

ITEM OPPORTUNITY SYNOPSIS

Scouting Number:	2024-058
Name of the item to be scouted:	Polyethylene to Steel Transition Fittings
State item to be used in:	None

Describe the Item:

<p>Please describe the item application/the end use of the item.</p>	<p>Polyethylene ("PE") to steel transition fittings are used in natural gas distribution systems to supply gas to residences and businesses for heating or cooking. The PE to steel transition fittings are used to connect a section of PE pipe to a section of steel pipe. The transition fittings are attached to the pipe via welds (on the steel side) and fusion (on the PE side). We are seeking transition fittings that are compliant with the Build America, Buy America Act ("BABA"). The transition fittings will most likely be classified under BABA as "iron or steel products." Therefore, to be compliant with BABA, all steel used in the fittings needs to have been made in the U.S., from the initial melting stage through the application of coatings.</p>
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Supplier Information:

Type of Supplier Being Sought (select from the list below):	
Manufacturer	x
Contract Manufacturer	
Distributor	
Other (Please Specify)	
Reason for Scouting Submission (select from the list below)	
2nd Supplier	
Price	
Re-Shore	
Past supplier no longer available	
New Product Startup	
BABA	x
Other (Please Specify)	

Summary of Technical Specifications and Performance Requirements:

<p>Describe the manufacturing processes (elaborate to provide as much detail as possible)</p>	<p>Exact manufacturing processes are unknown, but the steel used in the fittings is most likely cast. The polyethylene plastic is most likely molded.</p>
<p>Provide dimensions / size / tolerances / performance specifications of the item</p>	<p>Several manufacturer' spec sheets and brochures for PE to steel transition fittings are attached to this synopsis.</p>
<p>List required materials needed to make the product, including materials of product components, if applicable</p>	<p>According to one manufacturer's spec sheet, components include steel nipple, PE adapter, compression sleeve, elastomeric seals, and corrosion protection on the steel parts.</p>
<p>Are there applicable certification requirements?</p>	
Yes	
No	x
<p>Please explain:</p>	
<p>Are there any applicable regulations that apply to the production of this item?</p>	
Yes	x
No	
<p>Please explain:</p>	<p>Note also that the transition fittings must be compliant with the domestic preference requirements in the Build America, Buy America Act. Because of the steel content, the transition fittings will need to meet the standard for "iron or steel products," which requires that "all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States." The transition fittings must also meet the federal safety standards in 49 C.F.R. Part 192, subparts C, D, and F (which govern the integrity of parts used in natural gas pipelines).</p>
<p>Are there any other standards / requirements?</p>	
Yes	x
No	

Please explain:	Needs to be compliant with the Build America, Buy America Act. See Title 2, Part 184 of the Code of Federal Regulations.
Additional Comments:	
Additional technical comments:	
Volume and Pricing:	
Estimated Potential Business Volume (i.e. #units per day, month, year):	Exact volume is unknown. PHMSA is awarding \$1 billion in federal grants over 5 years to municipality and community owned gas utilities to repair or replace their natural gas distribution systems. It is expected that most recipients of PHMSA grants will need to purchase PE to steel transition fittings.
Estimated Target Price/Unit Cost Information:	Unknown
Delivery Requirements:	
When is it needed by? (Immediate, 30 days, 6 months, etc.)	As soon as possible, as grants have already been awarded and recipients want to begin construction. We are hoping to find a manufacturer who already makes BABA-compliant transition fittings.
Describe packaging requirements (i.e. individually/group packaging, etc.)	Any
Where will this item be shipped?	Nationwide
Additional Comments:	
Is there other information you would like to include?	

Steel to PE Transitions

Two Proven Designs - I.D. and O.D. Seal

Lyall is the only manufacturer that offers two distinct transition sealing methods allowing a larger choice of configurations to meet your requirements. Our one-piece, factory assembled transitions provide safe, economical and easy-to-install connections between gas carrying steel pipe and polyethylene (PE) pipe.

Proven Reliability - both designs have been approved by most natural gas, propane and industrial fluid companies with over 4 million in service.

Features

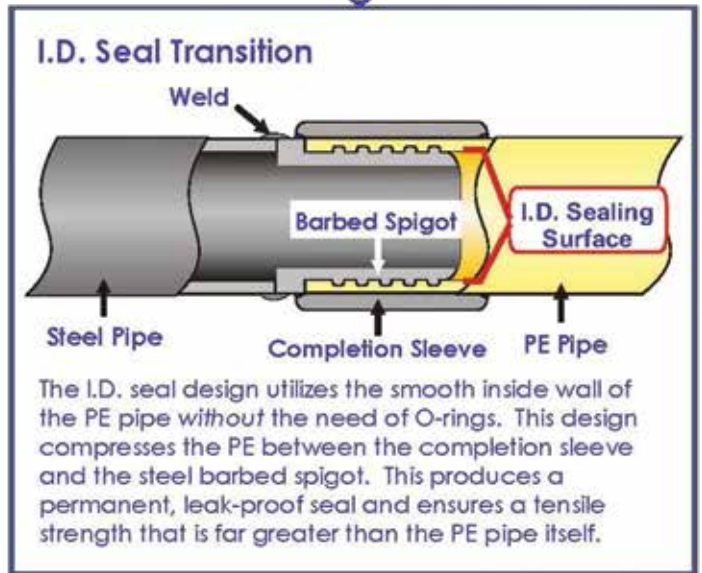
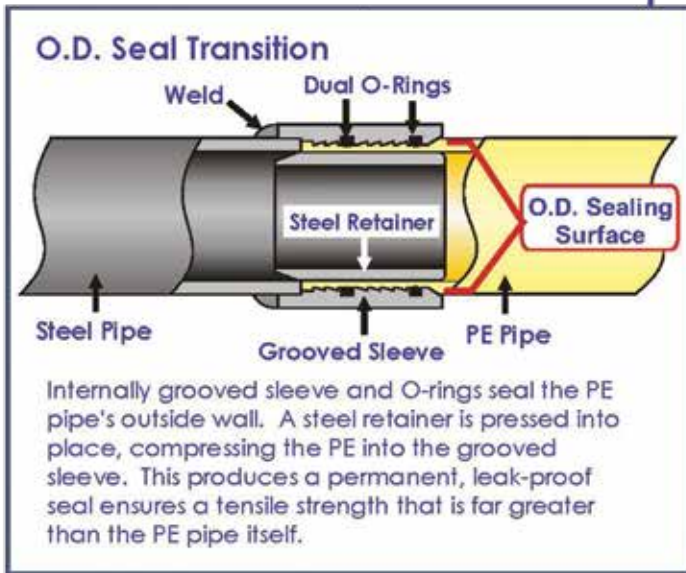
- Meets or exceeds all industry requirements.
- Epoxy or primer coatings available.
- Fusion bonded epoxy coating provides superior resistance to corrosion and mechanical damage.
- All welded joints are 100% pressure tested.
- Meets or exceeds the requirements of ASTM D2513 category 1, ASME B 31.8, US CFR 49 Part 192.
- Listed with IAPMO/UPC and certified to CSA B137.4



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LIT-LTDS-2C





Threaded-end
(per ASME B1.20.1)



Weld-end, Beveled



Victaulic Groove
(O.D. seal model, 2 IPS to 8 IPS)



Flanged, Flat or Raised Face

Steel End Options

- SCH 40 (standard) or SCH 80
- Primer or other coatings
- Internal Fusion Bonded Epoxy Coating (Victaulic Groove and Threaded O.D. seal models only)

PE Pipe End Connections/Options

- Squared ready for fusion
- Socket fusion fitting
- LYCOFIT ® Mechanical Fitting (PE size up to 2 IPS)
- Many choices of HDPE and MDPE pipe
- Commercial/industrial grade PE3408

Other Options

- Protector sleeves
- Wire clips
- Anodes
- Steel to PVC PE pipe (threaded O.D. only)

Weld-End Standard Sizes

NPS 1/2 x 1/2 IPS	NPS 1-1/2 x 1-1/2 IPS
NPS 3/4 x 1/2 CTS	NPS 2 x 2 IPS
NPS 3/4 x 1/2 IPS	NPS 3 x 3 IPS
NPS 3/4 x 3/4 IPS	NPS 4 x 4 IPS
NPS 1 x 3/4 IPS	NPS 6 x 6 IPS
NPS 1 x 1 CTS	NPS 8 x 8 IPS
NPS 1 x 1 IPS	NPS 10 x 10 IPS
NPS 1 x 1-1/4 IPS	NPS 12 x 12 IPS
NPS 1-1/4 x 1 CTS	
NPS 1-1/4 x 1 IPS	

Threaded-End Standard Sizes

1/2 NPT x 1/2 IPS	3 NPT x 3 IPS
3/4 NPT x 1/2 CTS	4 NPT x 4 IPS
3/4 NPT x 3/4 IPS	6 NPT x 6 IPS
1 NPT x 1 CTS	
1 NPT x 1 IPS	
1 NPT x 1-1/4 IPS	
1-1/4 NPT x 1-1/4 IPS	
1-1/2 NPT x 1-1/2 IPS	
2 NPT x 2 IPS	

Contact Info

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LIT-LTDS-2C

RWLlyall.com

Contact your Lyall sales representative or customer service for additional sizes and configurations. Custom orders are our specialty.

Introducing the Style 721 Transition Fitting...

For Fast, Trouble-free Steel to PE Transition Connections

**Fully Qualified to ASTM F1973
Category 1 Specifications**

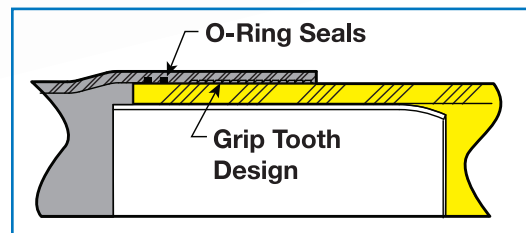


Dresser introduces the Style 721 Transition Fitting for quick, reliable Steel to PE transition connections for gas distribution mains. They are engineered for full compliance with the attendant gas distribution industry standard ASTM F1973. The Style 721 steel bodies are coated with Dresser ALCLAD™ fusion bonded epoxy with 2" layback for field welding. The weld end comes factory-beveled.

The monolithic body design simplifies traceability and removes any requirement to qualify, track and trace additional pressure containing components. The heat code for the steel is stamped in the tailpiece adjacent to the weld prep assuring 100% traceability of the pressure containing metallic content. This design enhancement also reduces weight of the finished fittings.

Dresser Style 721 fittings are offered for nominal pipe sizes 3" thru 12" (standard wall steel) x SDR11 polyethylene (medium density 2708 and high density 4710). Other dimension ratios and steel end preparations can be accommodated upon request.

- ASTM F2897 traceability information will be listed on each fitting
- The bevel will be industry standard weld-prep angle: 30 – 37.5 degrees



The gripping design is based on the features utilized successfully for decades in the Dresser Style 711 Universal mechanical coupling product line. The gripping tooth profile has been proven by extensive field use and most recently in qualification testing of these mechanical coupling products to the requirements of ASTM F1948, which closely align to those in F1973.



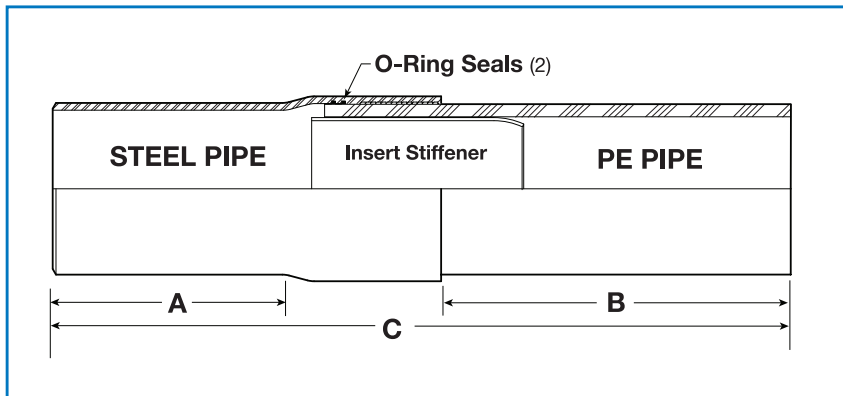
Traceability Compliance...

The ASTM F2897 encoding from the polyethylene pipe's print line is duplicated on a supplemental label to assure that traceability of the plastic material is also easily maintained. The fitting itself is marked with bar codes and alphanumeric data as per ASTM F2897. This facilitates compliance with current and future regulations as well as your company specific materials traceability protocol.

Dresser Style 721 Transition Fitting Specifications

Required data for all product inquiries and ordering Dresser Style 721 transition fittings:

- Pipe size
- PE cell classification (2708 or 4710)
- Dimension ratio required (SDR 11 standard)
- Approved extruder(s) for PE pipe
- Steel pipe wall thickness if not compatible with standard wall /Schedule 40
- Any special requirements or custom configurations



Style 721 Transition Fitting Specifications

Nominal Pipe Size (in)	A Steel Length Min. (in)	B PE Length Min. (in)	C Overall Length (in)	Steel Wall Thickness SCH 40 (in)	Weight Shipping (EA) (lbs)
3	9	12	27	0.216	12
4	9	12	27	0.237	18
6	9	18	33	0.280	35
8	9	24	42	0.322	70
12	9	24	46	0.375	155

NOTE: Nominal size 12 noted in **RED** is in development as of this release. Please contact your Dresser sales representative or visit us at www.dresserutility.com for latest product updates and availability.



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DRESSER
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Transition Fittings

Polyethylene to steel weld-end non-ID obstructed fittings are a convenient way to connect polyethylene pipe to steel pipe. Hawkeye Industries Inc.'s ID Controlled Transition Fitting are PE 100 standard, and offer a piggable alternative to traditional, non-ID controlled fittings.

Design

The transition fitting joint uses a combination of elastomeric seals and significant interferences to ensure a leak-free design. The joint, designed to be stronger than the polyethylene pipe, exceeds pullout requirements of CSA B137.4-05. ID controlled fittings boast a smooth transition from the polyethylene inside-diameter to the steel inside-diameter. By eliminating the tubular insert stiffener, and instead using the steel pipe itself the insert stiffener, the non-obstructed inside diameter makes these fittings suitable for pigging.

Construction

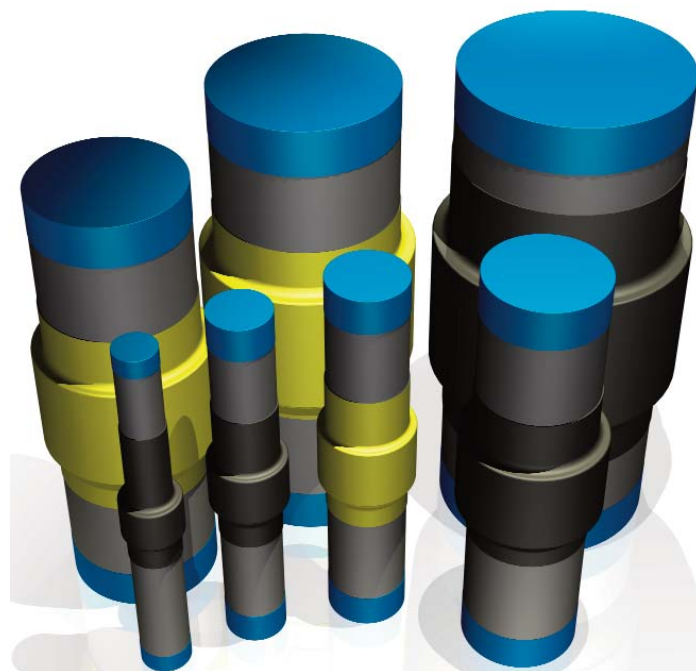
The standard materials of construction are ASME A106 B for the steel portion and PE4710¹ for the plastic portion. Hawkeye transition fittings are designed in consideration of CSA B137.4-05 & Z662-07, ASTM D2513 & F1973, as well as API 15LE & ASME B31.8.

Flexibility

ID-Controlled Transition fittings are available in standard pipe sizes from 2 NPS [60.3 mm] to 16 NPS, and are available in Standard Dimension Ratios (SDR's) of 6.3, 7.3, 9, 11 and 17. Call us for sizes larger than 16 NPS, SDR's not listed and non-standard materials.

Materials

Component	Standard	Optional
Plastic Adapter	PE4710 ¹	PE3408
Steel Nipple	A 106B	A 333-6, CSA Gr. 290&359
Compression Sleeve	Carbon Steel	—
Seals	FKM (Viton)	—
Corrosion Protection	Proprietary	



Above: Transition Fitting Family

Technical References

Transition fitting and other fabricated fitting technical information can be found in the following Hawkeye-Published technical Bulletins

- ▶ TB-0207-TF — Material and Design Specifications
- ▶ TB-0807-TF — Pressure Rating PE Fittings
- ▶ TB-0408-FP — Fabricated Fitting Butt Fusion Procedure

Ordering Information

- 1.) Specify ID-Controlled Transition Fitting
- 2.) Specify Polyethylene Pipe Size (NPS or mm)
- 3.) Specify Polyethylene SDR (5, 6.3, 7.3, 9, 10, 13.5, 17, 21)
- 4.) Specify Polyethylene grade (PE4710¹ Standard)
- 5.) Specify Steel Pipe Size (NPS or mm)
- 6.) Specify Steel Wall thickness (SCH or mm)
- 7.) Specify Steel Grade (A 106B Standard)

¹ PE4710 resin used by Hawkeye Industries is also classified as PE 100 for use in ISO-based pipeline designs.

Components

- A.) Steel Nipple -- welded to steel pipe system
- B.) Plastic Adapter -- fused to PE pipe system
- C.) Compression Sleeve
- D.) Elastomeric Seals
- E.) Corrosion Protection

General Dimensions¹

Size		Total ² L (in)	Length		OD	
PE (NPS)	Steel (NPS)		PE ³ Lpe (in)	Steel ⁴ Ls (in)	PE ØP (in)	Steel ØS (in)
1.5	1.5	22.0	9.8	9.8	1.90	1.90
2	1.5	22.0	9.8	9.8	2.38	1.90
	2					2.38
2.5	2	22.1	9.8	9.8	2.88	2.38
	2.5					2.88
3	2	22.6	9.8	9.8	3.50	2.38
	2.5					2.88
	3					3.50
	4					4.50
4	2.5	23.4	9.8	9.8	4.50	2.88
	3					3.50
5	4	24.3	10.0	10.0	5.56	4.50
	5					5.56
	6					6.63
6	4	25.3	10.1	10.1	6.63	4.50
	5					5.56
8	6	26.8	10.1	10.1	8.63	6.63
	8					8.63
10	8	28.5	10.2	10.2	10.75	8.63
	10					10.75
12	10	30.0	10.5	10.5	12.75	10.75
	12					12.75
14	14	31.1	10.8	10.8	14.00	14.00
	16					10.75
16	10	32.6	10.8	10.8	16.00	10.75
	16					16.00
18	16	32.8	10.9	10.9	18.00	16.00
	18					18.00

- 1.) This chart is for informational purposes only, and is not for engineering or design use. All information is subject to change without notice. Not all sizes, SDRs shown.
- 2.) Overall length is ± 2.0 depending on material and manufacturing variances.
- 3.) Exposed PE Length is ±1.0 depending on material and manufacturing variances.
- 4.) Exposed Steel Length is ±1.0 depending on material and manufacturing variances.

Related Products

Hawkeye carries additional polyethylene and pipeline equipment to complete your project:

- ▶ Fabricated PE fittings (Laterals, Tees, Elbows, Caps)
- ▶ Tracer Wire
- ▶ RACI Casing Spacers and End Seals

