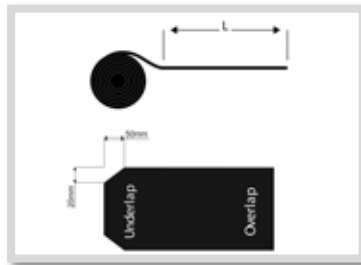
Wehoseal is available in two configurations: pre-cut to specific pipe size and bulk rolls.

Product Description



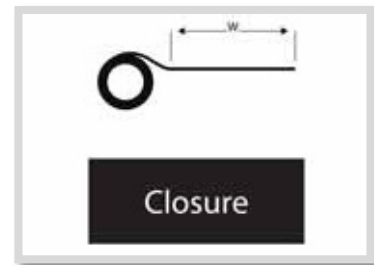
Step 1: Wehoseal sleeves are shipped in bulk rolls or pre-cut with a preattached closure. The adhesive is protected from contamination by an inner liner.

Bulk Rolls



Step 2: Cut the required length (L) of sleeve material from the bulk roll. To ensure that the sleeve is ready for installation, make sure that there is no dirt or moisture on the sleeve and that the sleeve is not damaged.

Cutting Closure



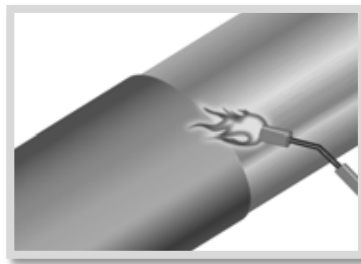
Step 3: Cut the required length (W) of sleeve material from the bulk roll. To ensure that the closure is ready for installation, make sure that there is no dirt or moisture on the closure and that the closure is not damaged.

Equipment List



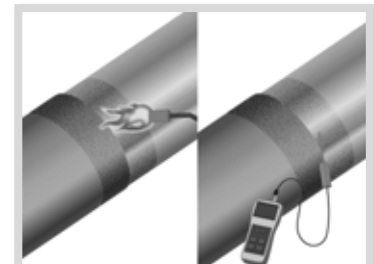
Step 4: Propane tank, hose, torch & regulator, knife, roller, digital thermometer with suitable probe and standard safety equipment; gloves, goggles, hard hat, etc.

Surface Preparation



Step 5: Dry the surface of the casing and jacket pipe (width of sleeve + 2" on each side) with moderate flame intensity. Clean the surface with a dry, grease and lint-free rag to remove any grease or dirt.

Pre-Heat

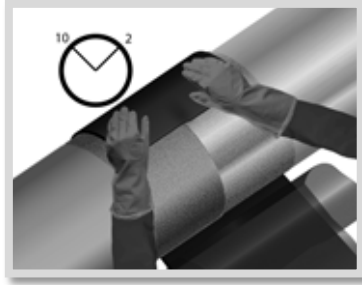


Step 6: Using medium to high intensity flame, pre- heat and activate the surface to be covered with heat shrink sleeve and min 2" on each side of the sleeve to a minimum temperature of 150°F. The flame shall be kept perpendicular to the surface of the pipe and casing during preheating. Check the temperature around entire circumference of the pipe with a touch probe.

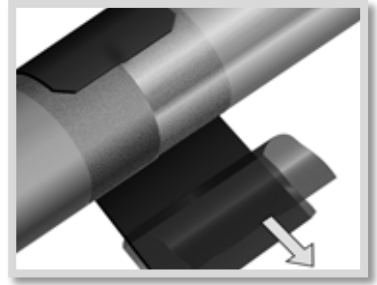
Sleeve Installation



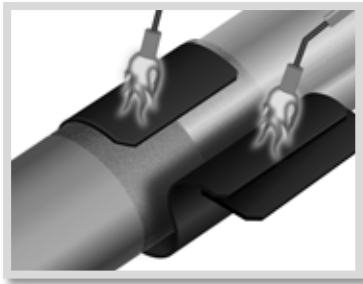
Step 7: Partially remove the release liner from the sleeve (~6" from the edge) and gently heat the adhesive along the underlap with a torch.



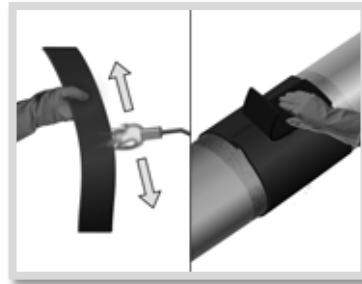
Step 8: Centre the sleeve over the area to be sealed, so that the sleeve overlaps between the 10 and 2 o'clock positions. Press the underlap firmly into place.



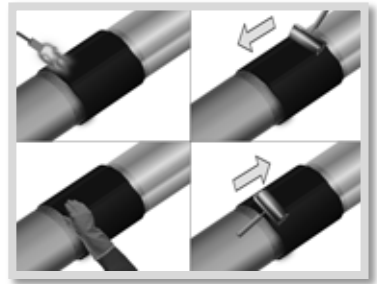
Step 9: Remove the remaining release liner.



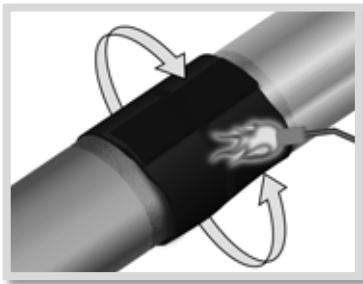
Step 10: Wrap the sleeve loosely around the pipe, ensuring the appropriate overlap. Gently heat the backing of the underlap and then gently heat the adhesive side of the overlap.



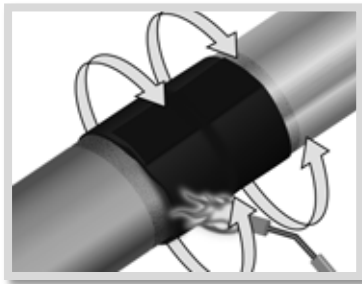
Step 11: Heat the adhesive side of the closure to activate the adhesive before centering the closure over the overlap and pressing it firmly down into place.



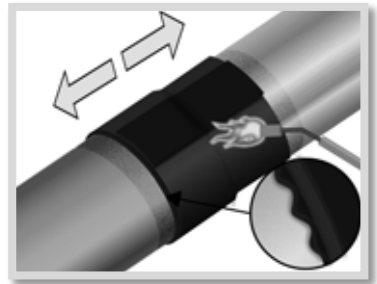
Step 12: Heat the closure with a moderate flame intensity and pat it down with a gloved hand or a roller across its entire length. Make sure that the closure is firmly attached to the underlying sleeve and it is not lifting anywhere. Smooth any wrinkles by gently working them outward from the center of the closure with a roller or by patting the closure down.



Step 13: Using the appropriate torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes. If utilizing two torches, operators should work on opposite sides of pipe.

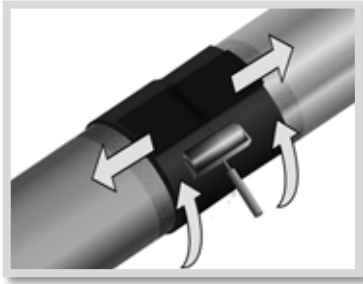


Step 14: Continue heating from the centre toward one end of the sleeve until recovery is complete. In a similar manner, heat and shrink the remaining side.



Step 15: Shrinking has been completed when the adhesive begins to ooze at the sleeve edges all around the circumference. Make sure the edges of the sleeve are not lifting anywhere around the circumference of the pipe. Finish shrinking the sleeve with long horizontal strokes over the entire surface to ensure a uniform bond.

Quality Check



Step 16: While the sleeve is still hot and soft, use a hand roller to gently roll the sleeve surface and push any trapped air up and out of the sleeve, as shown above. If necessary, reheat to roll out air.



Step 17: After shrinking, press down on the sleeve to ensure adhesive flow over the entire surface. Special attention should be given along the circumference between 4 and 8 o'clock and along the overlap area. In order to avoid a channel formation at the step down, the sleeve should be pressed down. The shrinking has been completed when an adhesive ooze begins at the sleeve edges all around the circumference.



Step 18: As a final check, ensure that the sleeve follows the entire contour of the surface and that there are no cold spots or burning of the sleeve. Make sure the edges of the sleeve are not lifting anywhere around the circumference of the pipe. This can be checked by feeling the edges all around the circumference of the sleeve. If there is edge lifting, the edge should be reworked with additional heat.