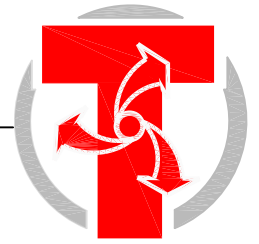


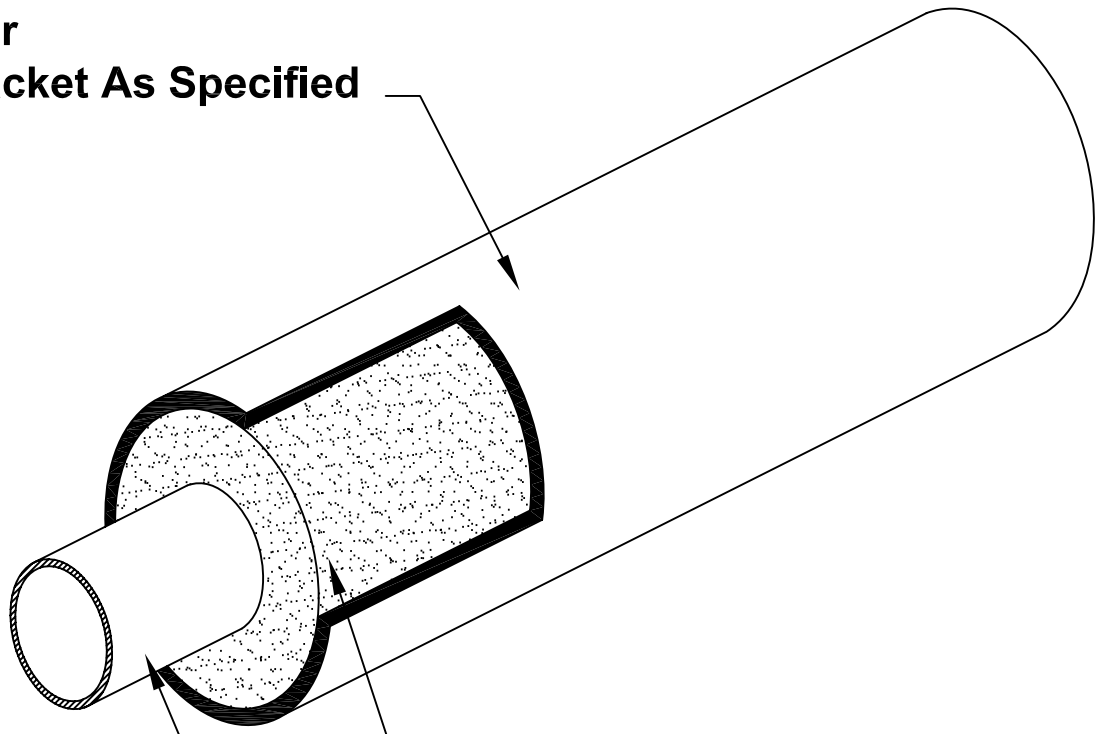
TRICON HDPE PIPE SYSTEM



For Applications Up To 75° F Below And Above Ground

- Chilled Water
- Condenser Water

**HDPE or
Metal Jacket As Specified**



Polyurethane Foam Insulation

HDPE Service Pipe As Specified



TRICON

Piping Systems, Inc ®

P.O. Box 361, Canastota, New York 13032

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TABLE 1

Pipe Size	Minimum Insulation Thickness	HDPE Jacket O.D.	HDPE Jacket Wall
3"	1.43"	6.63"	.150"
4"	1.58"	8.00"	.150"
6"	1.51"	10.00"	.175"
8"	1.73"	12.43"	.175"
10"	1.48"	14.06"	.175"
12"	1.39"	15.87"	.175"
14"	1.72"	17.83"	.175"
16"	1.70"	19.80"	.200"
18"	1.89"	22.17"	.200"

Service Pipe:

All service pipes shall be High Density Polyethylene (HDPE) with the properties as listed below. Pipe and fittings are manufactured from polyethylene and fabricated to Standard Dimension Ratio (SDR) wall thickness.

HDPE carrier pipe materials & properties:

Std. Spec. for Polyethylene Plastic Pipe (SDR-PR) based on OD.	ASTM F-714
Resin Type III, Grade P34, Cat. 5, CL C	ASTM D-3350
Long Term Hydrostatic Strength 1600 psi	ASTM D-2837
Std. PE for Water Distribution 4"-63"	AWWA C-906

Insulation:

The insulation shall be a foamed in place closed cell polyurethane which completely fills the annular space between the carrier pipe and the exterior casing. The insulation shall have the following physical properties:

Minimum Density (lb. /cu. ft.) 2.0	ASTM D-1621
90-95 % Closed Cell	ASTM D-2856
"K" Factor BTU/Hr. sq. ft. °F/in 147	ASTM C-177

Maximum operating temperature shall not exceed 75° F.

Exterior Casing: *

The casing shall be High Density Polyethylene (HDPE) with the following properties:

Resin Type III, Grade P34	ASTM D-3350
Tensile Yield Strength 3300 psi	ASTM D-638
Ultimate Elongation 850% (min)	ASTM D-638
Tangent Flexural Modules 175,000 psi	ASTM D-790

Sub-Assemblies:

All fittings shall be HDPE, factory insulated and fusion welded to the HDPE service pipe and sealed to the outer jacket. Field installed fittings are insulated and sealed with Tricon supplied insulation kits.

Field Joints:

After thermal butt fusion welding and hydrostatic testing of the carrier pipe, HDPE jacketed straight field joints shall be insulated with polyurethane foam half-shells to the thickness specified, and sealed water-tight with a heat-shrink sleeve.

Installation:

No Piping shall be installed in standing water. Trenches shall be maintained dry until final field closure is complete.

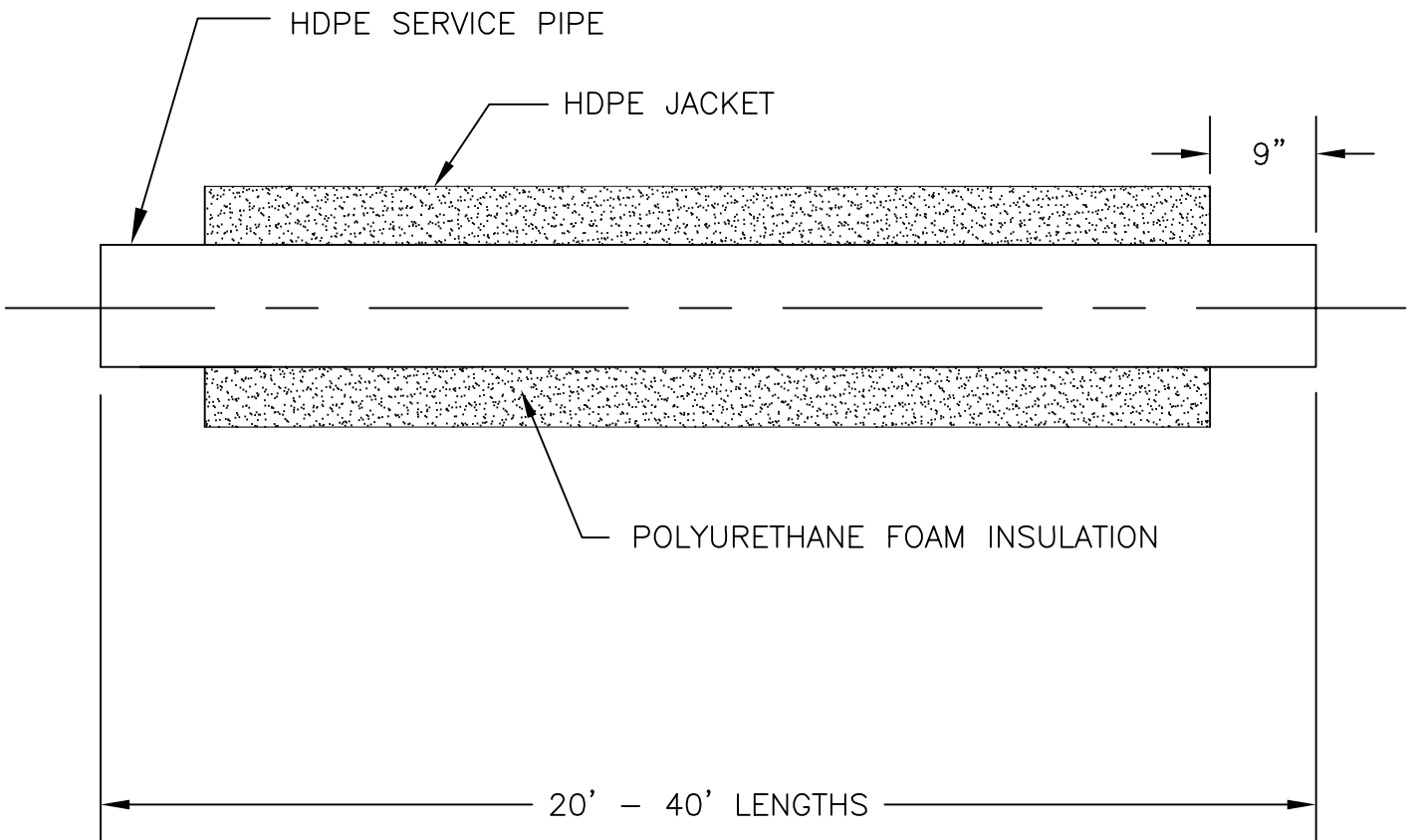
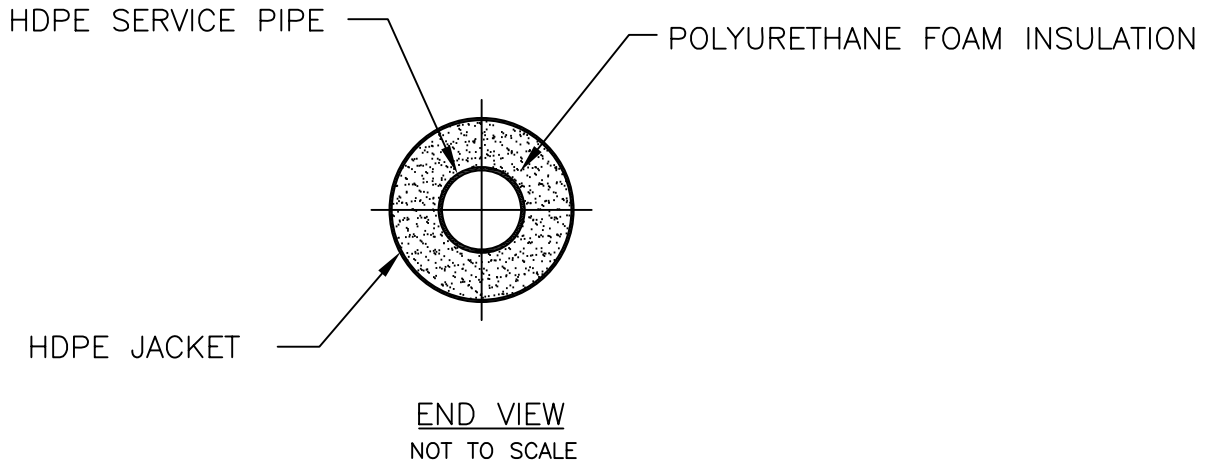
The installing contractor shall handle the piping system in accordance with the directions furnished by the manufacturer and as approved by the architect and engineer. The carrier piping shall be hydrostatically tested to 1-1/2 times the operating pressure, or as specified in the contract documents.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

Backfill:

A 4-inch layer of sand or fine gravel shall be placed and tamped in the trench to provide stable and uniform bedding for the piping system. Once the system is in place, the trenches shall be carefully backfilled and hand tamped in 6" layers until a cover of at least 24" from the top of the pipe has been achieved. The first 12" of backfill shall be sand or fine gravel less than 1/2" in diameter. The remainder of the backfill shall be void of rocks, frozen earth and foreign material over 2" in diameter. The trench shall be compacted to comply with H-20 Highway loading.

System Options:

- * Contact your Tricon representative for available sizes and system options.
- * Optional metal casings include Galvanized, Aluminum or Stainless Steel.
- * Heat Tracing



HDPE STRAIGHT LENGTH DETAIL WITH HDPE JACKET

TRICON HDPE

Date: 03/09/06

Dwg. No.: H-1A

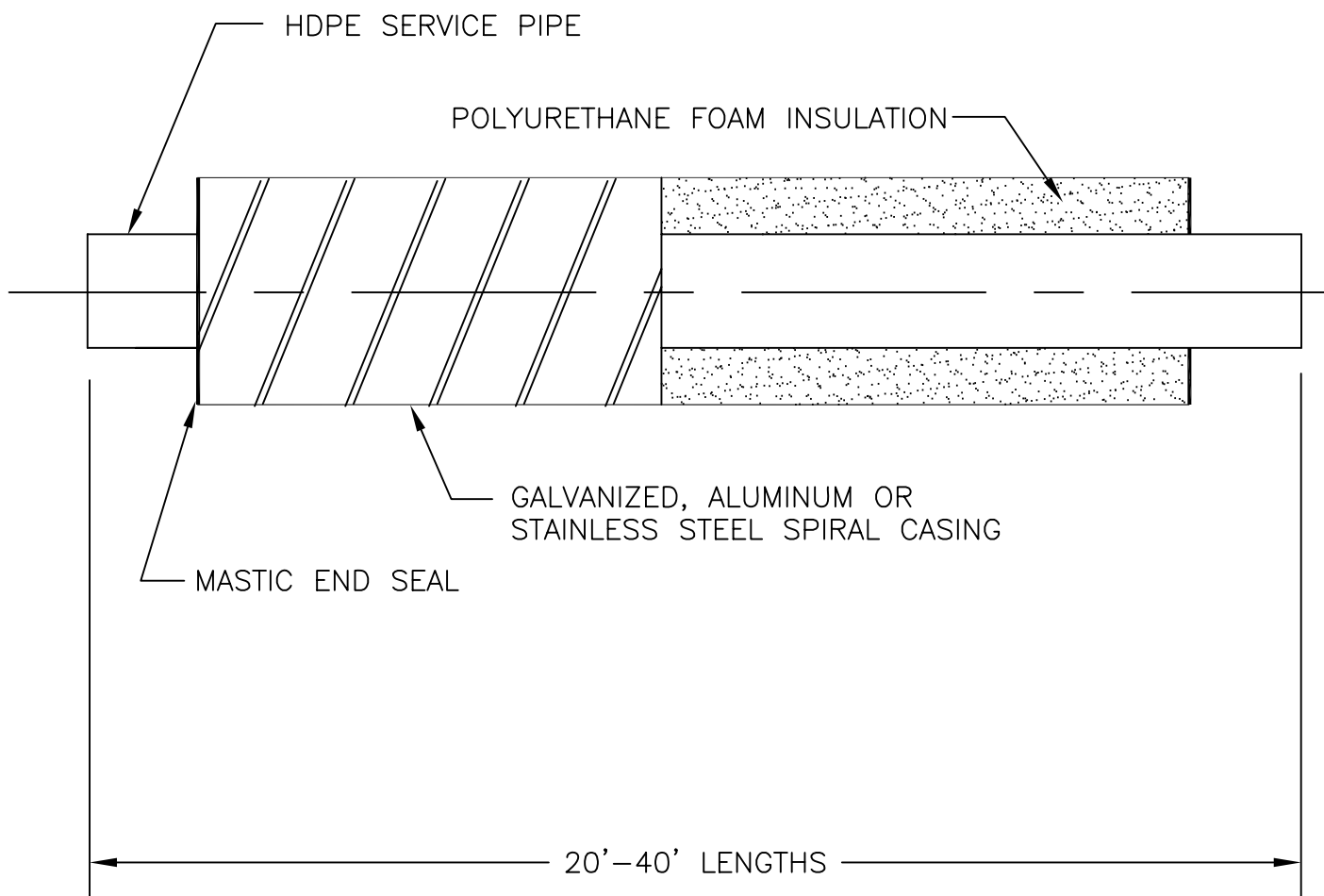
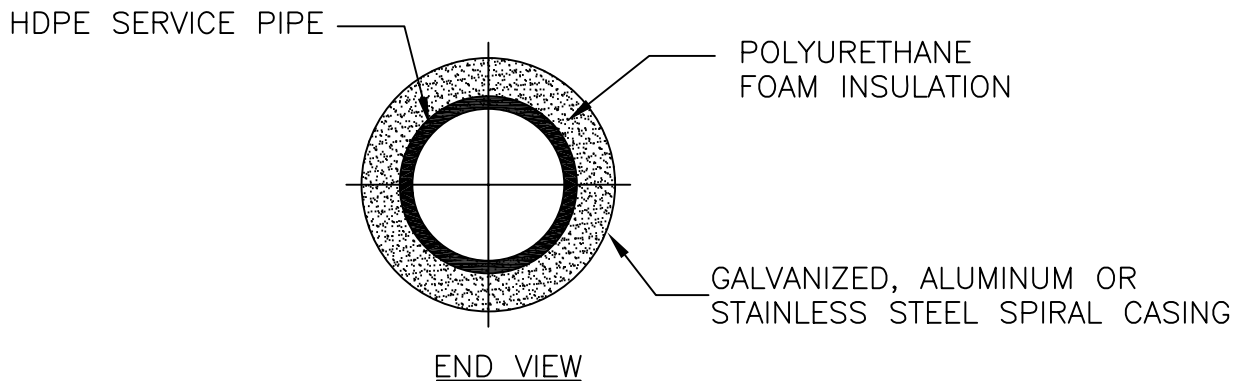
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HDPE STRAIGHT LENGTH DETAIL WITH METAL JACKET

TRICON HDPE

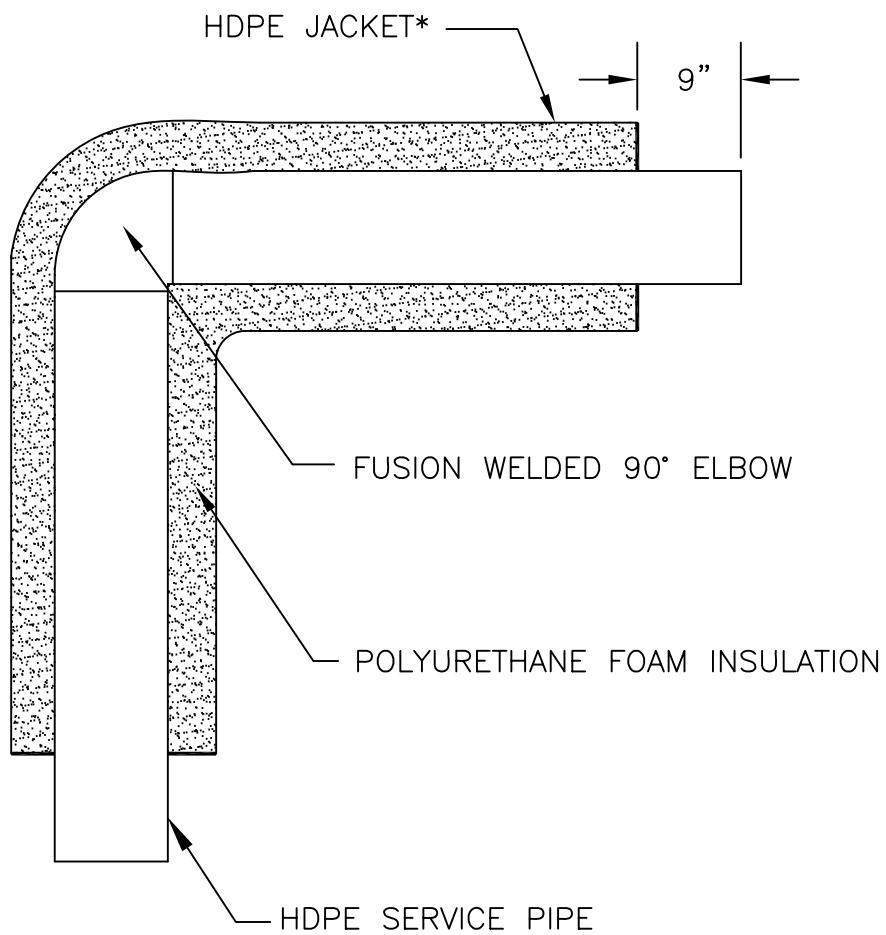
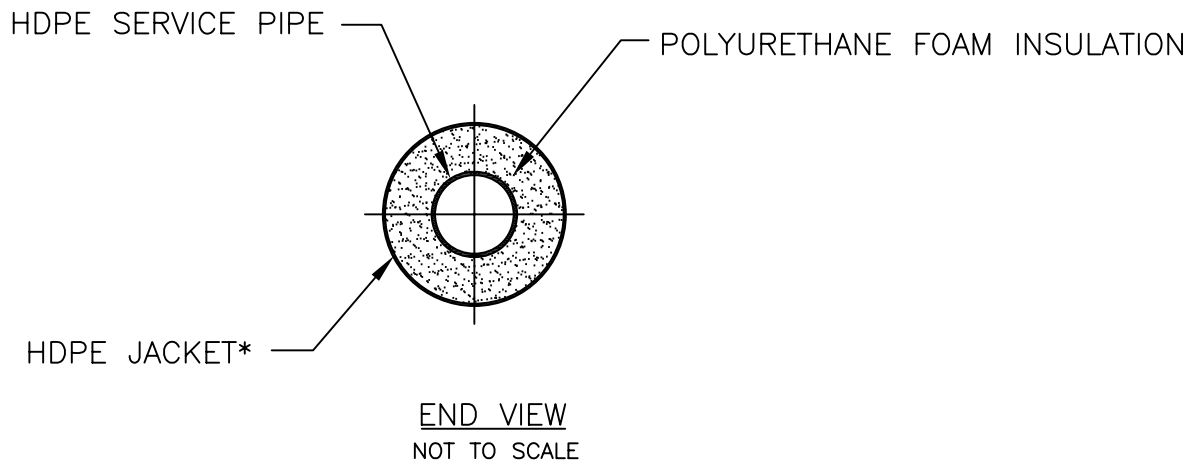
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*OPTIONAL METAL JACKETS AVAILABLE FOR ABOVE GRADE APPLICATION.

90° ELBOW DETAIL

TRICON HDPE

Date: 03/09/06

Dwg. No.: H-2

Rev.:

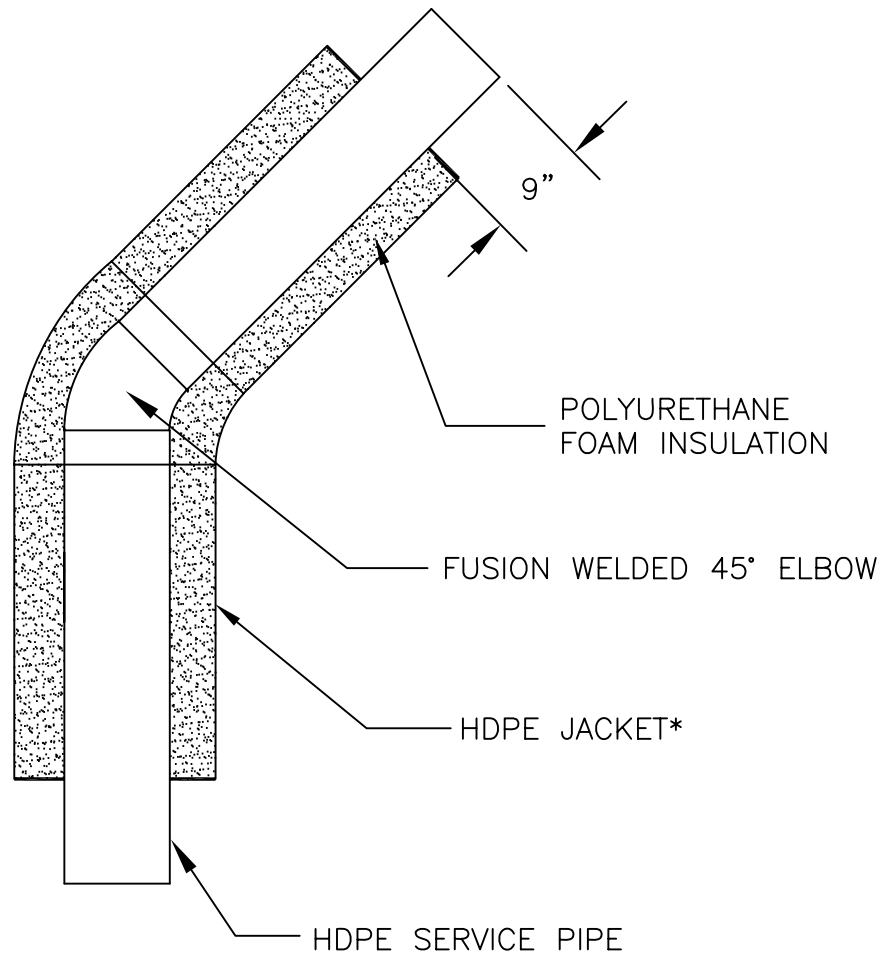
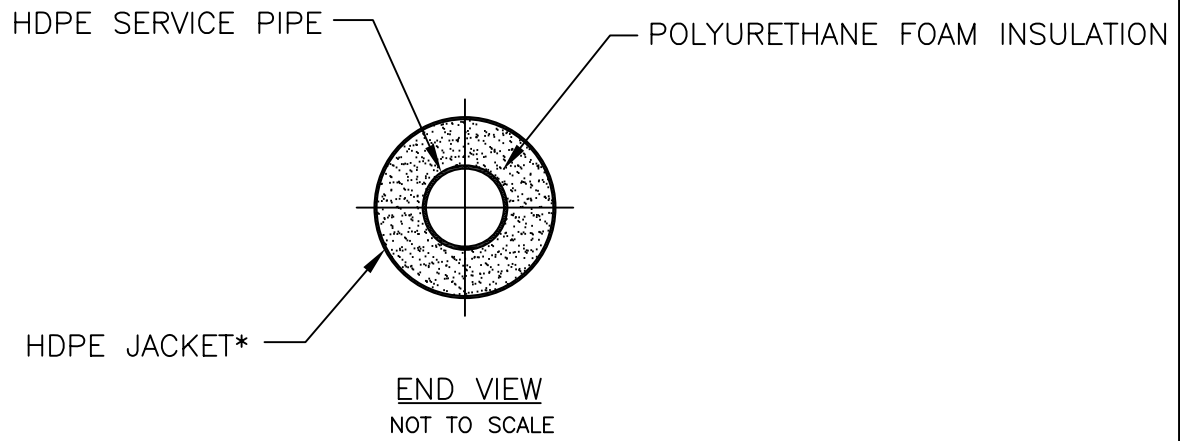


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*OPTIONAL METAL JACKETS AVAILABLE FOR ABOVE GRADE APPLICATION.

45° ELBOW DETAIL

TRICON HDPE

Date: 03/09/06

Dwg. No.: H-3

Rev.:

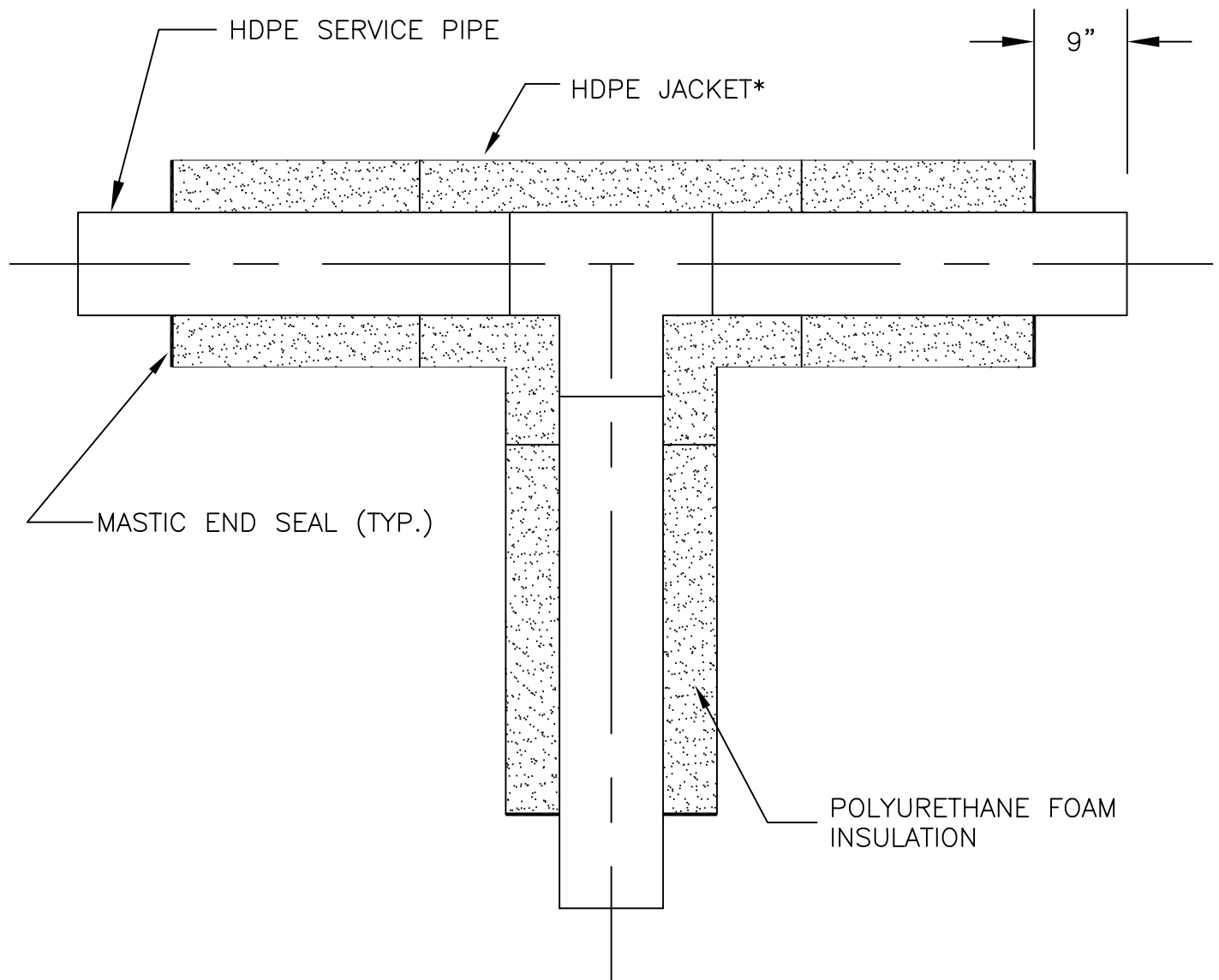
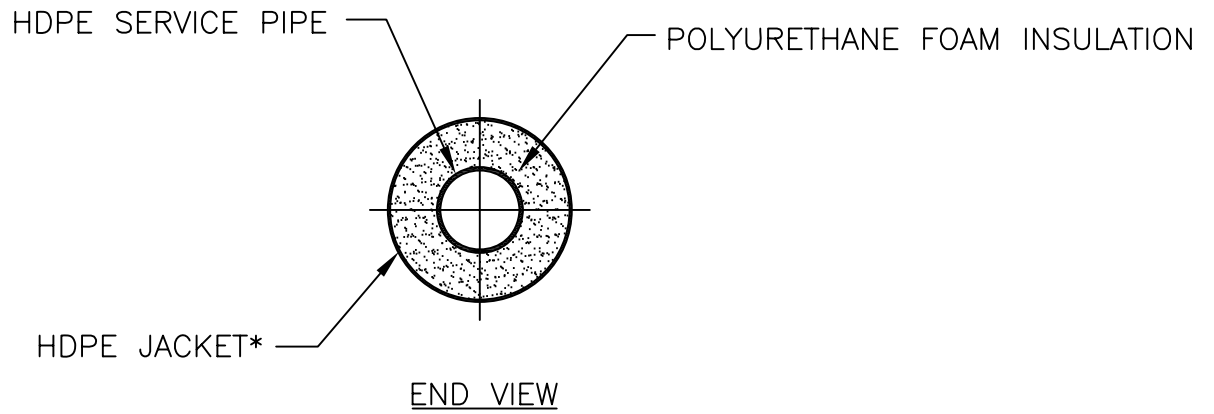


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*OPTIONAL METAL JACKETS AVAILABLE FOR ABOVE GRADE APPLICATION.

TEE DETAIL

TRICON HDPE

Date: 03/09/06 Dwg. No.: H-4

Rev.:

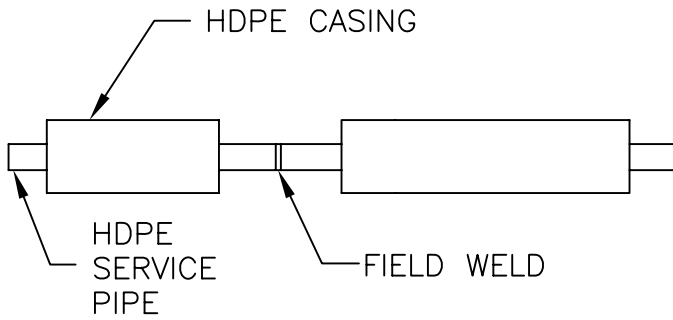


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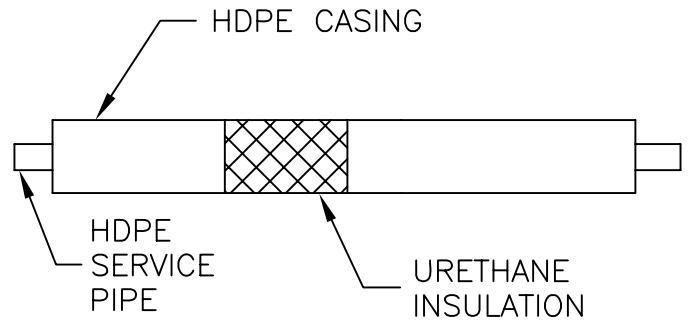
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PHASE 1



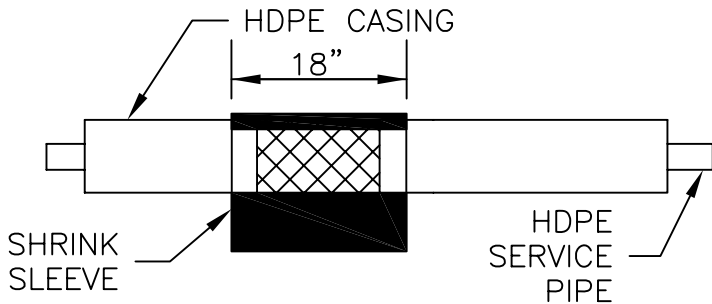
AFTER THERMAL BUTT FUSION WELDING SERVICE PIPE, CHECK/TEST ALL WELDS AS REQUIRED. PREPARE PIPE AND CASING FOR INSULATION.

PHASE 2



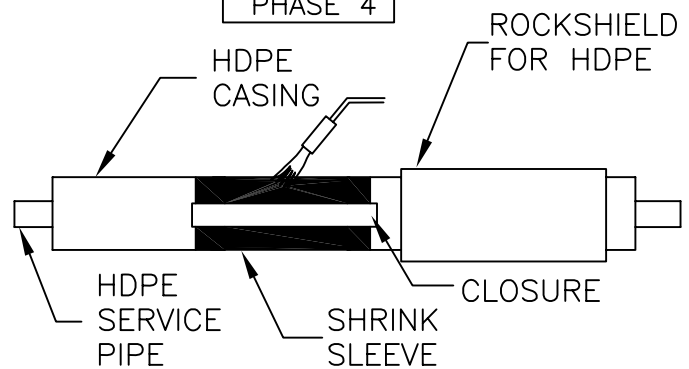
MAKE SURE THAT PIPE AND CASING ARE CLEAN AND DRY. INSTALL LAYER OF PIPE INSULATION OVER JOINT AND SECURE IN PLACE.

PHASE 3



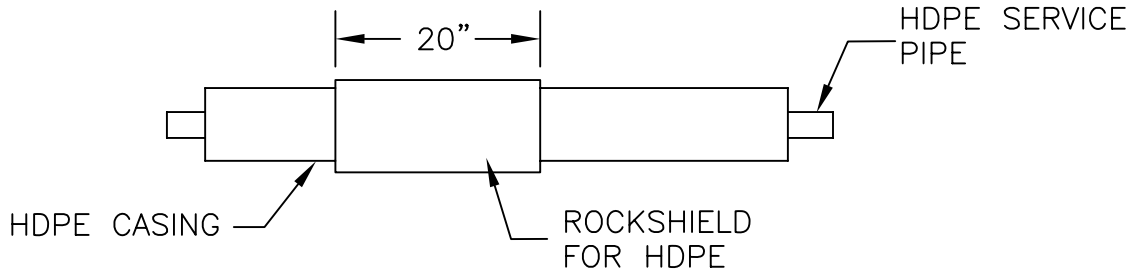
REMOVE RELEASE LINER AND PLACE SHRINK SLEEVE AROUND JOINT AND PIPE INSULATION. OVERLAP SLEEVE AT THE 10 TO 12 O'CLOCK POSITION. GENTLY HEAT BACKING OF SLEEVE AND CLOSURE. PRESS THE CLOSURE FIRMLY INTO PLACE. GENTLY HEAT CLOSURE AND PAT DOWN.

PHASE 4



WITH LOW YELLOW FLAME, HEAT THE SHRINK SLEEVE FROM THE MIDDLE TOWARD EACH SIDE OF THE SLEEVE UNTIL RECOVERY IS COMPLETE. SHRINKING HAS BEEN COMPLETED WHEN ADHESIVE OZZES FROM SIDES. AVOID EXCESSIVE HEAT TO OVERLAP AREA.

PHASE 5



AFTER SHRINK SLEEVE HAS COOLED, INSPECT THE SLEEVE TO ENSURE FULL CONTACT WITH CASING AND THAT ADHESIVE HAS FLOWED BEYOND BOTH SLEEVE EDGES. MAKE SURE THAT NO CRACKS OR HOLES ARE IN SLEEVE. INSTALL HDPE ROCKSHIELD OVER SHRINK SLEEVE WITH A MINIMUM 2" OVERLAP OF SLEEVE.

TRICON HDPE FIELD JOINT KIT DETAIL WITH RIDGID URETHANE AND HEAT SHRINK SLEEVE



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TRICON HDPE

Date: 03/09/06

Dwg. No.: H-5

Rev.: