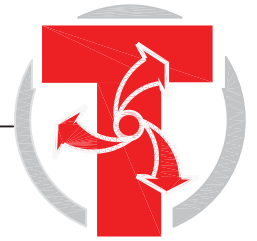


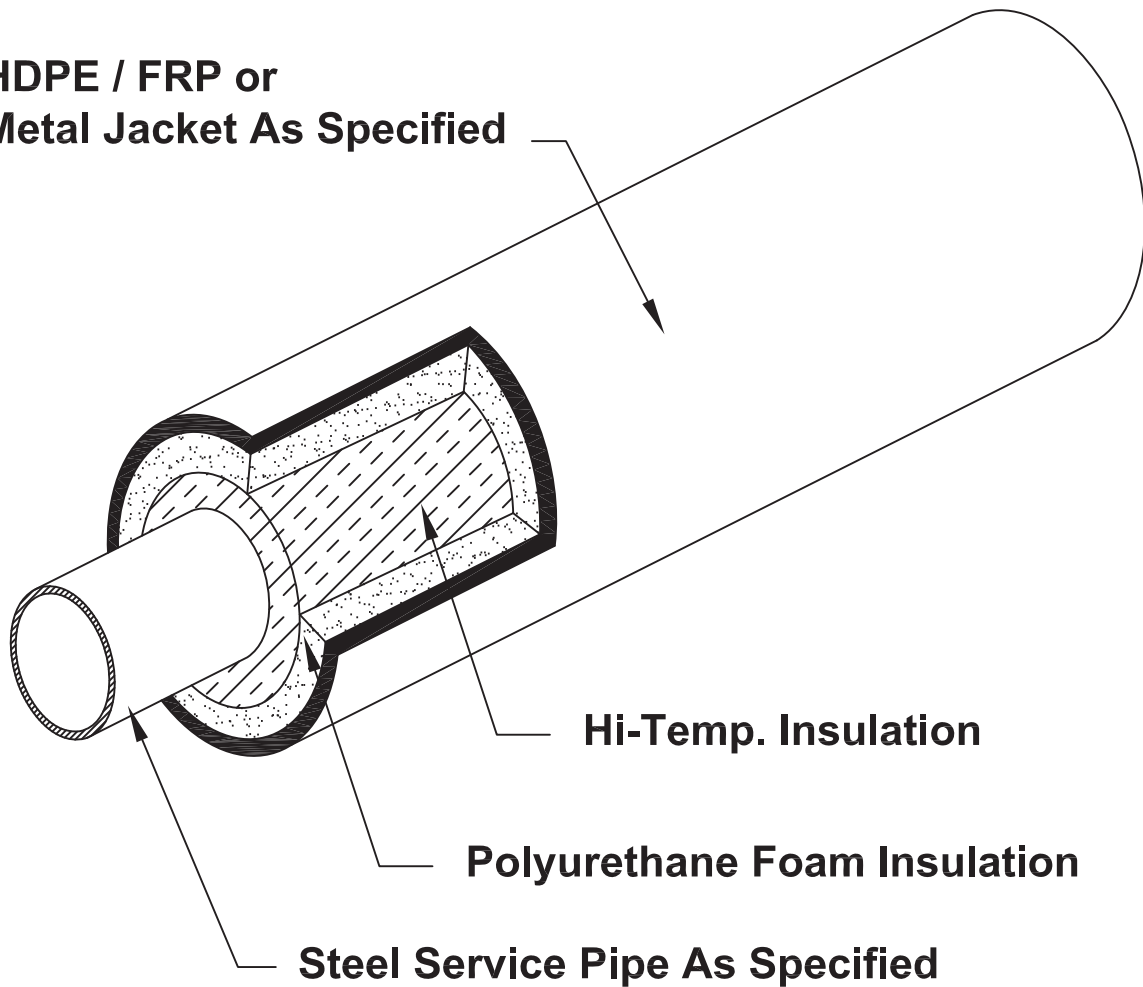
TRICON COMPOSITE PIPE SYSTEM



For Applications Up To 353° F Below And Above Ground

- ☐ Condensate
- ☐ Heating Hot Water
- ☐ High Temp. Hot Water
- ☐ Process Piping
- ☐ Steam

**HDPE / FRP or
Metal Jacket As Specified**



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Piping Systems, Inc.®

P.O. Box 361, Canastota, New York 13032
Tel: 315.697.8787 Fax: 315.697.8788

Pipe Size	Nominal Inner Insulation Thickness	Nominal Outer Insulation Thickness	HDPE Jacket O.D.	System Temperature
2"	1.50"	1.00"	8.00"	353°F
2½"	2.00"	1.00"	10.00"	353°F
3"	2.00"	1.00"	10.00"	353°F
4"	2.50"	1.00"	12.43"	353°F
6"	2.50"	1.50"	12.43"	353°F
8"	2.50"	1.50"	17.83"	353°F
10"	3.00"	1.50"	19.80"	353°F
12"	3.00"	1.50"	22.17"	353°F

Service Pipe:

Carbon steel service pipe shall be standard weight A53 ERW or A106 seamless beveled for welding. Condensate return piping shall be Schedule 80. All joints for pipe 2 ½" and larger in size shall be butt-welded. Sizes 2" and smaller shall be socket welded. Straight lengths of piping will be supplied with 6" of piping exposed at each end for field joint fabrication. Where possible, piping lengths shall be supplied in 40 Ft. random lengths.

Insulation: (Inner Layer)*

The inner layer of insulation will consist of cellular glass, calcium silicate or perlite.

Insulation: (Outer Layer)*

The outer conduit insulation shall be polyurethane foam with a minimum 1-inch thickness. The polyurethane foam shall have a minimum density of 2.0, and a closed cell content of 90% to 95% per ASTM D-2856, and shall have a "K" factor of .16 per ASTM C-177 @ 75° F.

Exterior Casing:**

The exterior casing shall be seamless, extruded High Density Polyethylene (H.D.P.E.) ASTM-1248, with the following physical properties:

ASTM D-3350...Resin Type III, Grade P34

ASTM D-638...Ultimate Elongation 850%

ASTM D-638...Tensile Yield Strength 3300 psi

ASTM D-790...Tangent Flexural Modules 175,000 psi

No polyethylene tape casings will be allowed.

Sub-Assemblies:

All fittings, anchors, and end seals, shall be factory fabricated and insulated. No field fabrication of fittings, anchors or end seals will be allowed.

Field Joints:

After welding and hydrostatic testing, all field joints shall be insulated with insulation materials as supplied by Tricon Piping Systems, Inc.

Expansion Compensation:

Expansion and contraction within the piping system shall be accommodated with factory-fabricated oversized elbows, z-bends, and loops.

Installation:

Trenches shall be maintained dry until final field closure is complete. Piping system not suitable for use in high water table.

The installing contractor shall handle the piping system in accordance with the directions furnished by the manufacturer and as approved by the architect and engineer. The service piping shall be hydrostatically tested to 1-1/2 times the operating pressure, or as specified in the contract documents. The test shall be maintained for a minimum time of 1 hour. **EXERCISE DUE CARE WHEN INSTALLING AND TESTING THE PIPING SYSTEM.**

Backfill:

A 4-inch layer of sand or fine gravel, less than ½" in diameter, shall be placed and tamped in the trench to provide uniform bedding for the **Composite** system. Once the system is in place, the trenches shall be carefully backfilled with similar material and hand tamped in 6" layers until a minimum of 12" above the top of the preinsulated pipe has been achieved. The remainder of the backfill shall be void of rocks, frozen earth and foreign material. The trench shall be compacted to comply with H-20 Highway loading.

Accessories:

- Heat Tracing

System Options:

- Contact your Tricon representative for available sizes and system options.

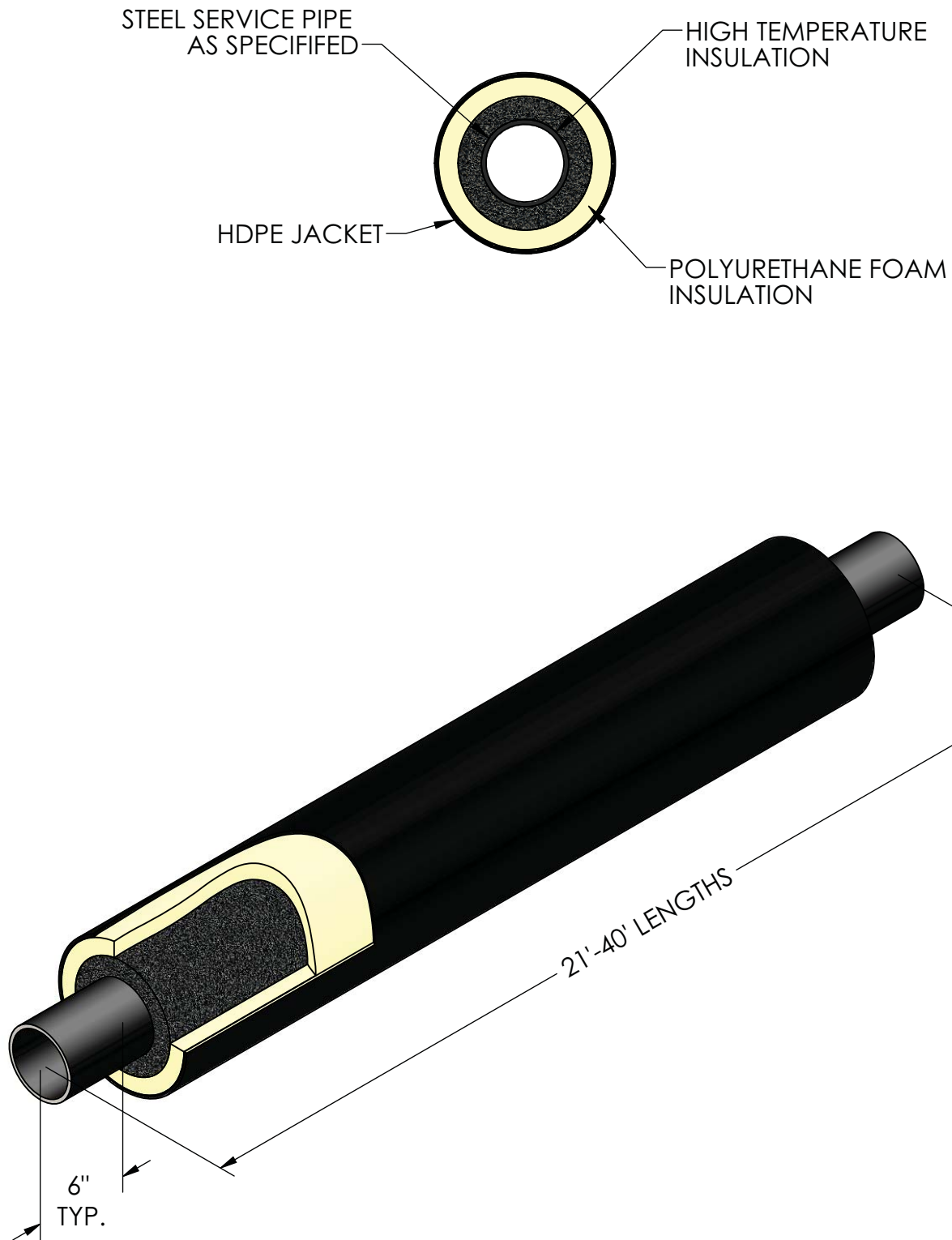
* Insulation thickness will vary depending on the type of insulation specified and the operating temperature.

** Optional metallic casings for above ground applications include, Galvanized, Aluminum or Stainless Steel. (Coated Steel available)

** Optional non-metallic casings for below grade include, Filament Wound FRP.

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Canastota, NY 13032

Tel: 315-697-8787
Fax: 315-697-8788
www.triconpiping.com



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 p (315)697-8787 f (315)697-8788

SHEET TITLE

STRAIGHT LENGTH DETAIL (HDPE JACKET)

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

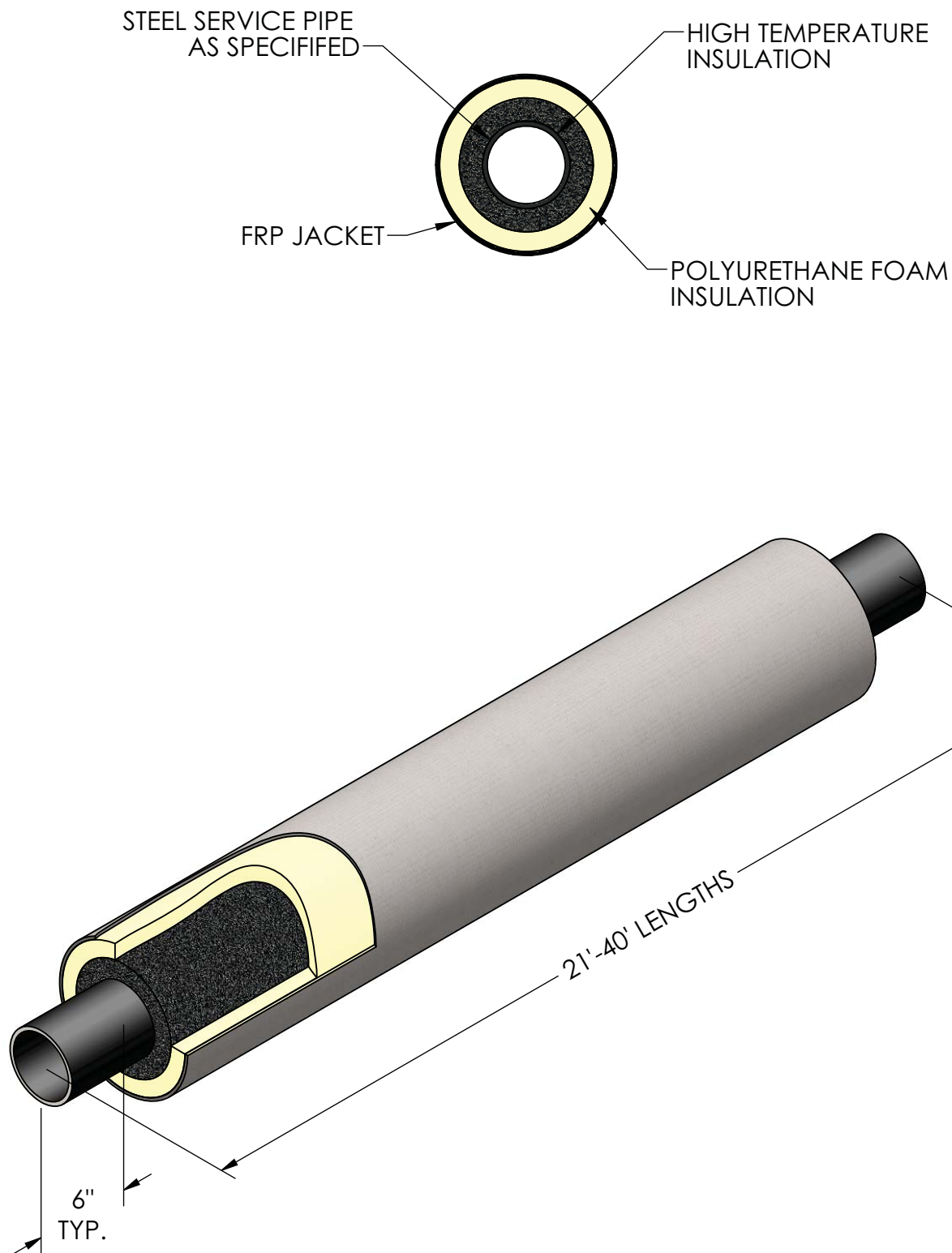
NTS

DATE

12/01/2016

C-1

SHEET



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SHEET TITLE

STRAIGHT LENGTH DETAIL (FRP JACKET)

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

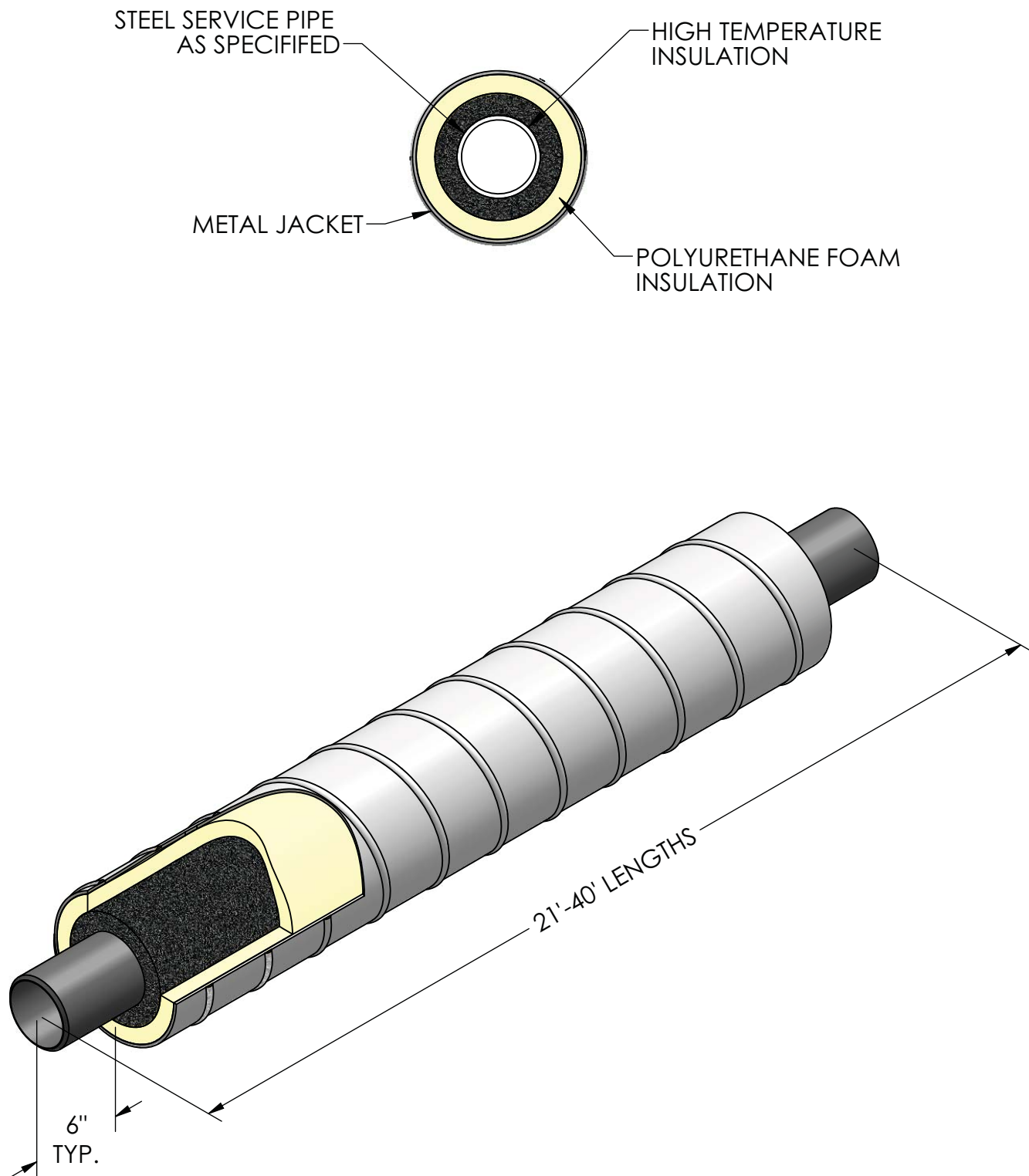
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DATE

12/01/2016

C-1

SHEET



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SHEET TITLE STRAIGHT LENGTH DETAIL (METAL JACKET)

PRODUCT
 TRICON COMPOSITE

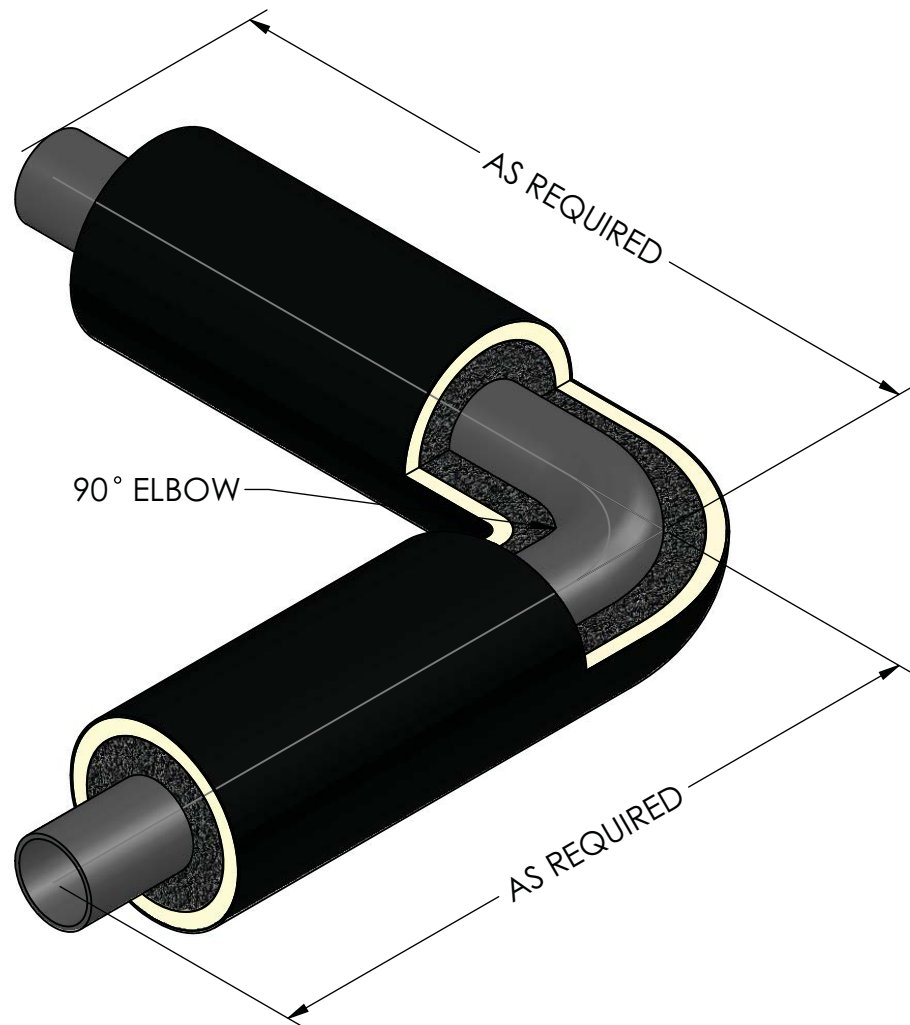
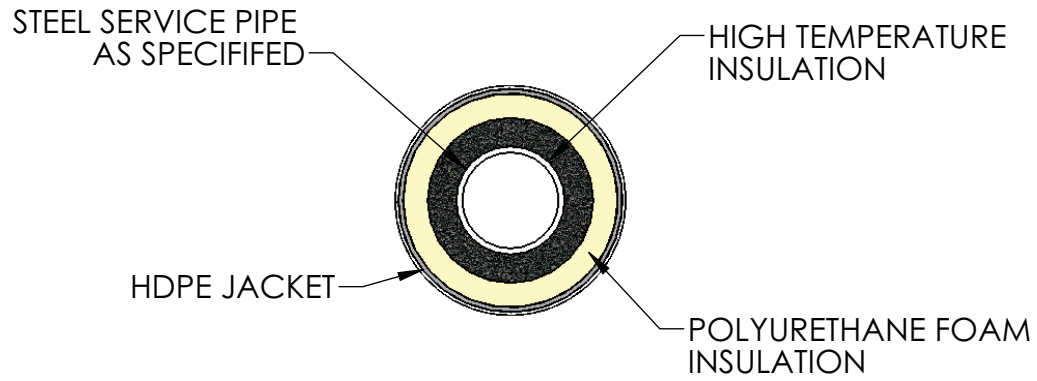
SIZE
A

SCALE
 NTS

DATE
 12/01/2016

C-1

SHEET



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SHEET TITLE

COMPOSITE (HDPE JACKET) 90° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

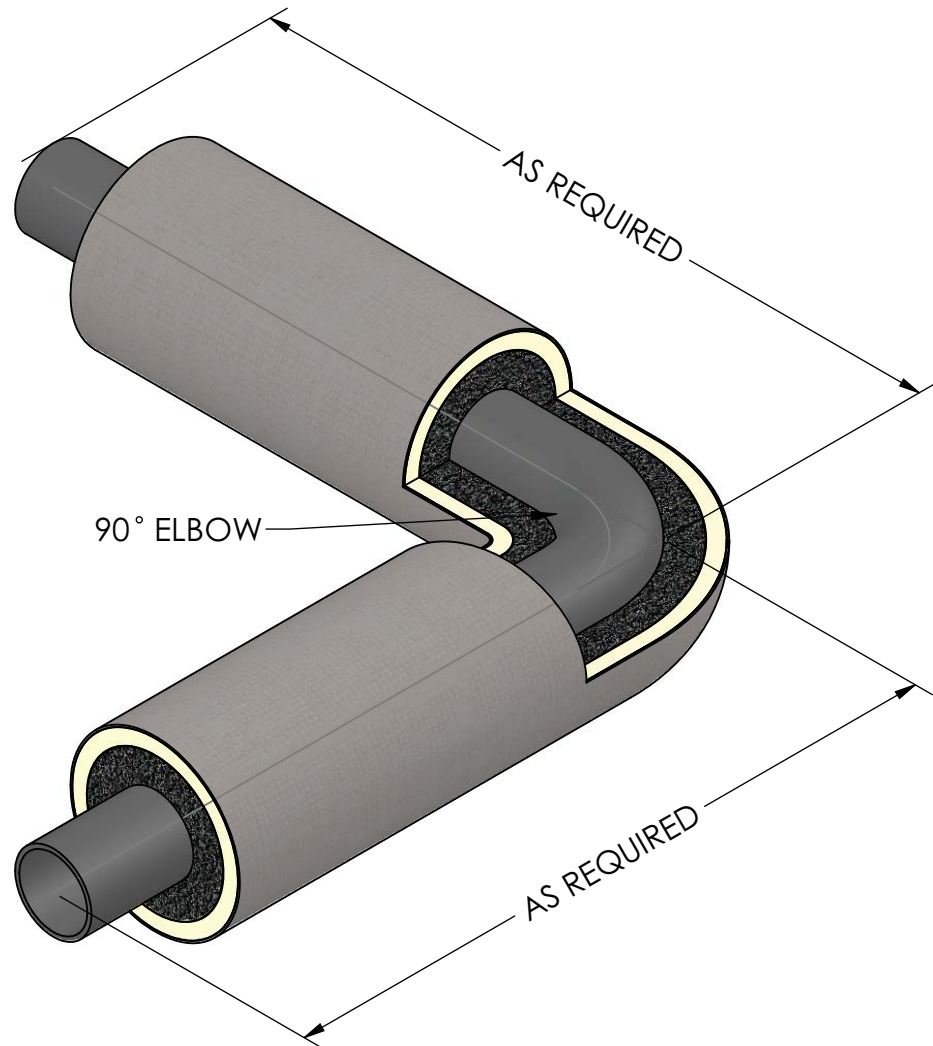
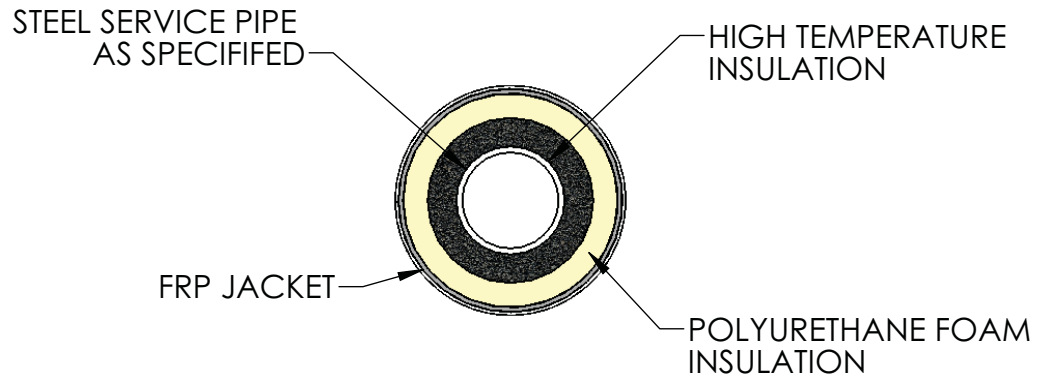
DATE

12/01/2016

DWG. NO.

C-2

SHEET



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SHEET TITLE

COMPOSITE (FRP JACKET) 90° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

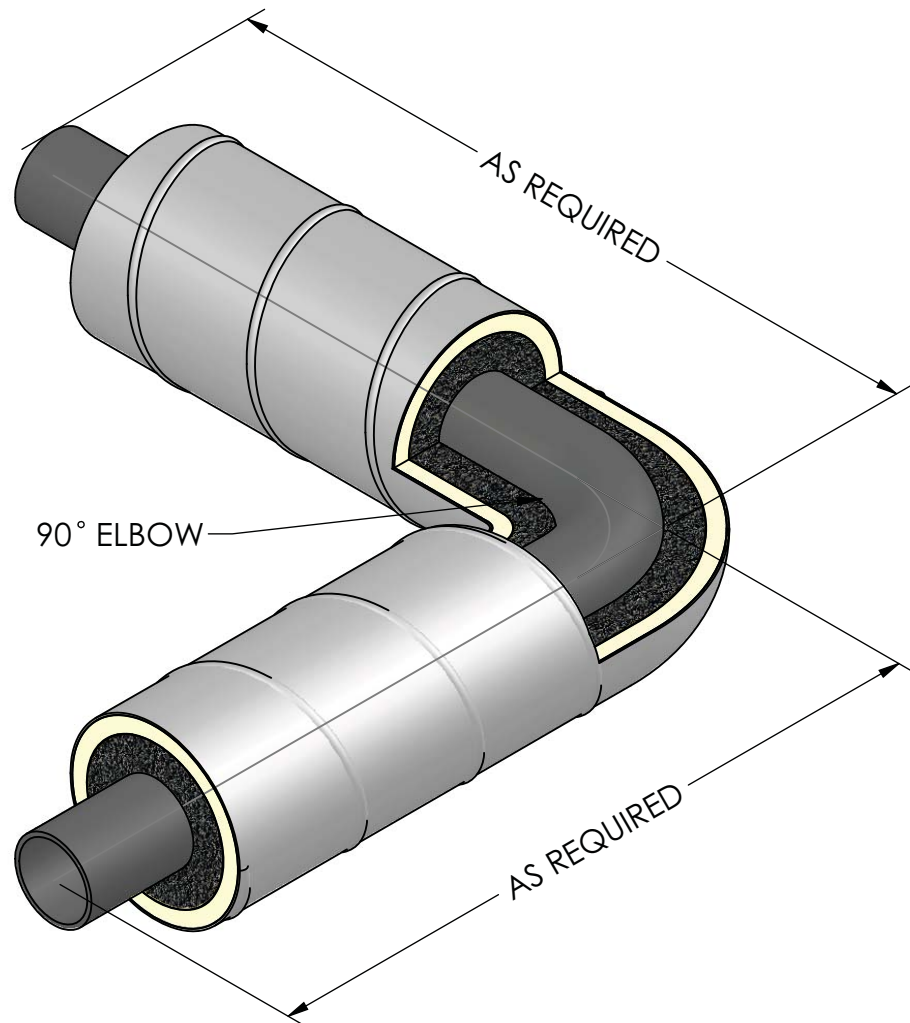
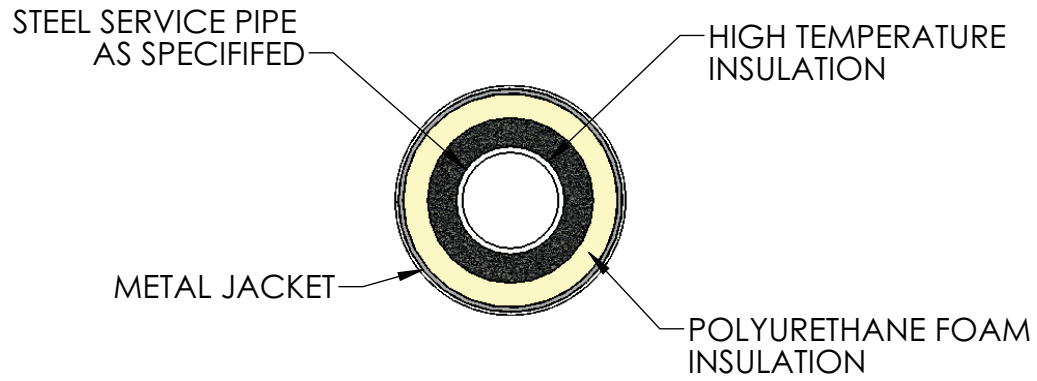
DATE

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DWG. NO.

C-2

SHEET



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SHEET TITLE

COMPOSITE (METAL JACKET) 90° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

DATE

12/01/2016

DWG. NO.

C-2

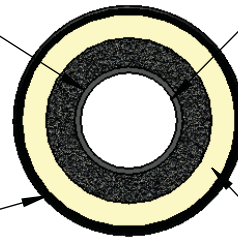
SHEET

STEEL SERVICE PIPE
AS SPECIFIED

HIGH TEMPERATURE
INSULATION

HDPE JACKET

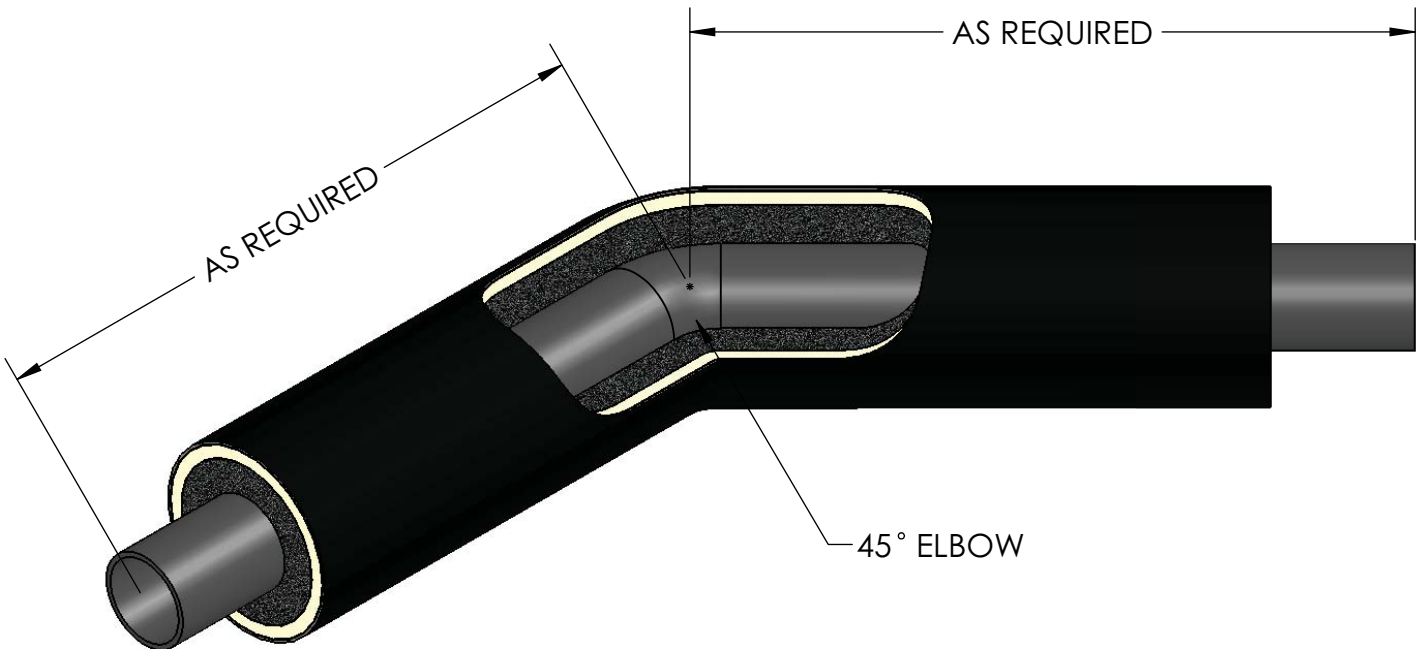
POLYURETHANE FOAM
INSULATION



AS REQUIRED

AS REQUIRED

45° ELBOW



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SHEET TITLE

COMPOSITE (HDPE JACKET) 45° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

DATE

12/01/2016

DWG. NO.

C-3

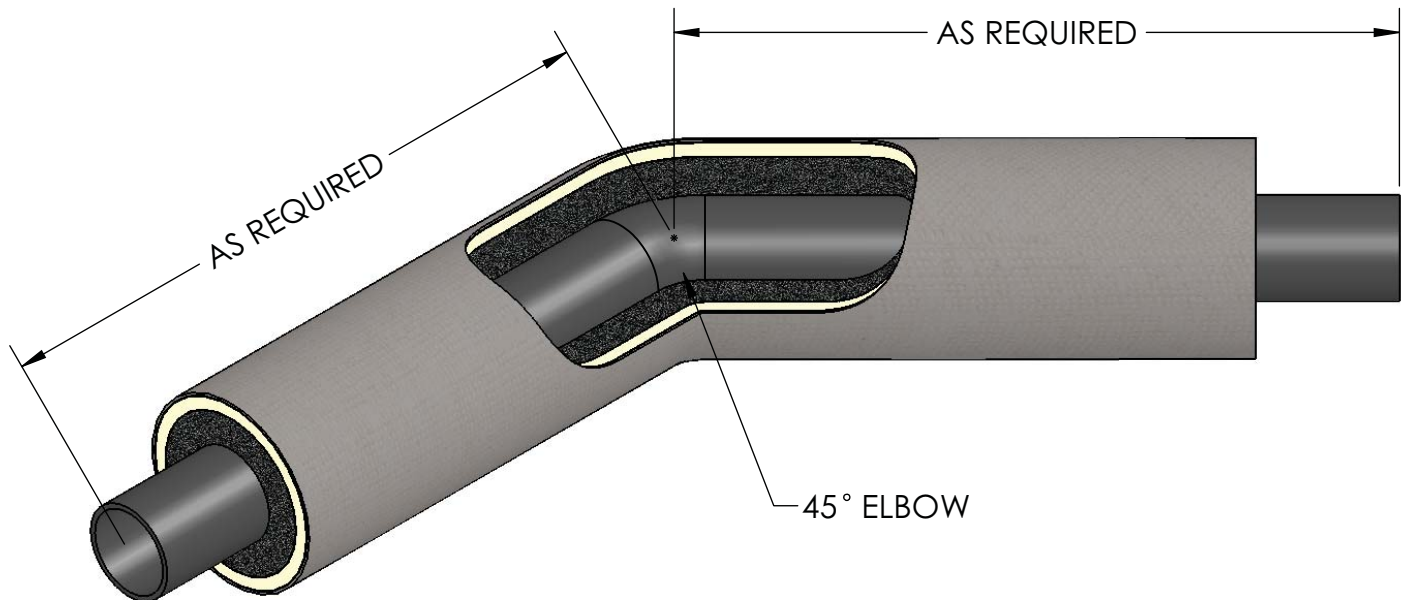
SHEET

STEEL SERVICE PIPE
AS SPECIFIED

HIGH TEMPERATURE
INSULATION

FRP JACKET

POLYURETHANE FOAM
INSULATION



TRICON

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SHEET TITLE

COMPOSITE (FRP JACKET) 45° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

DATE

12/01/2016

DWG. NO.

C-3

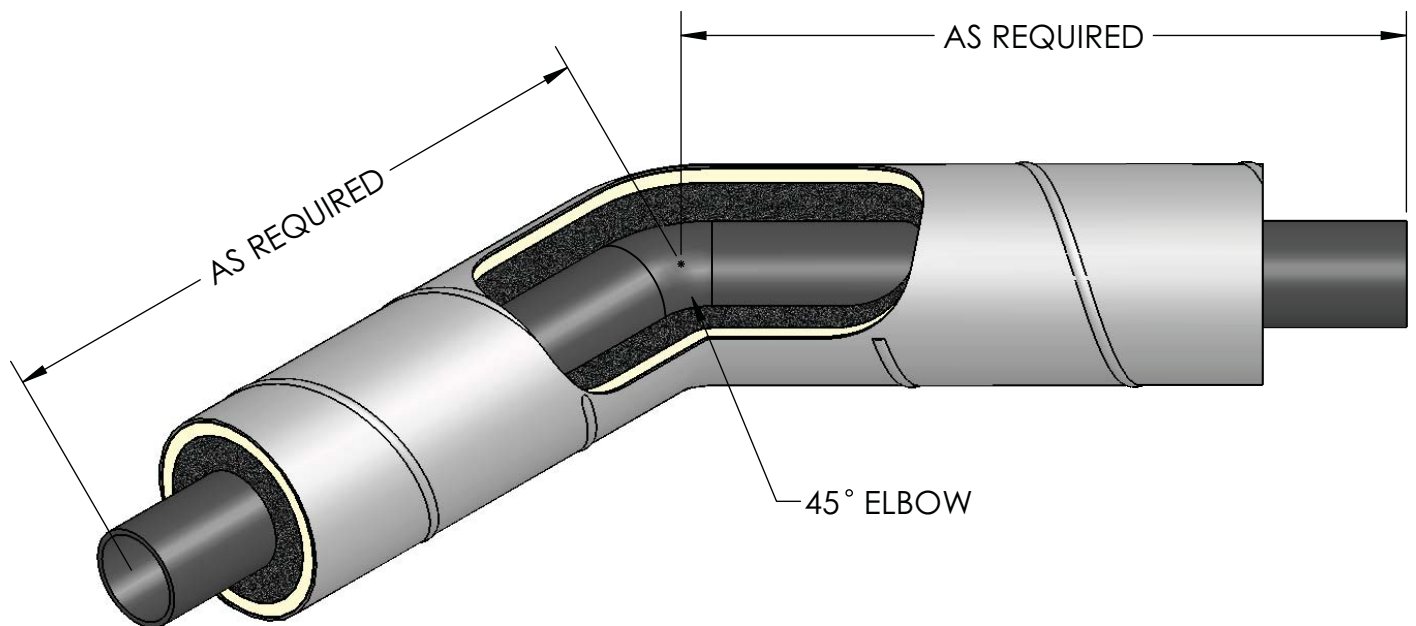
SHEET

STEEL SERVICE PIPE
AS SPECIFIED

HIGH TEMPERATURE
INSULATION

METAL JACKET

POLYURETHANE FOAM
INSULATION



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SHEET TITLE

COMPOSITE (METAL JACKET) 45° ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

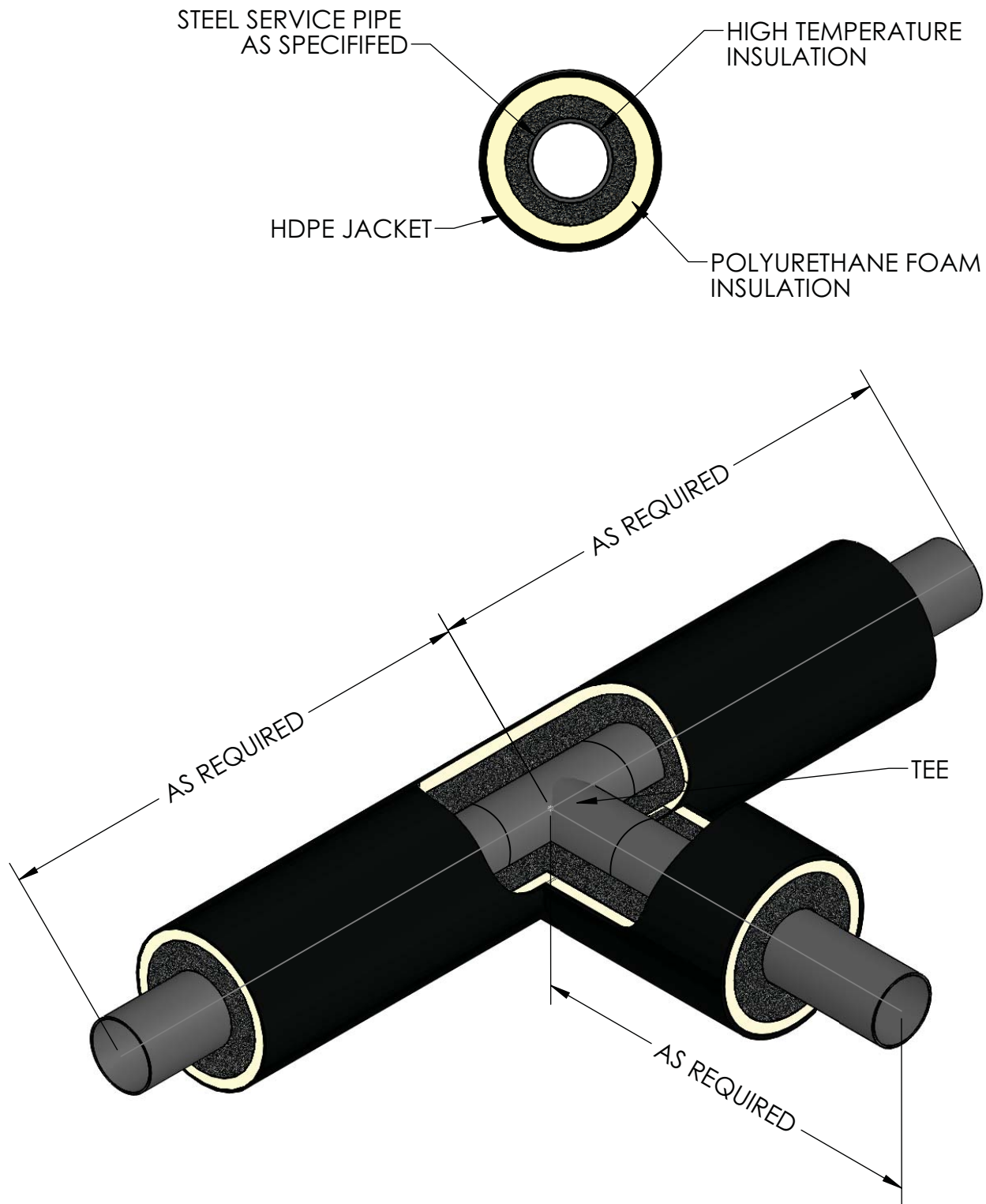
DATE

12/01/2016

DWG. NO.

C-3

SHEET



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SHEET TITLE

PRE-FABRICATED TEE (HDPE JACKET) DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

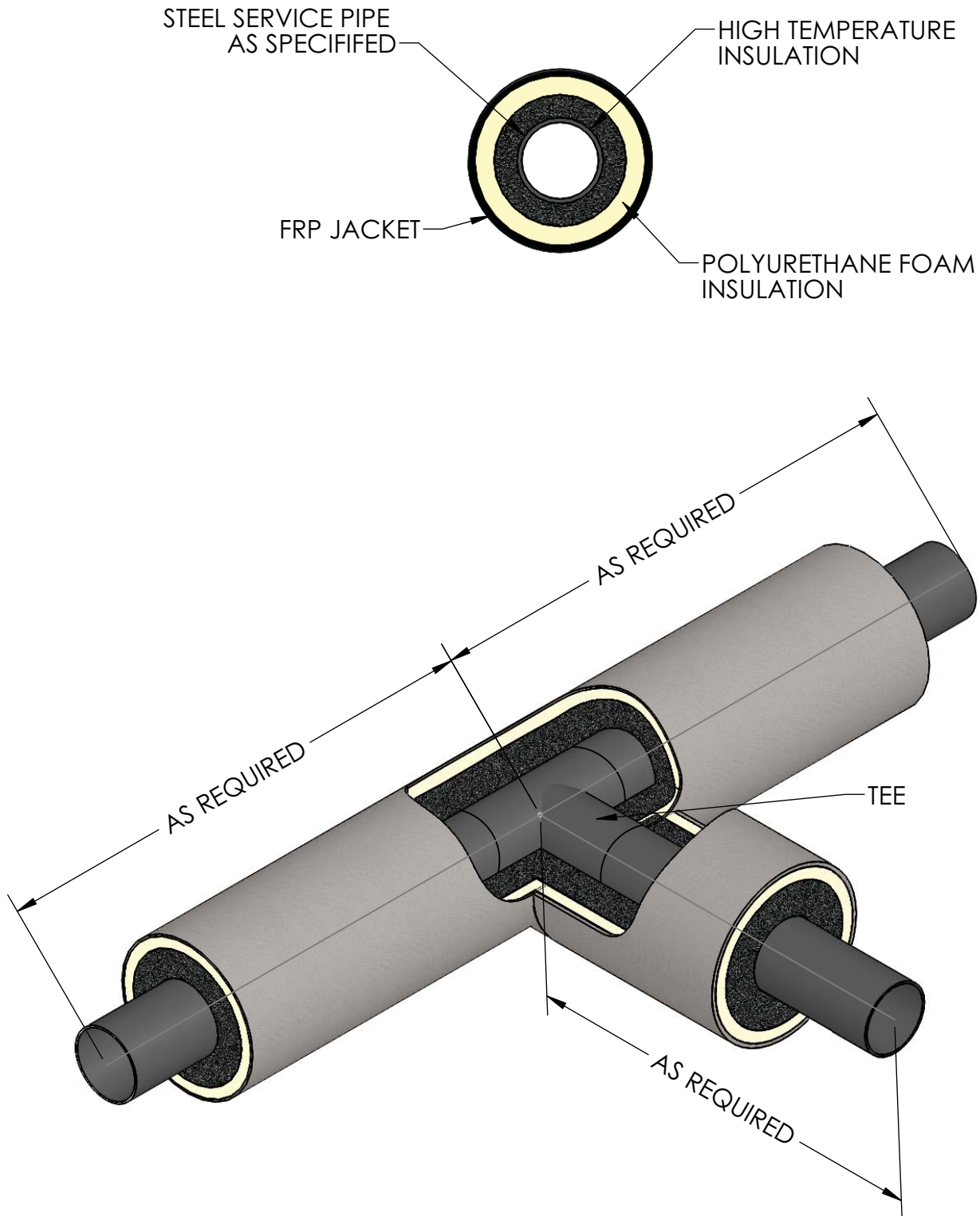
DATE

12/01/2016

DWG. NO.

C-4

SHEET



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SHEET TITLE

PRE-FABRICATED TEE (FRP JACKET) DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

DATE

12/01/2016

DWG. NO.

C-4

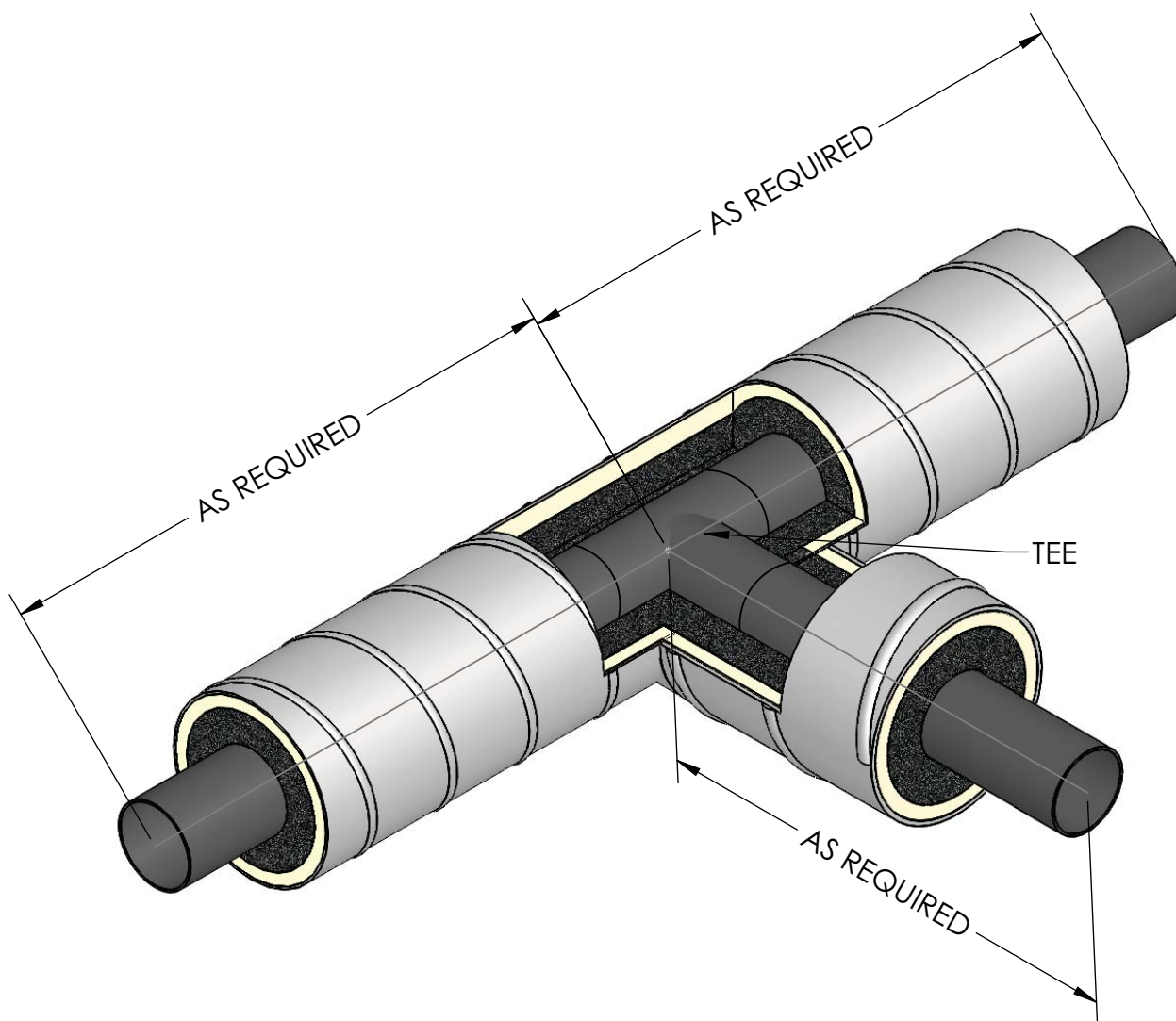
SHEET

STEEL SERVICE PIPE
AS SPECIFIED

HIGH TEMPERATURE
INSULATION

METAL JACKET

POLYURETHANE FOAM
INSULATION



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SHEET TITLE

PRE-FABRICATED TEE (METAL JACKET) DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

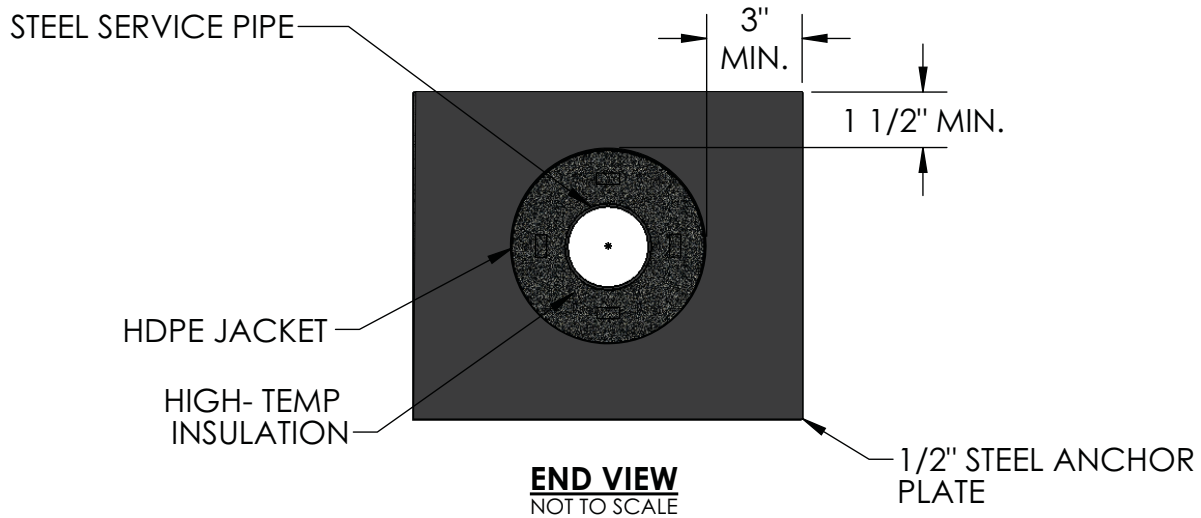
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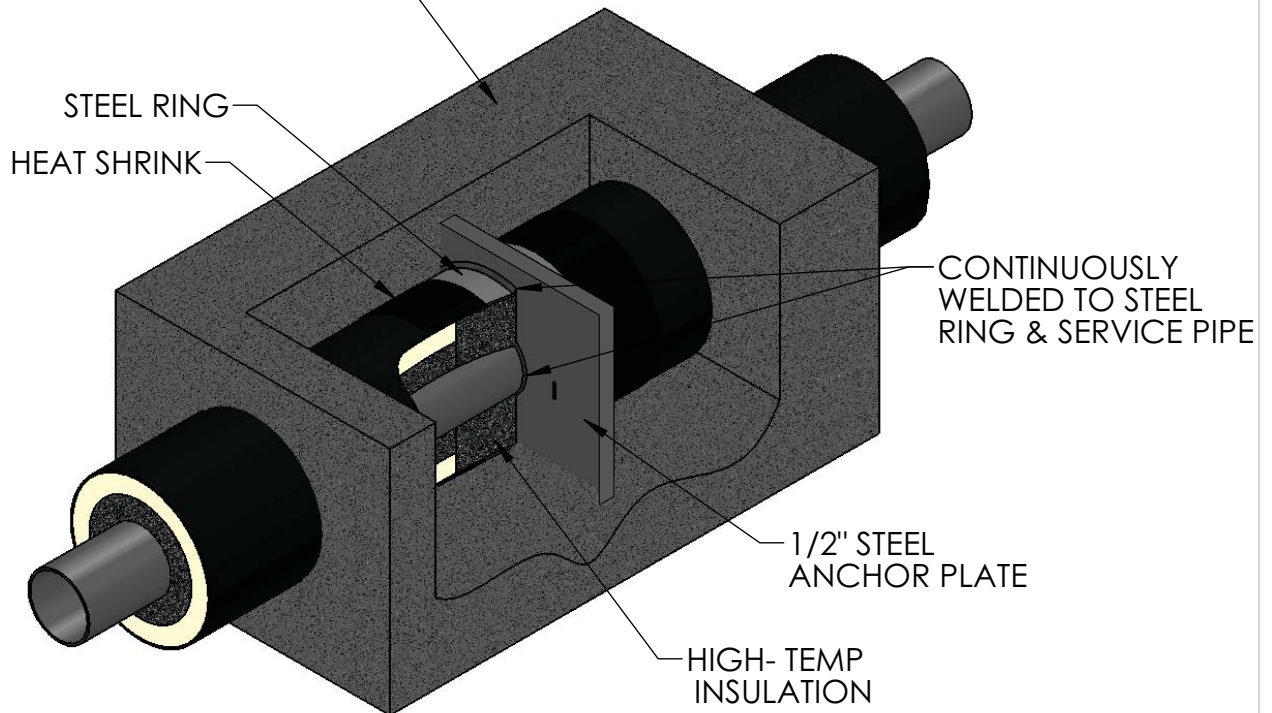
DWG. NO.

C-4

SHEET



CONCRETE ANCHOR BLOCK MUST BE
KEYED TO UNDISTURBED EARTH



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SHEET TITLE

SQUARE ANCHOR (HDPE JACKET) DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

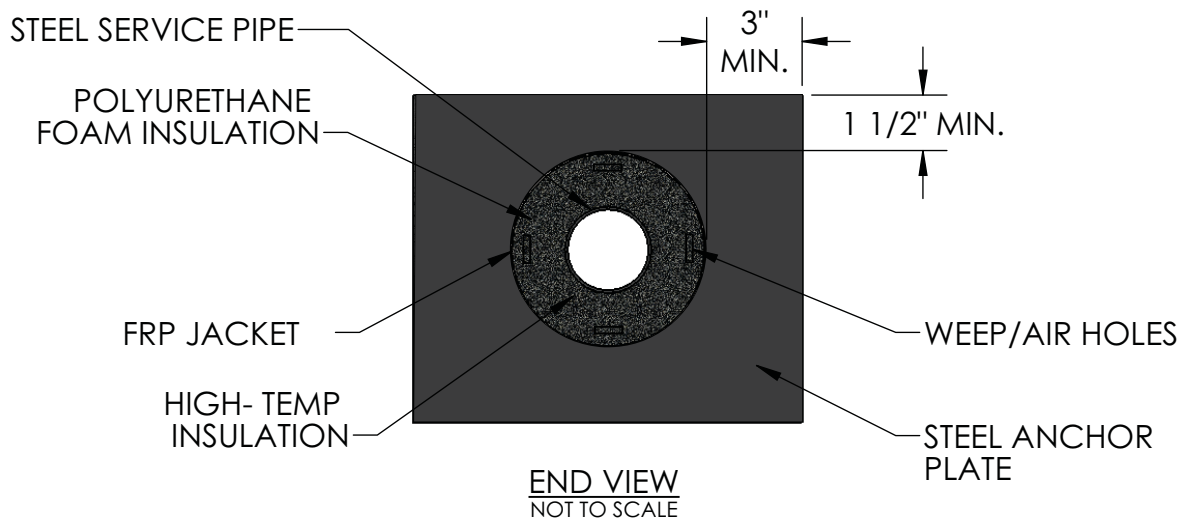
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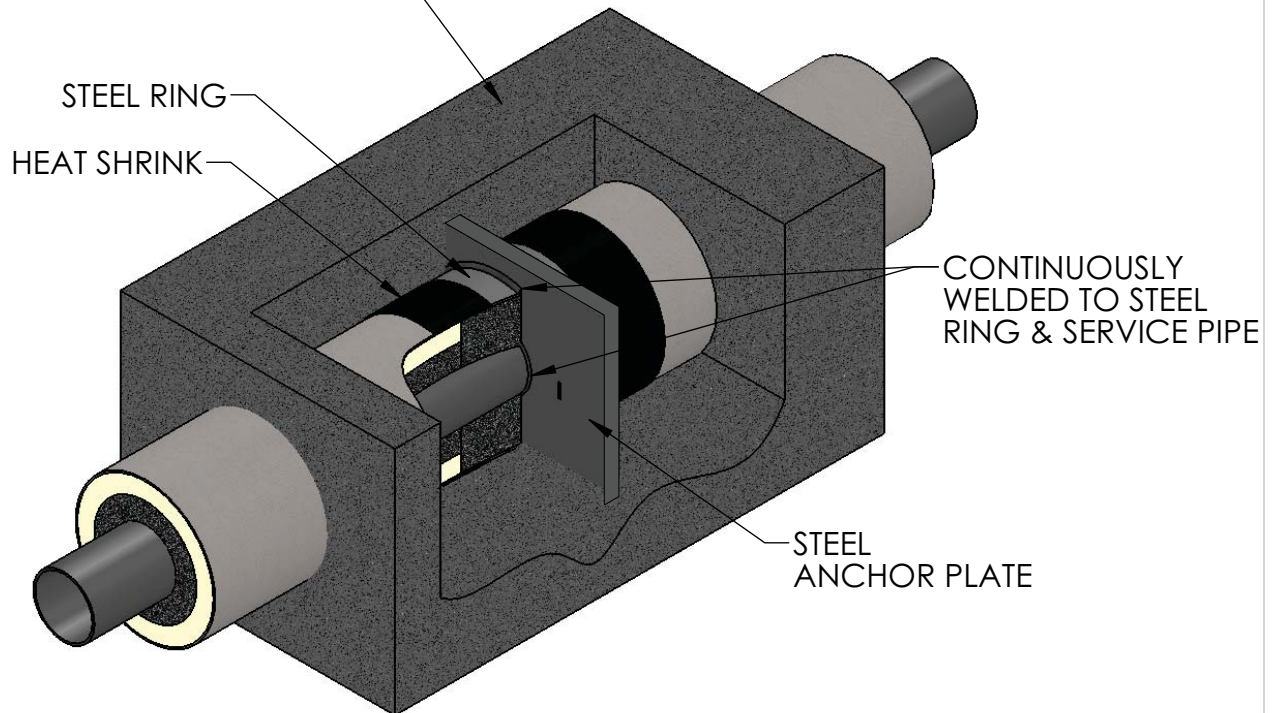
DWG. NO.

C-5

SHEET



CONCRETE ANCHOR BLOCK MUST BE
KEYED TO UNDISTURBED EARTH



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SHEET TITLE

SQUARE ANCHOR (FRP JACKET) DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

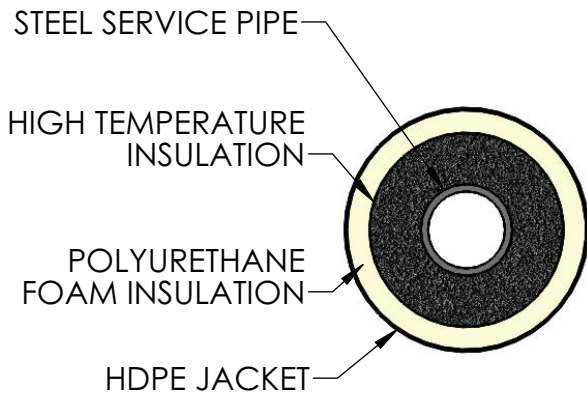
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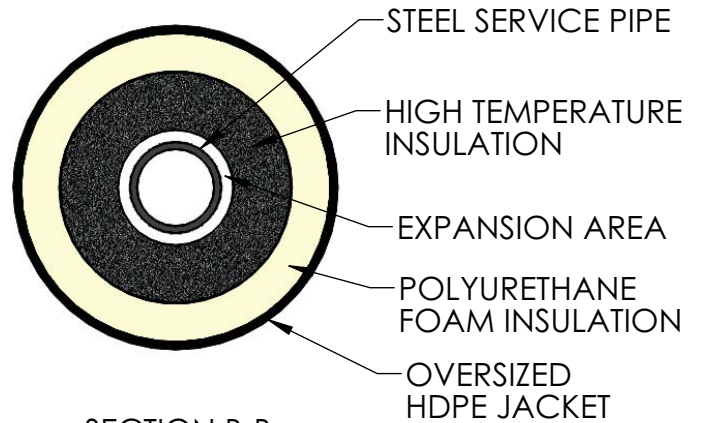
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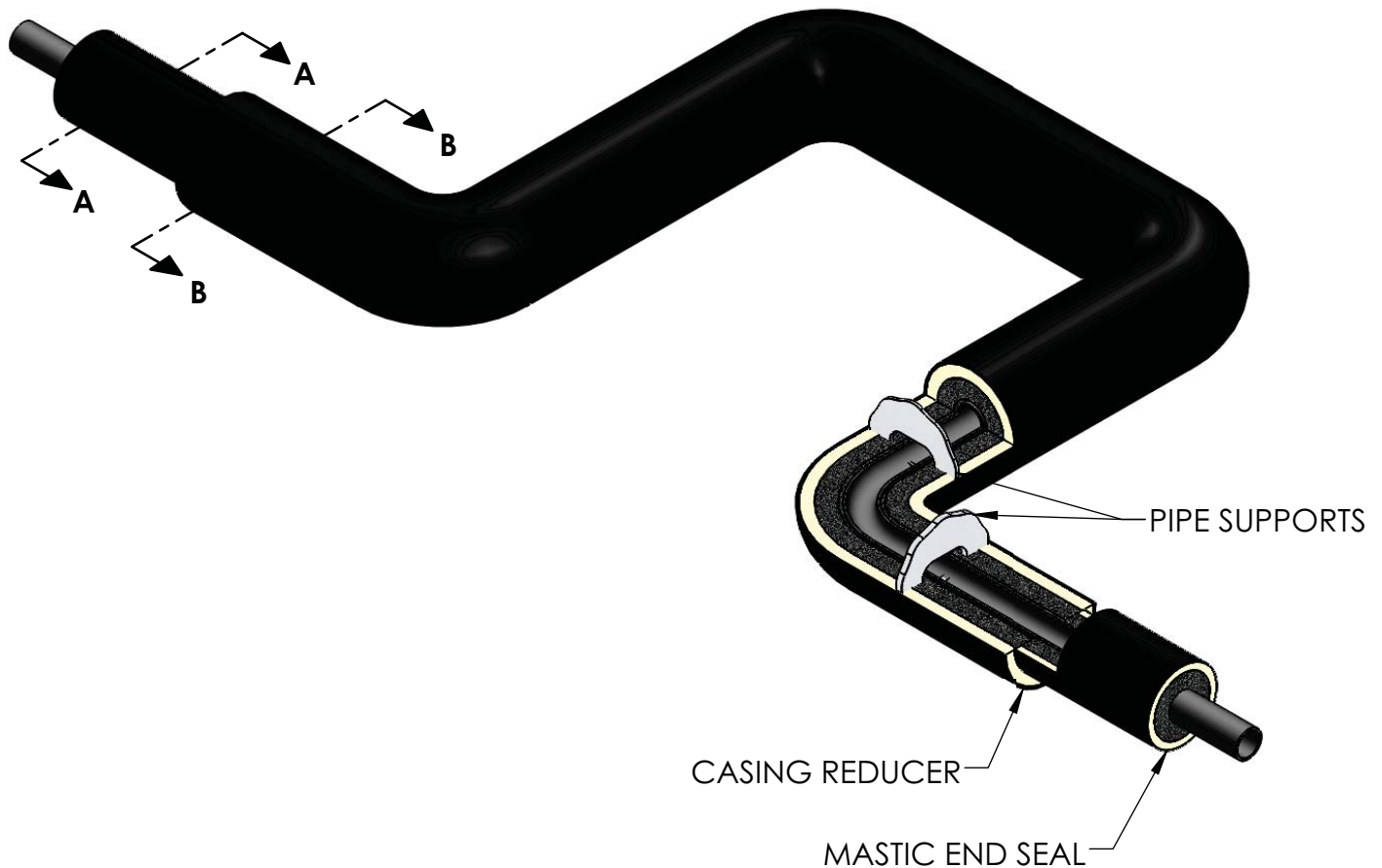
SHEET



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



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SHEET TITLE

EXP. LOOP (HDPE JACKET) WITH INTERNAL EXP. DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

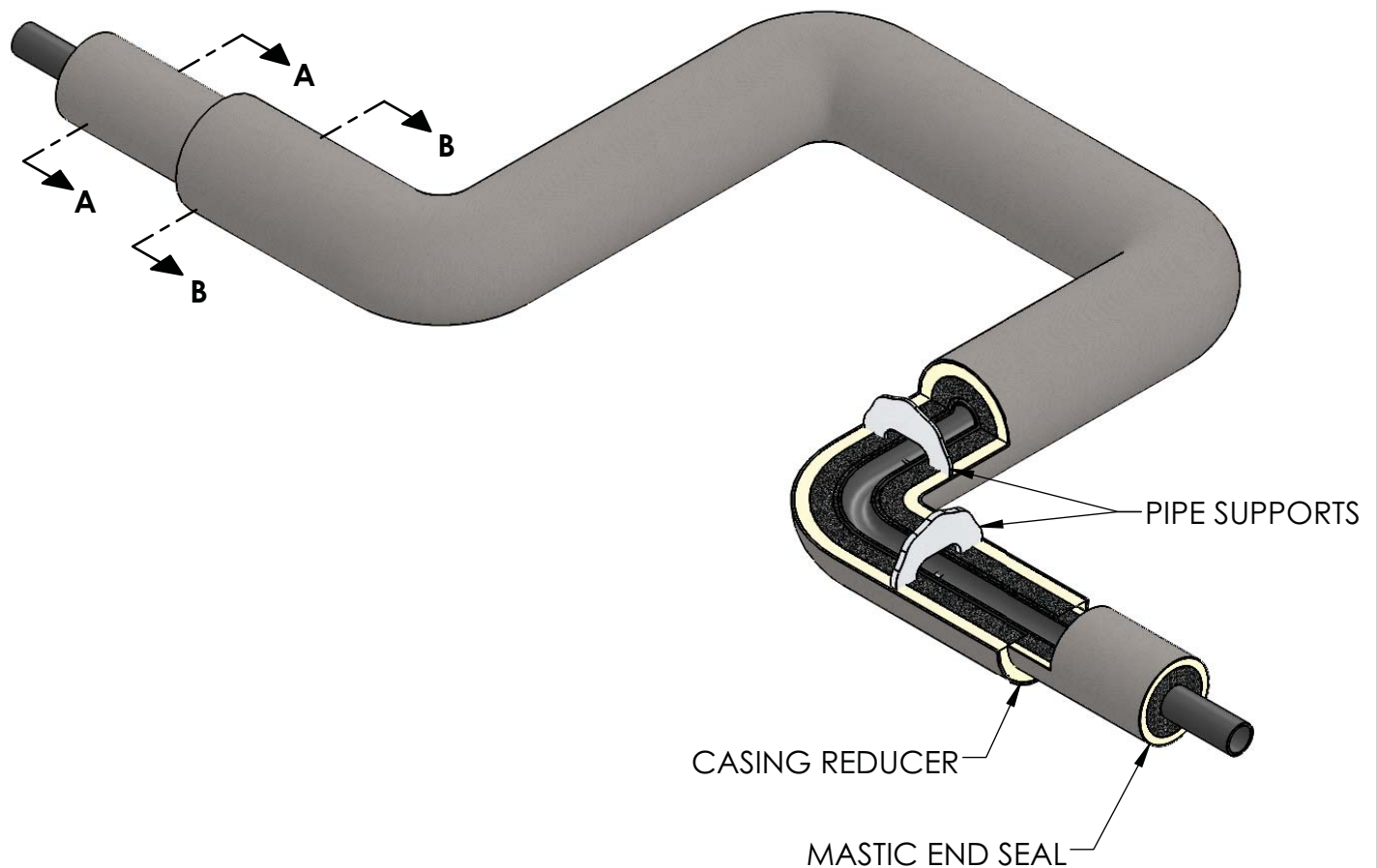
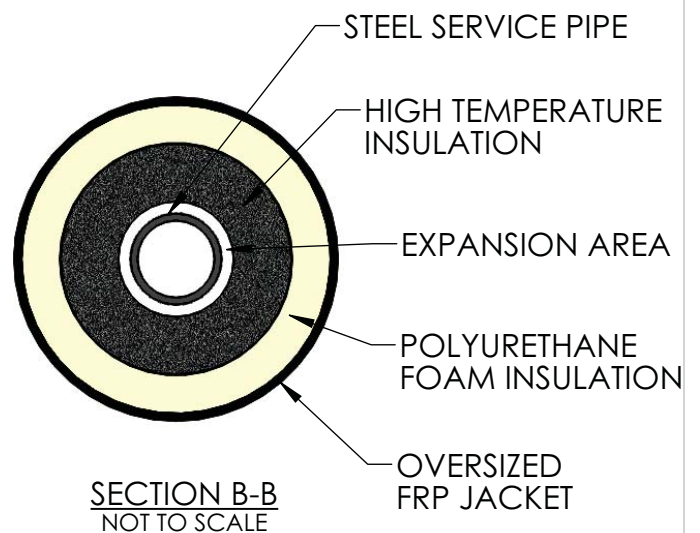
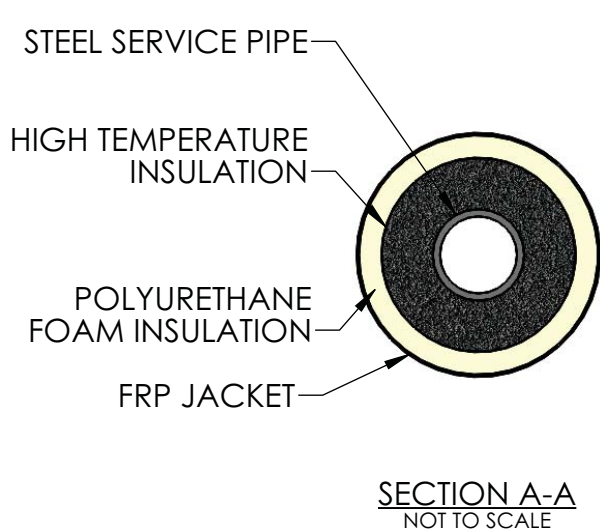
DATE

12/01/2016

DWG. NO.

C-6

SHEET



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SHEET TITLE

EXP. LOOP (FRP JACKET) WITH INTERNAL EXP. DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

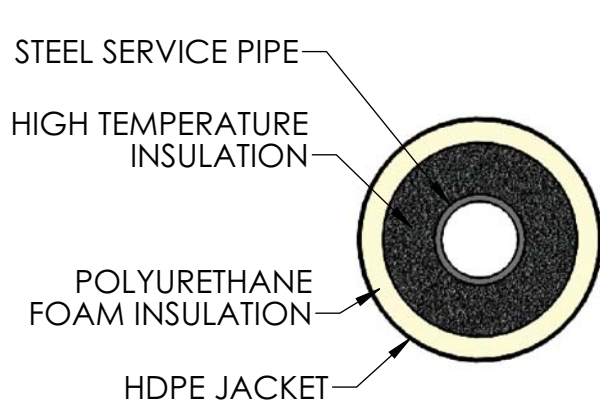
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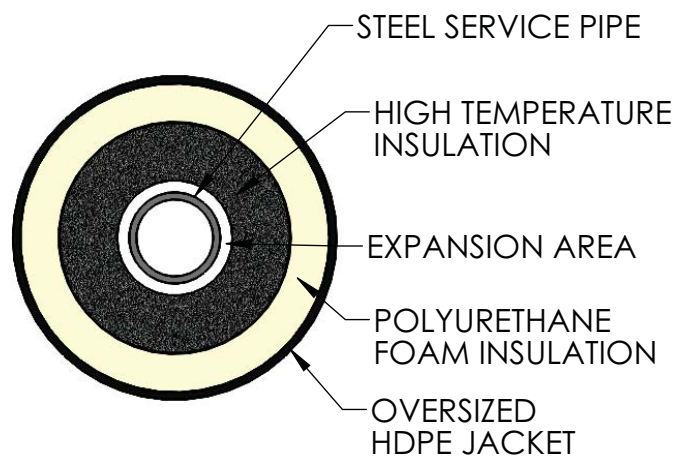
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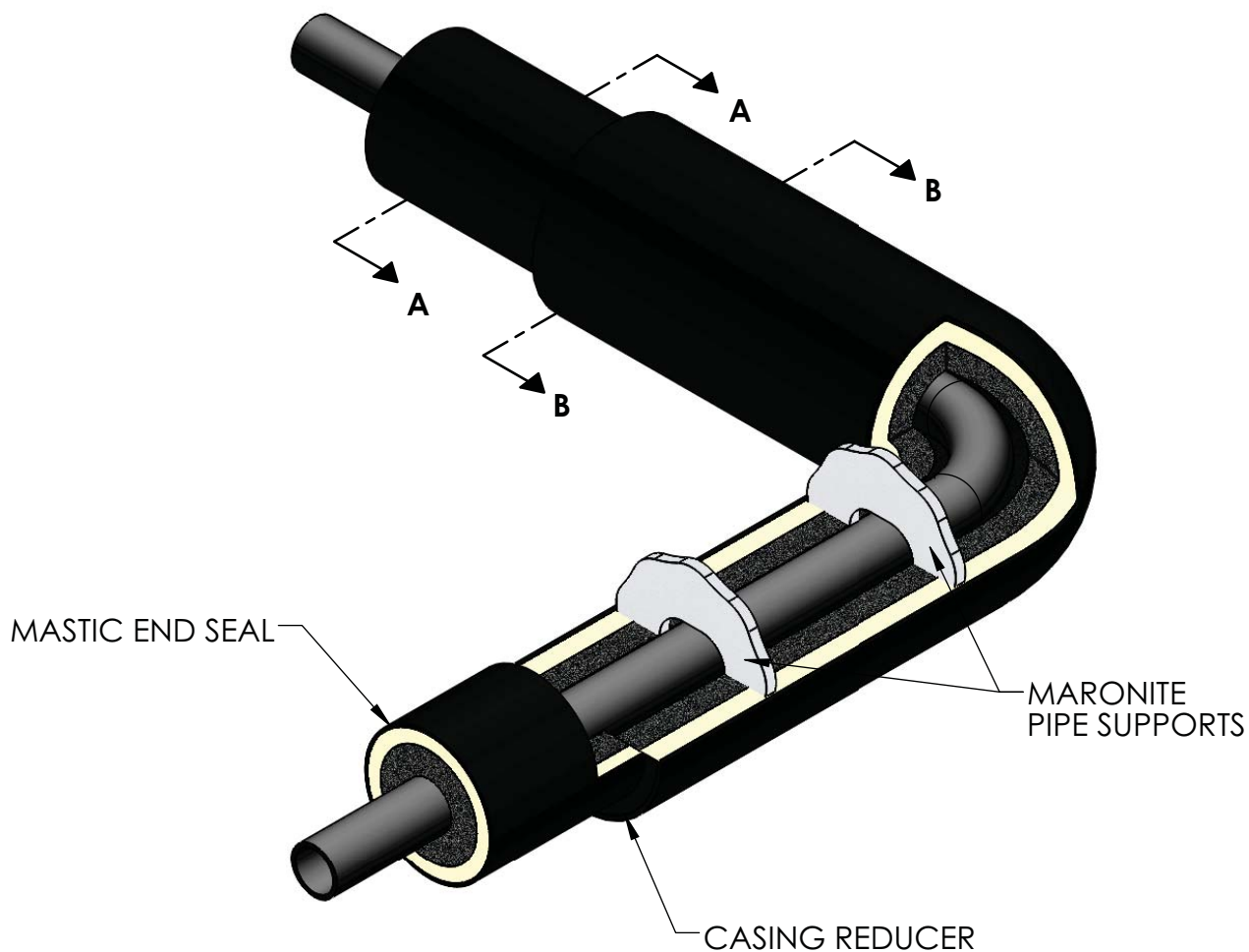
SHEET



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



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SHEET TITLE

90-DEG.(HDPE JACKET) INTERNAL EXPANSION ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

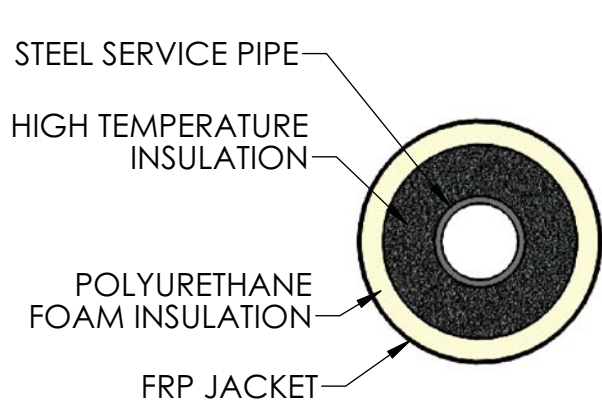
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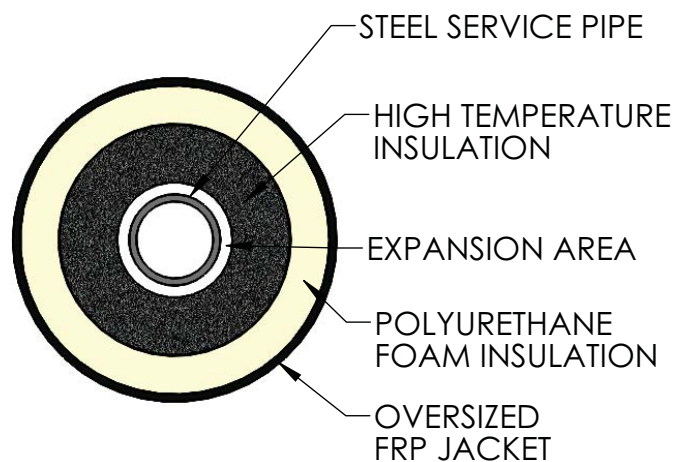
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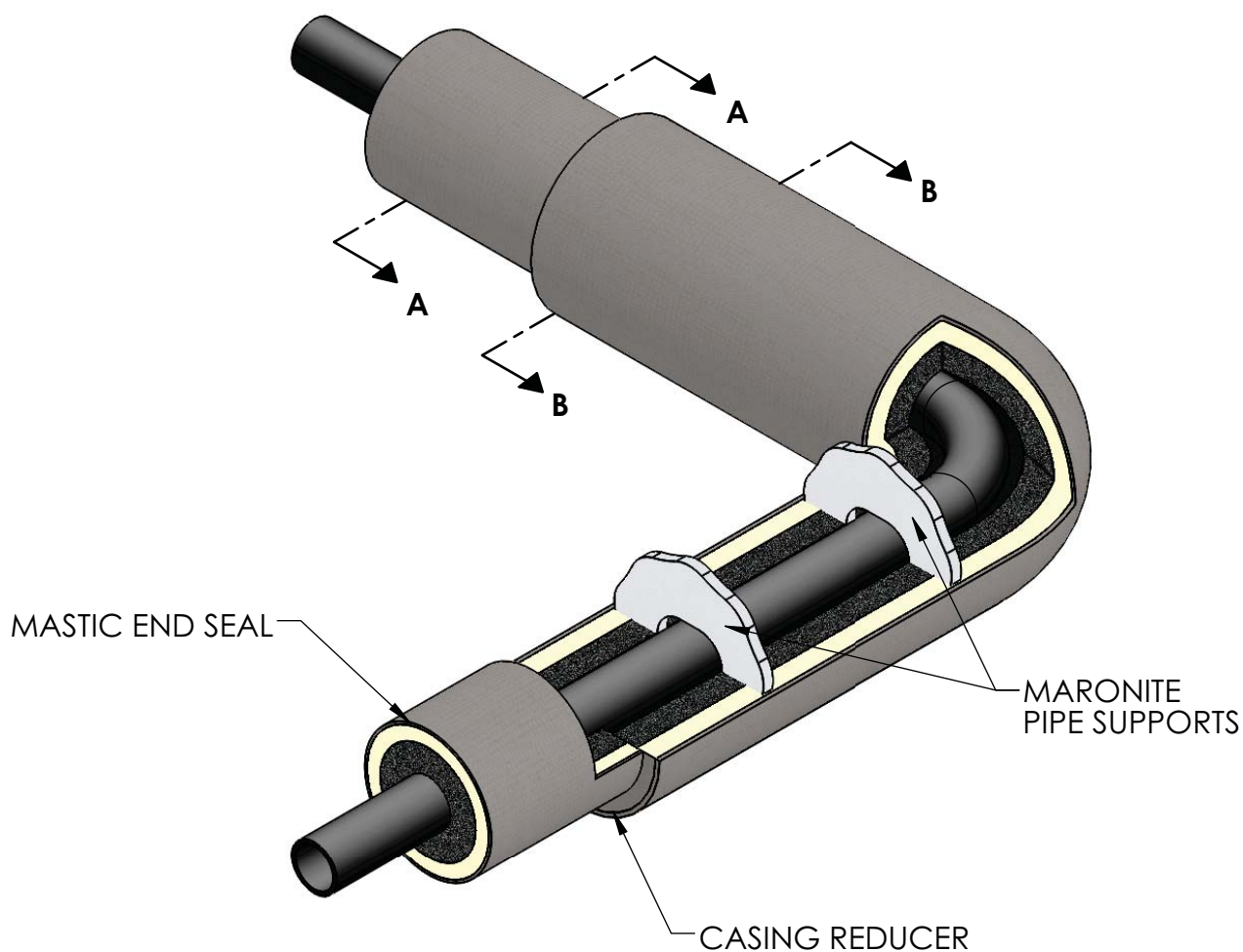
SHEET



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



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SHEET TITLE

90-DEG.(FRP JACKET) INTERNAL EXPANSION ELBOW DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

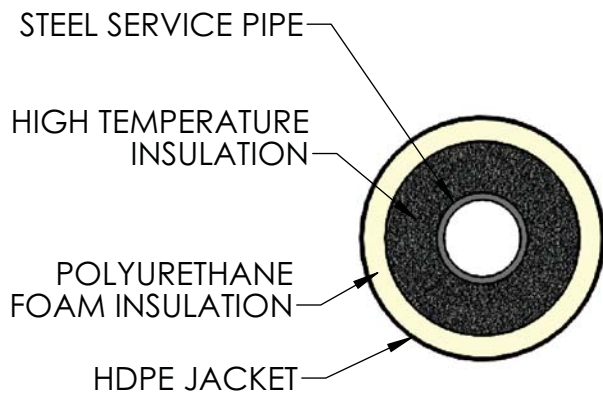
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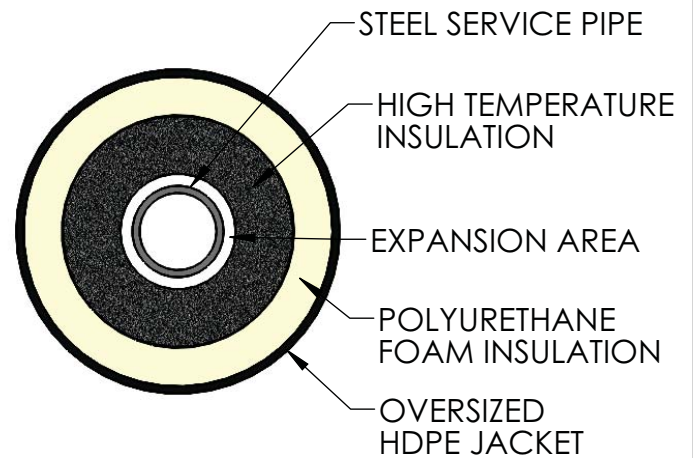
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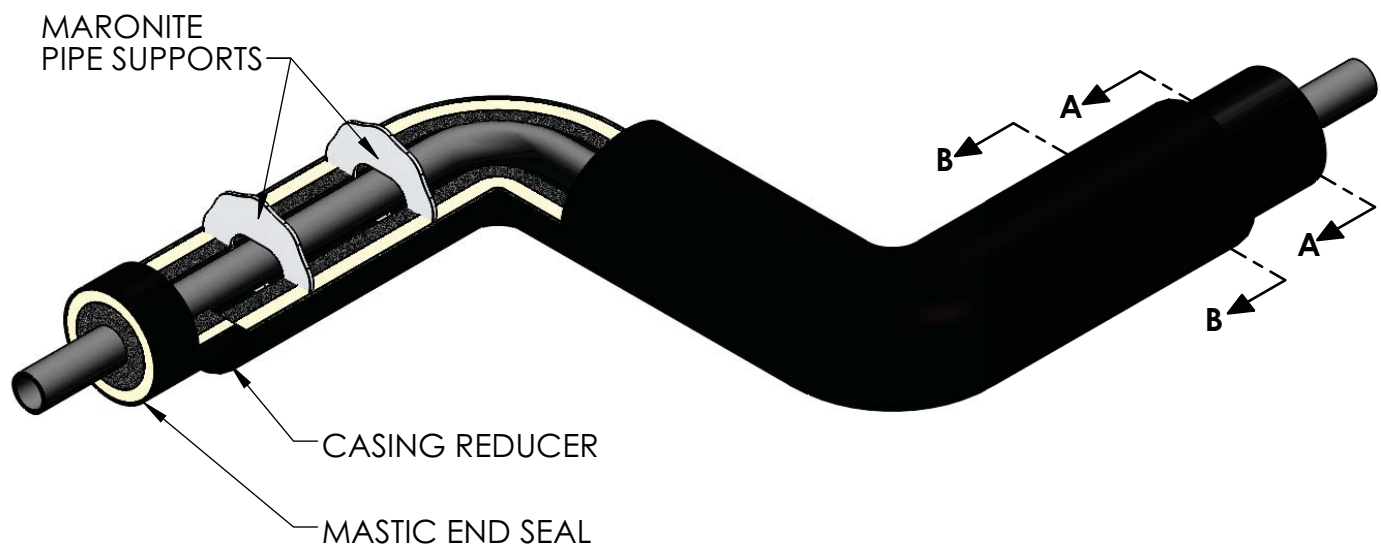
SHEET



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



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SHEET TITLE

Z-BEND (HDPE JACKET) WITH INTERNAL EXPANSION DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

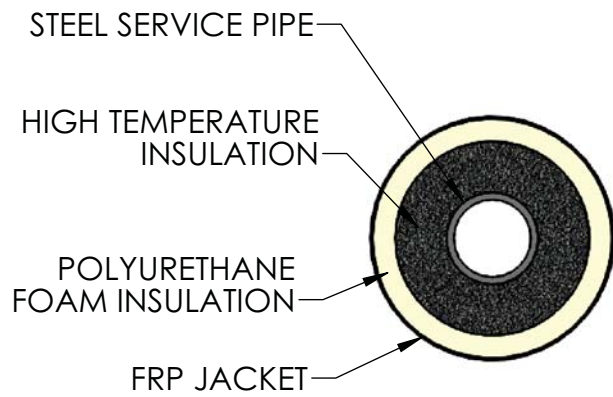
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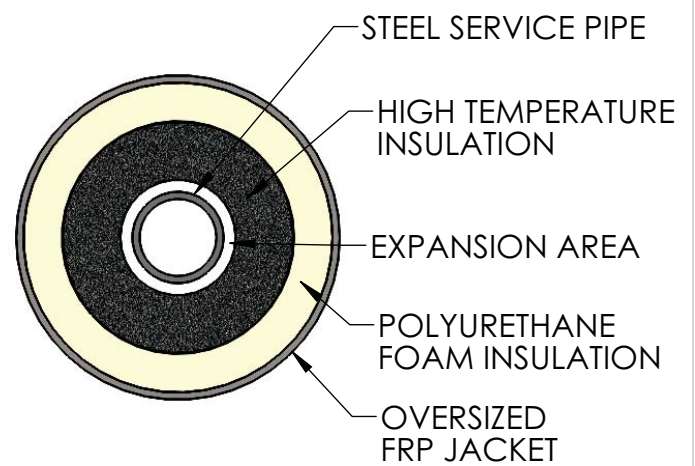
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C-8

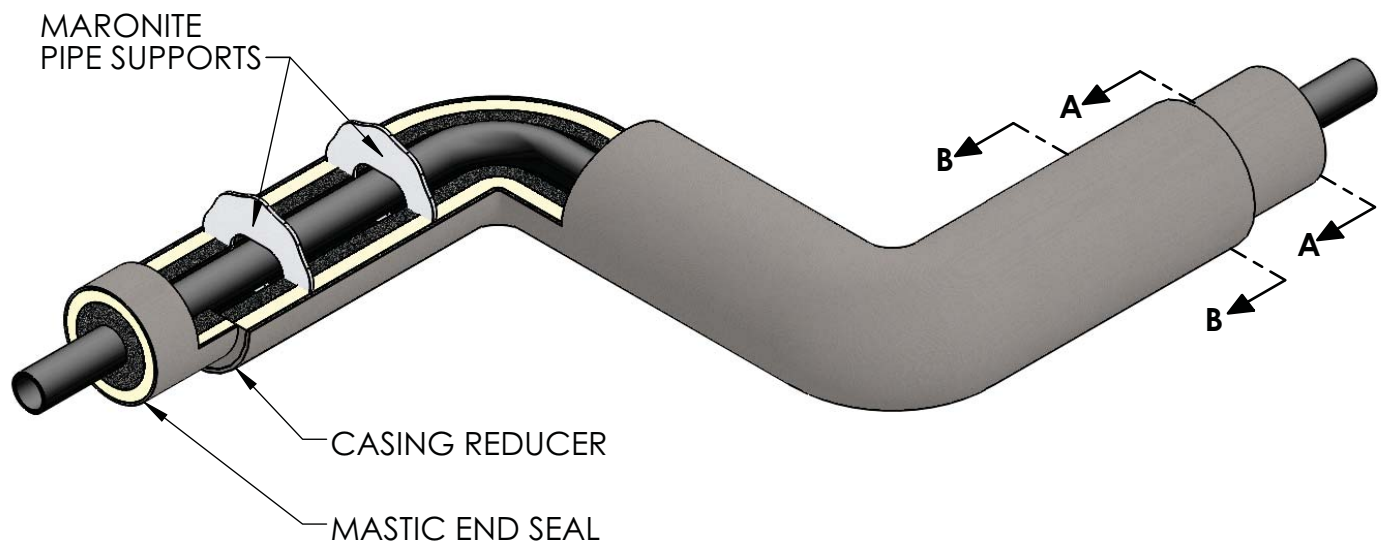
SHEET



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE



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SHEET TITLE

Z-BEND (FRP JACKET) WITH INTERNAL EXPANSION DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

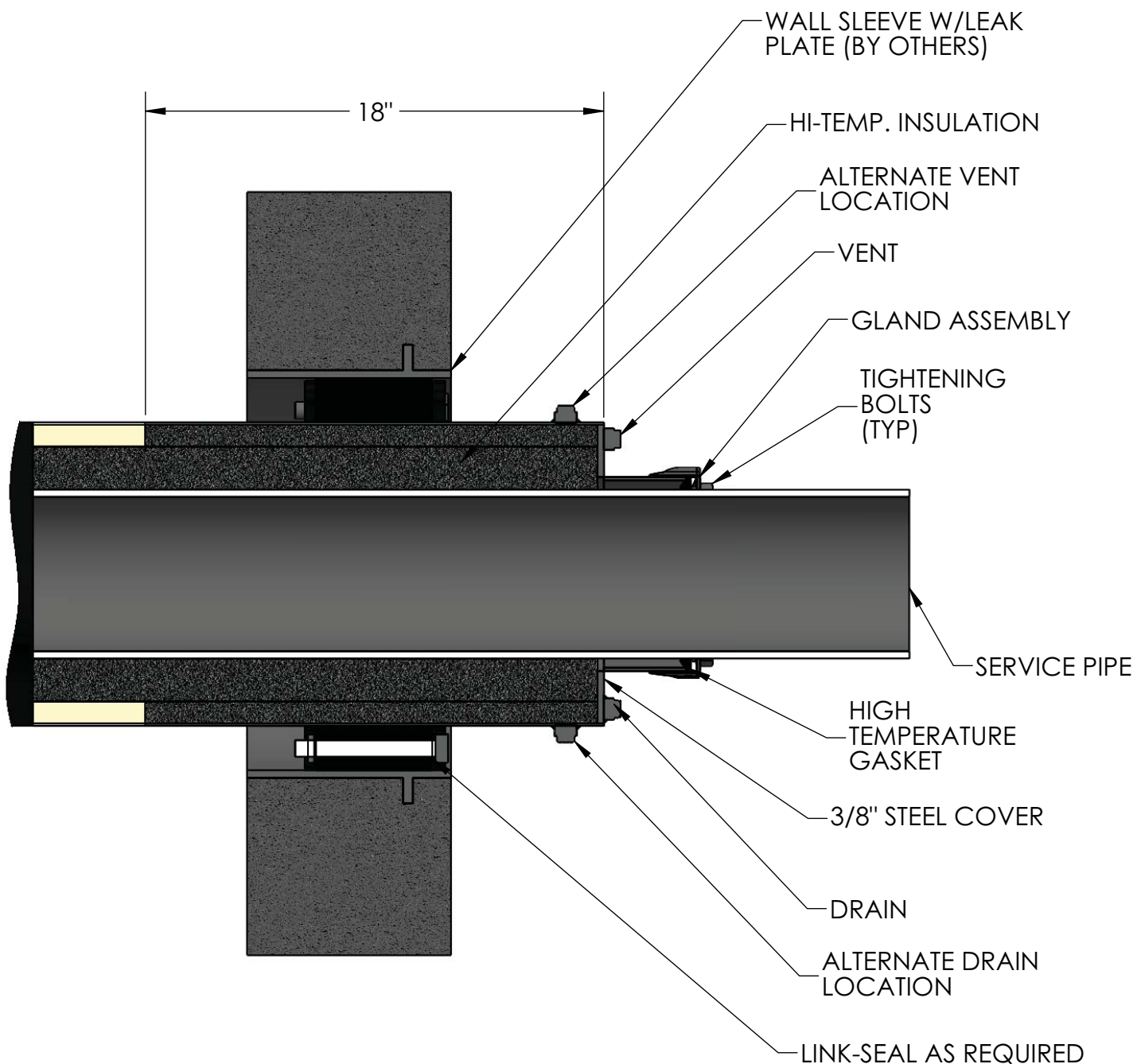
DATE

12/01/2016

DWG. NO.

C-8

SHEET



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SHEET TITLE

GLAND END SEAL DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

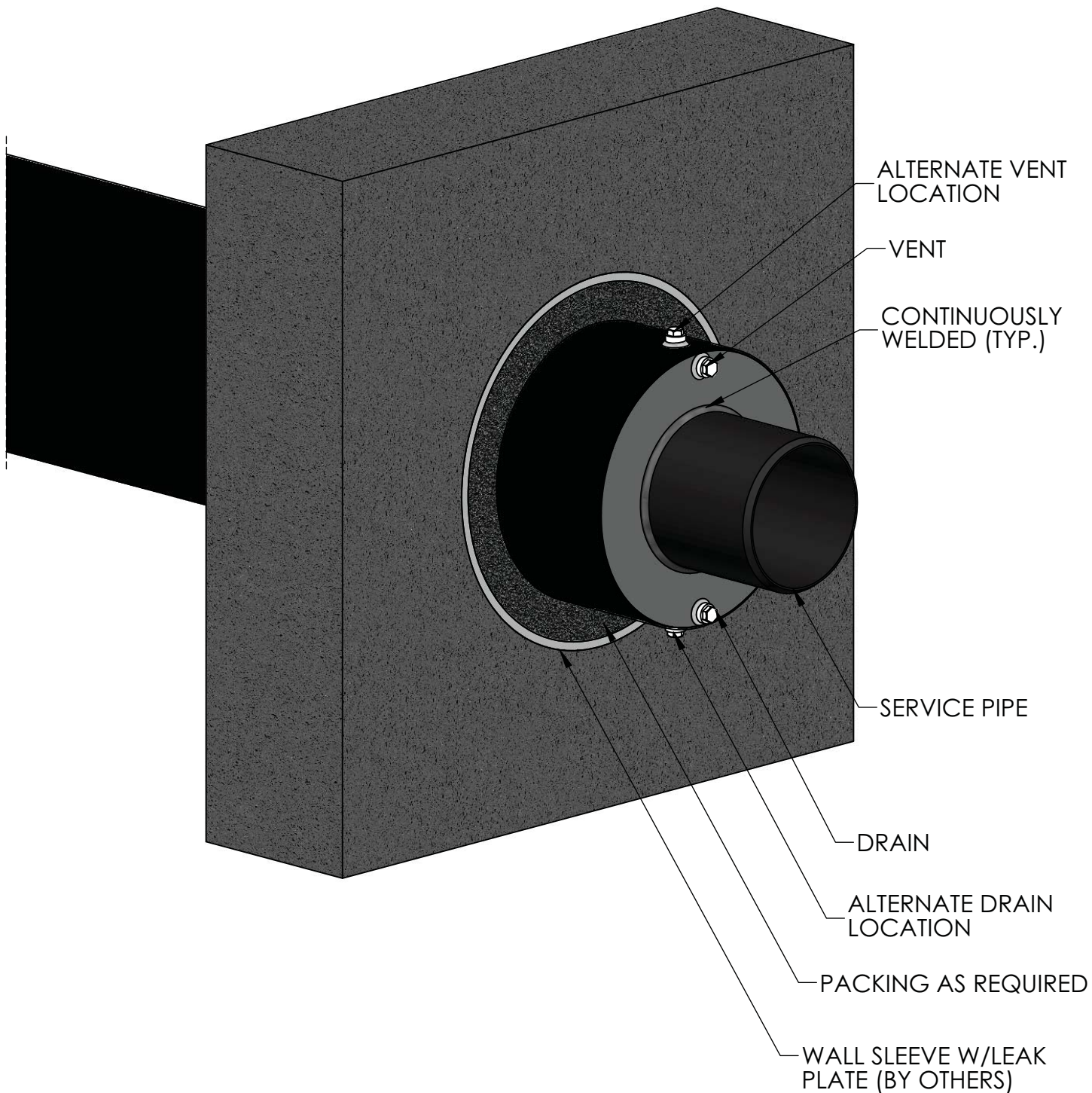
DATE

12/01/2016

DWG. NO.

C-9

SHEET



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P.O. BOX 361, Canastota, NY 13032
 p (315)697-8787 f (315)697-8788

SHEET TITLE

WELD END SEAL DETAIL

PRODUCT

TRICON COMPOSITE

SIZE

A

SCALE

NTS

DATE

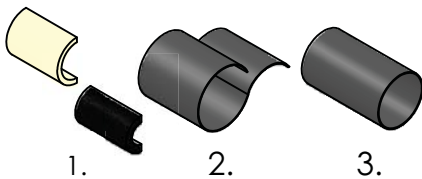
12/01/2016

DWG. NO.

C-10

SHEET

STEP #1: Gather Materials



The field joint kit includes:

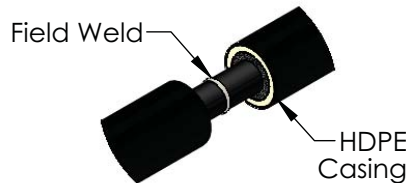
1. Urethane and Foamglass pipe covering (3-ft sections)
2. Shrink Sleeve materials
3. Split HDPE Rockshield (18" long)



Equipment List:

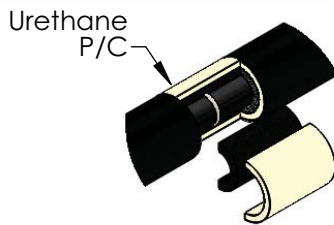
Hand saw, razor knife, propane tank, torch, and safety glasses.

STEP #2: Join Service Pipe



After field boding with coupling & adhesive, test/check the service pipe as required.

STEP #3: Apply Insulation



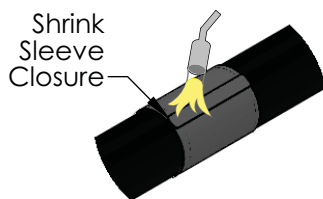
Make sure the pipe and casing are clean and dry. Cut the polyurethane and foamglass half-shells to length using a hand saw. Fit the half-shells to contours of service pipe by rotating the half-shells back and forth until they seat properly. Secure into place. Some trimming may be required for a tight fit.

STEP #4: Apply Shrink Sleeve



Remove release liner and place shrink sleeve around pipe insulation. Gently heat backing of sleeve and closure. Do not get dirt onto inside of shrink sleeve. Overlap sleeve at the 10 and 2 o'clock positions. Press the closure firmly into place. Gently heat closure and pat down.

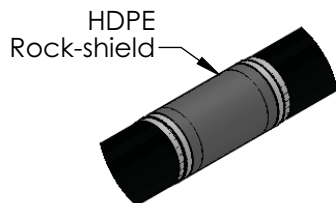
STEP #5: Heat the Shrink Sleeve



With a yellow flame, heat the shrink sleeve from the middle toward each side of the sleeve until recovery is complete. Remove any wrinkles or trapped air by working them from the center outward using the roller. Shrinking has been completed when adhesive oozes from the sides.

Note: Avoid excessive heat to overlap area.

STEP #6: Inspect Shrink Sleeve & Apply Rockshield



After shrink sleeve has cooled, inspect the sleeve to ensure full contact with casing and that adhesive has flowed at 360° beyond both sleeve edges. Make sure no cracks or holes appear on the sleeve. Install HDPE rockshield over shrink sleeve with a minimum 2" overlap over sleeve and secure in place.