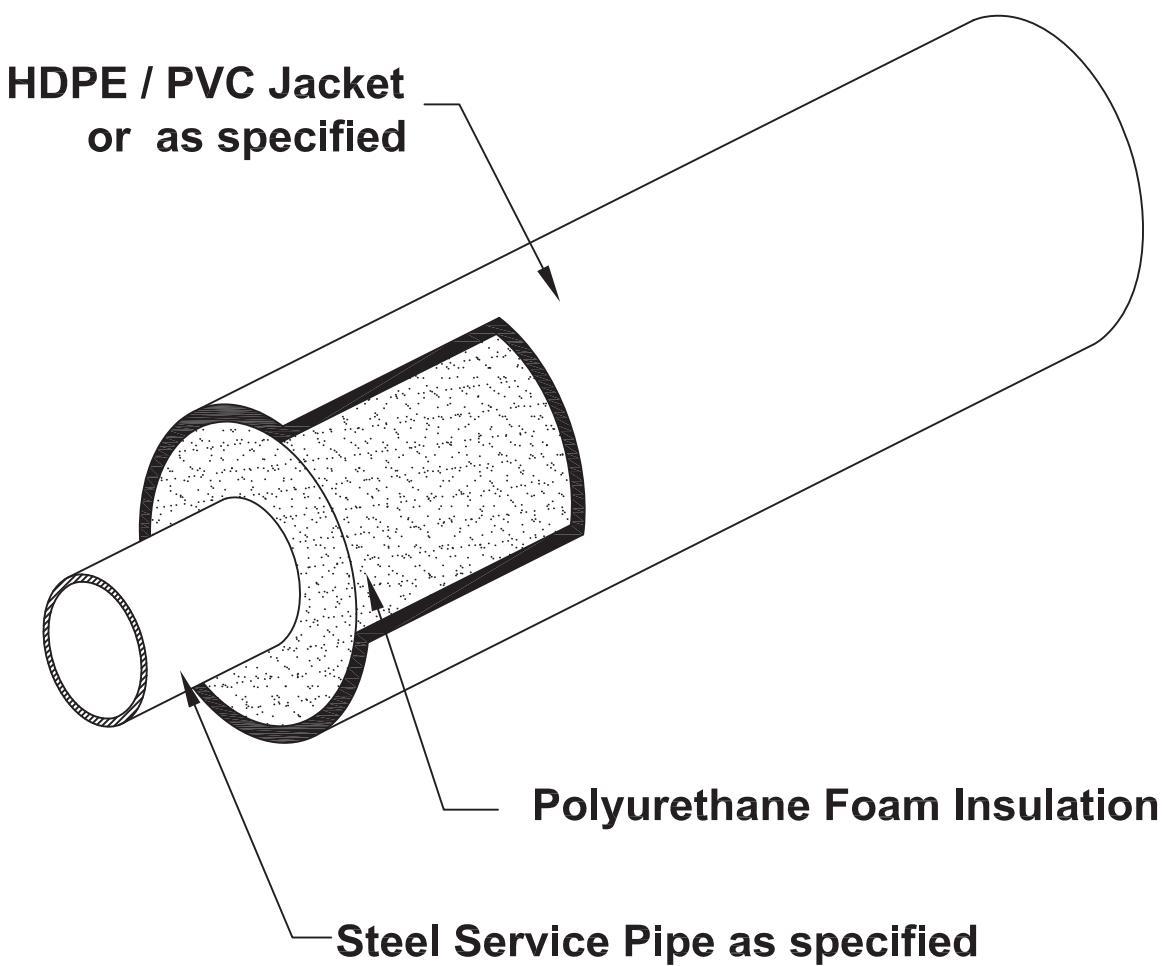


# STEEL 200



For Applications Up To 200° F Below And Above Ground

- Chilled Water
- Condensate
- Condenser Water
- Heating Hot Water
- Petroleum Products
- Potable Water
- Pumped Air



**TABLE 1**

Pipe Size	Minimum Insulation Thickness	HDPE Jacket O.D.	HDPE Jacket Wall
1/2"	1.66"	4.50"	.175"
3/4"	1.55"	4.50"	.175"
1"	1.42"	4.50"	.175"
1 1/4"	1.25"	4.50"	.175"
1 1/2"	1.13"	4.50"	.175"
2"	1.93"	6.63"	.200"
2 1/2"	1.68"	6.63"	.200"
3"	1.37"	6.63"	.200"
4"	1.58"	8.00"	.175"
5"	1.05"	8.00"	.175"
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"

**Service Pipe:**

Carbon steel service pipe shall be standard weight A53 ERW or A106 seamless beveled for welding. Stainless Steel piping shall be type 304L or 316L, Sch. 40 or Sch. 80, welded or seamless, to ASTM A312/A312M. Condensate return piping shall be Schedule 80. All joints for pipe 2 1/2" 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. Pipe lengths shall be supplied in 21-42 ft. lengths.

**Insulation: \***

The insulation shall be foamed in place closed cell polyurethane, completely filling the annular space between the service pipe and the exterior casing. The insulation shall have the following physical properties:

Minimum Density (lb./cu. ft.)	2.0	ASTM D-1622
90-95% Closed Cell		ASTM D-6226
"K" Factor BTU/Hr. sq. ft F/in... .16		ASTM C-591
Compressive Strength		ASTM D-1621

**Exterior Jacket: \*\***

The exterior casing shall be one of the following:

- (1) High Density Polyethylene (H.D.P.E.) to ASTM D-3350-12, with the following physical properties:  
ASTM D-3350... Minimum Cell Classification Grade PE 334363C  
ASTM D-638... Ultimate Elongation 200%  
ASTM D-638... Tensile Yield Strength 2500 psi
- (2) Seamless, extruded white PVC Type 1, Grade 1 Class 12454-B per ASTM D-1784

No polyethylene tape casings will be allowed.

**TABLE 2**

Pipe Size	Minimum Insulation Thickness	PVC Jacket O.D.	PVC Jacket Wall
1/2"	1.76"	4.50"	.070"
3/4"	1.66"	4.50"	.070"
1"	1.53"	4.50"	.070"
1 1/4"	1.35"	4.50"	.070"
1 1/2"	1.23"	4.50"	.070"
2"	1.81"	6.14"	.070"
2 1/2"	1.56"	6.14"	.070"
3"	2.25"	8.16"	.070"
4"	1.75"	8.16"	.080"
5"	1.25"	8.16"	.080"
6"	1.69"	10.20"	.100"
8"	1.69"	12.24"	.120"
10"	1.65"	14.32"	.140"
12"	1.47"	16.00"	.160"

**Sub-Assemblies:**

All fittings, anchors, end seals, and other accessories shall be prefabricated or field fabricated dependent upon engineer's option and/or site conditions. Fittings 2 1/2" and larger to be butt weld conforming to ASTM A234 WPB & ASME B 16.9. Fittings 2" and smaller to be socket weld conforming to ASTM B 16.11. All factory prefabricated fittings shall be welded to ANSI B 31.1.

**Field Joints:**

After welding and hydrostatic testing, HDPE jackets will use polyurethane foam, a heat shrinkable sleeve, and an HDPE rockshield. PVC jacketed straight field joints will use polyurethane foam, a PVC sleeve, and pressure sensitive tape.

**Expansion Compensation:**

Expansion and contraction within the piping system shall be accommodated with factory prefabricated internal expansion elbows, z-bends, expansion loops, and anchors specifically designed for each application. External expansion compensation provided with the use of flexible foam bolsters.

**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 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. DO NOT TEST WITH AIR OR GAS.***

### Backfill:

A 6-inch layer of sand or fine gravel, less than  $\frac{1}{2}$ " in diameter, shall be placed and tamped in the trench to provide uniform bedding for the **Steel 250** 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
- Leak Detection

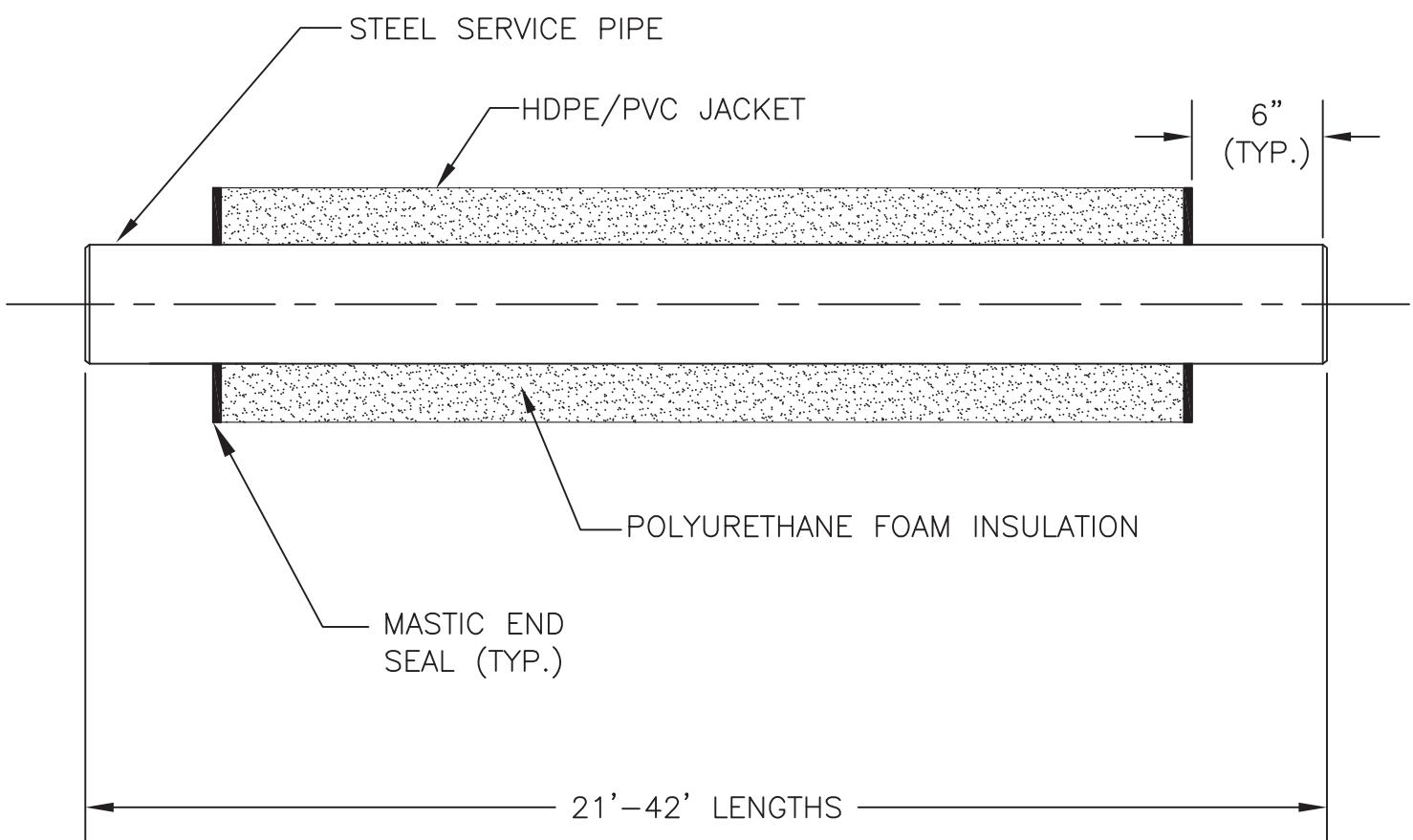
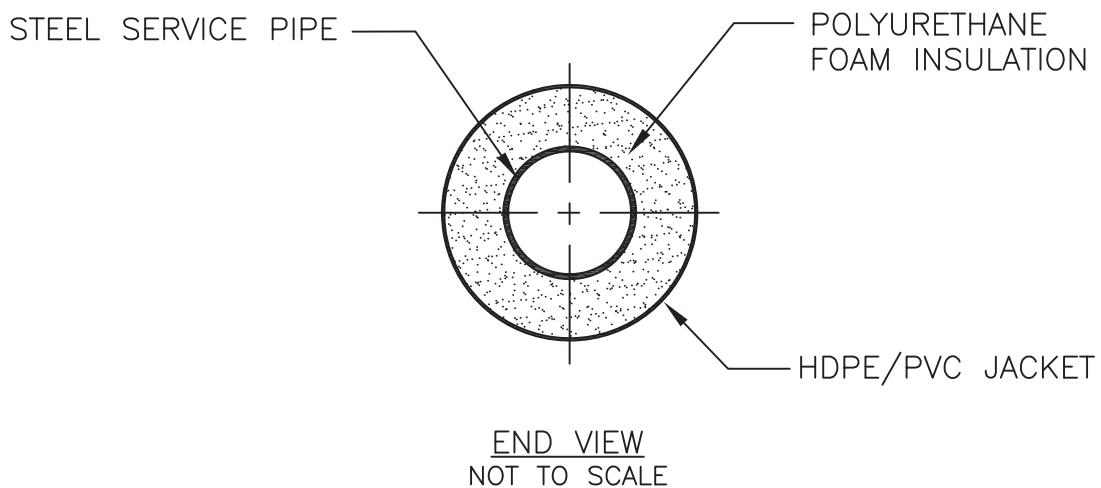
### System Options:

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

\*\*Optional metallic casings for above grade applications include Galvanized, Aluminum, or Stainless Steel (coated steel available).

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

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

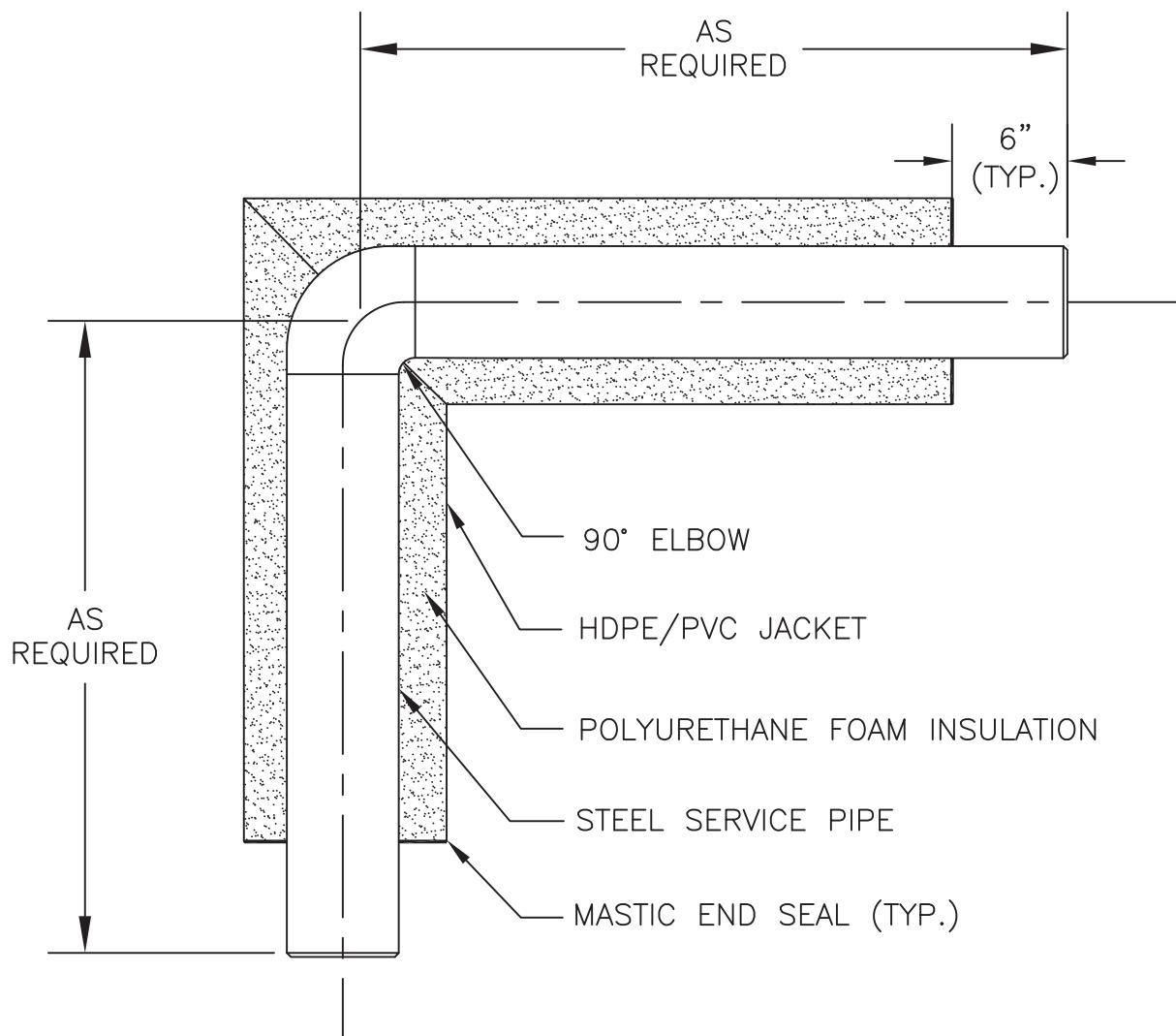
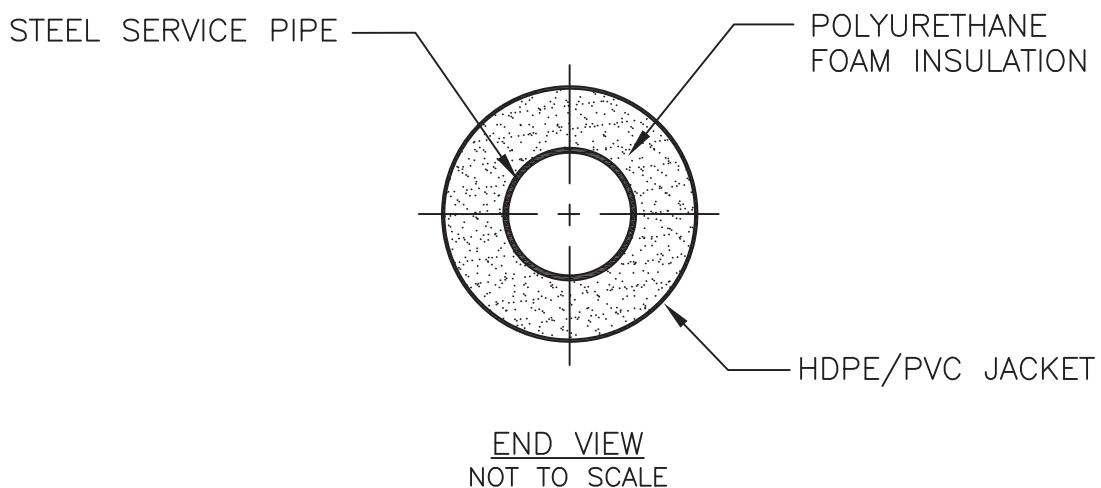


### STRAIGHT LENGTH DETAIL

**STEEL 200**

Date: 04/01/18	Dwg. No.: S250-1
Rev.:	

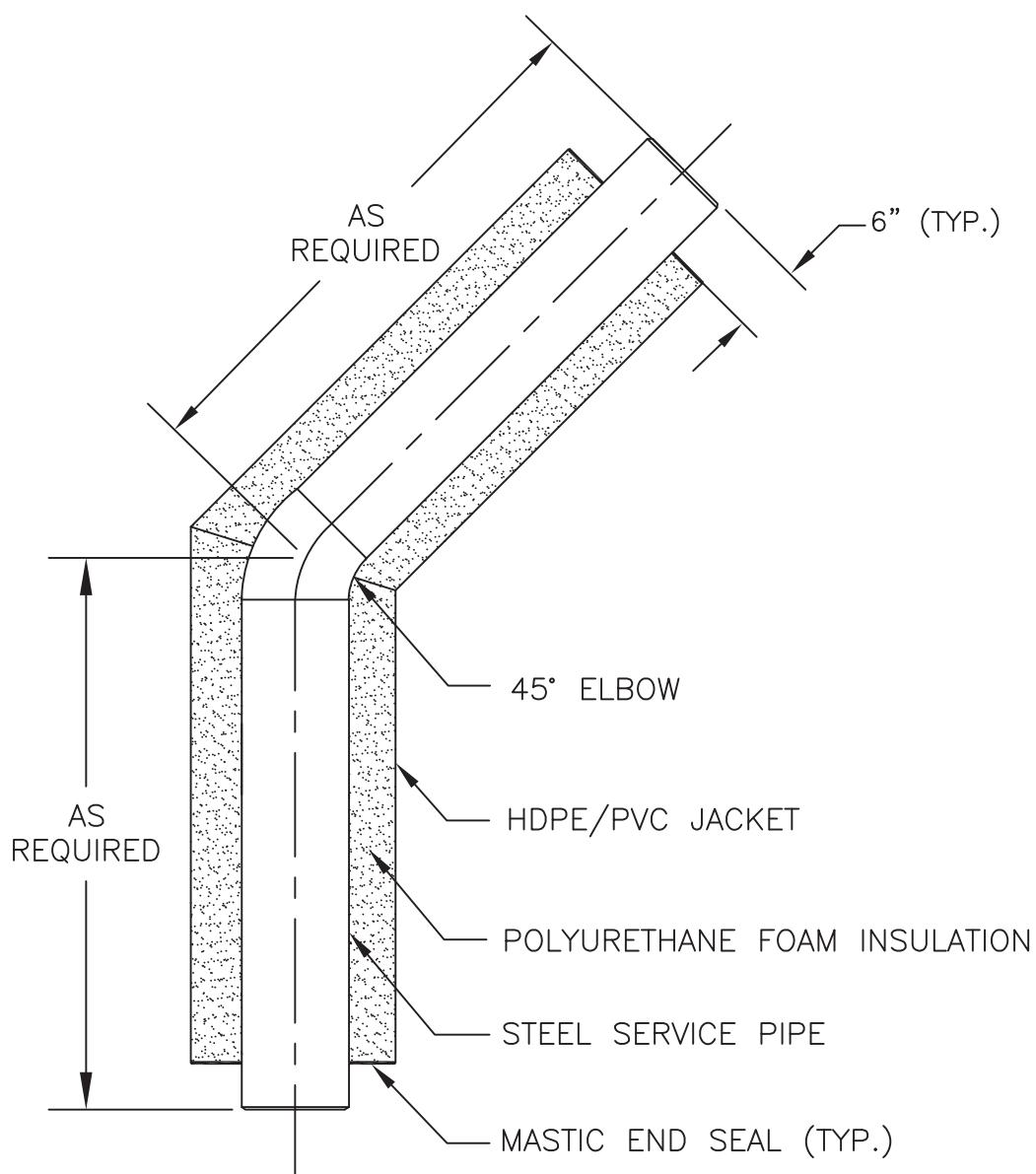
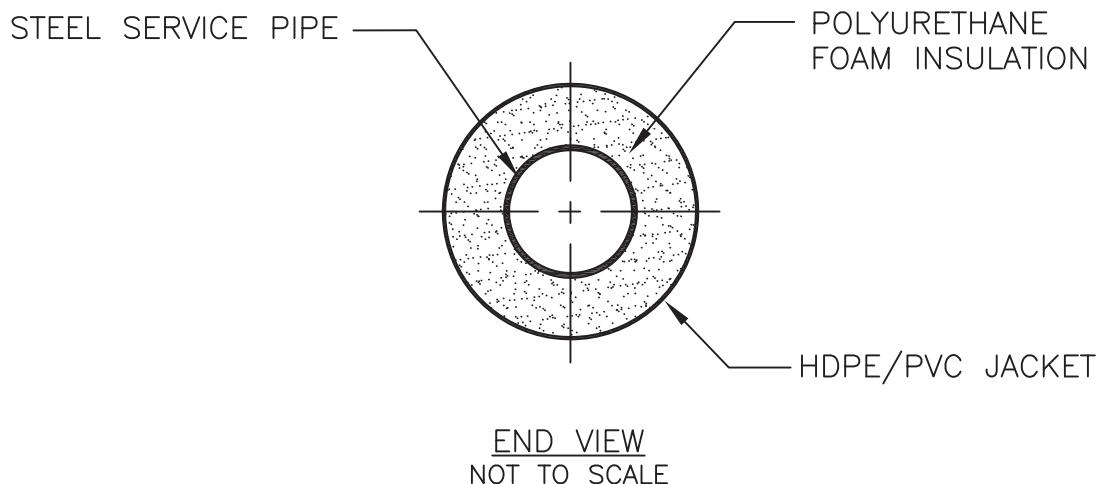
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## PREFABRICATED 90° ELBOW DETAIL

**STEEL 200**

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Rev.:	

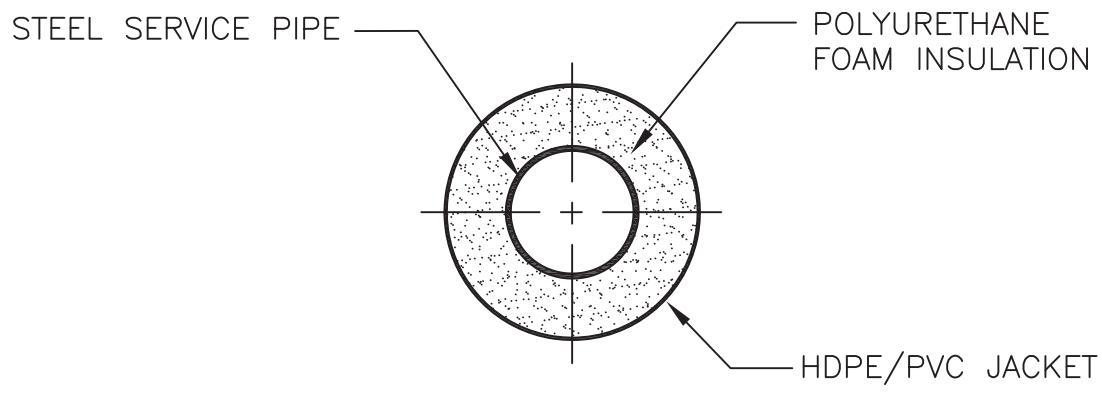


## PREFABRICATED 45° ELBOW DETAIL

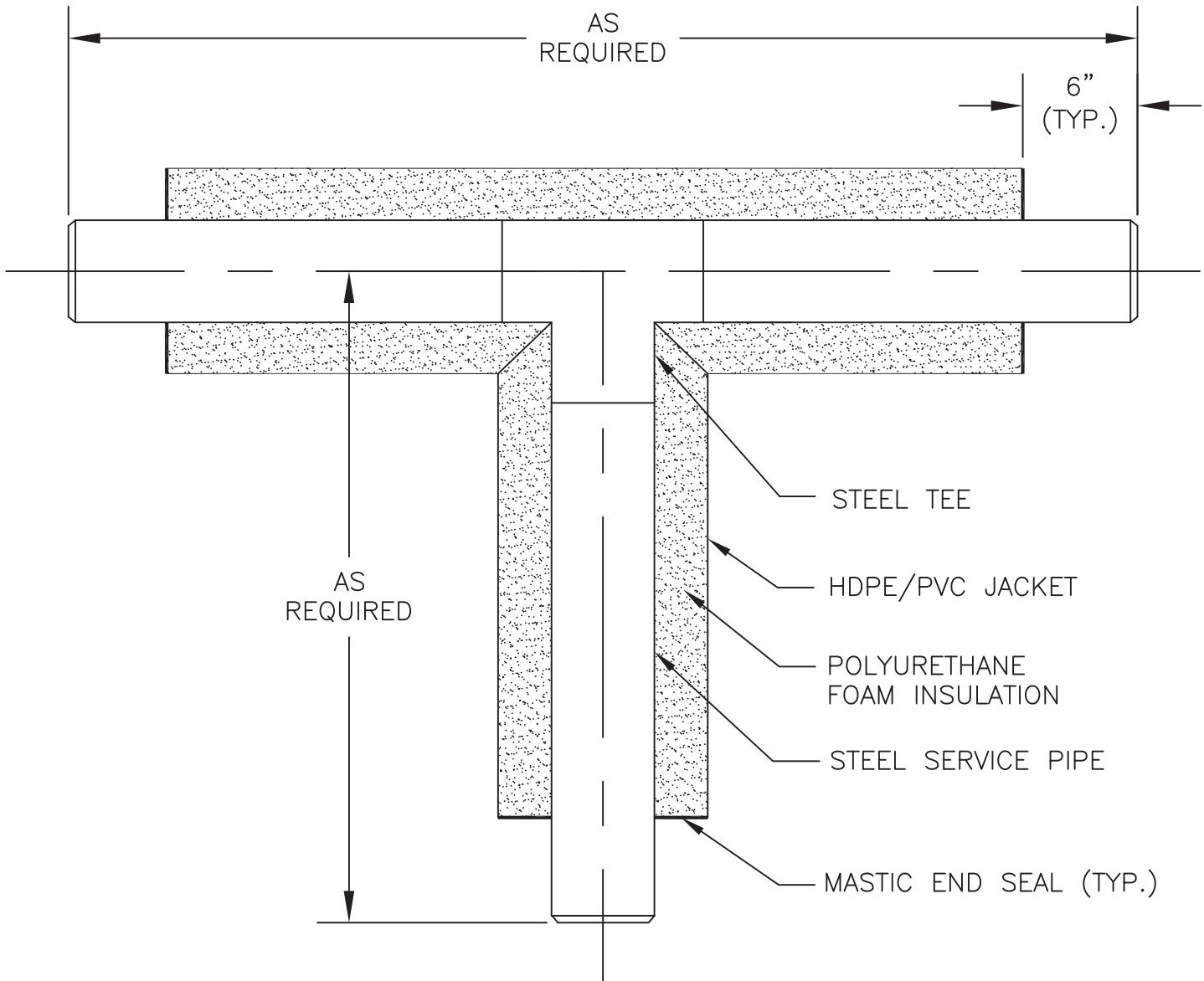
**STEEL 200**

Date: 04/01/18 Dwg. No.: S250-3  
Rev.:

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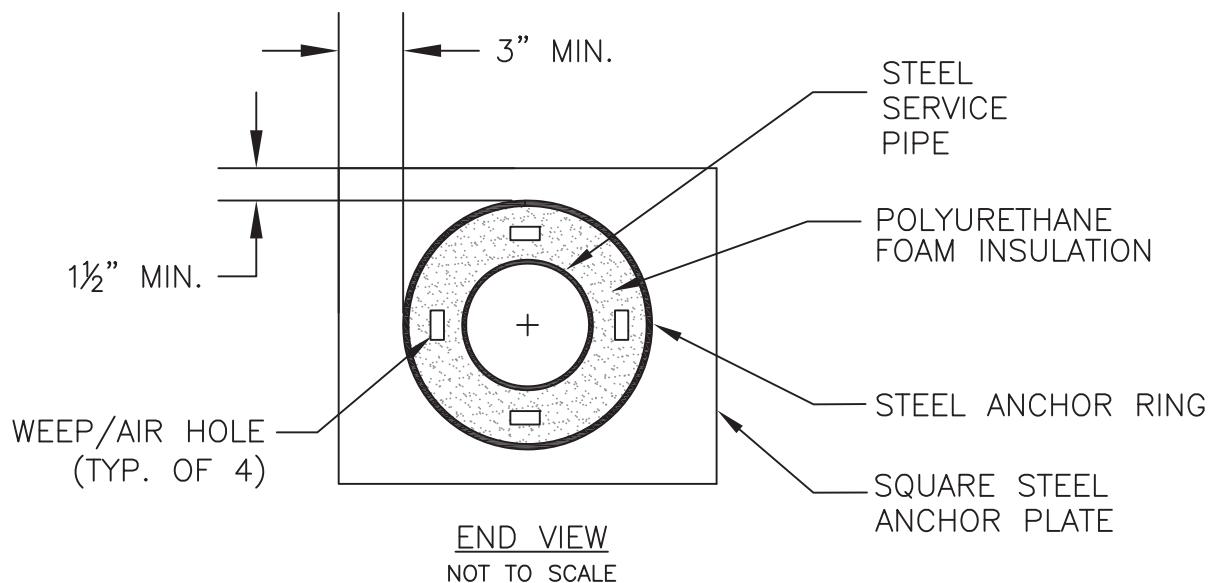
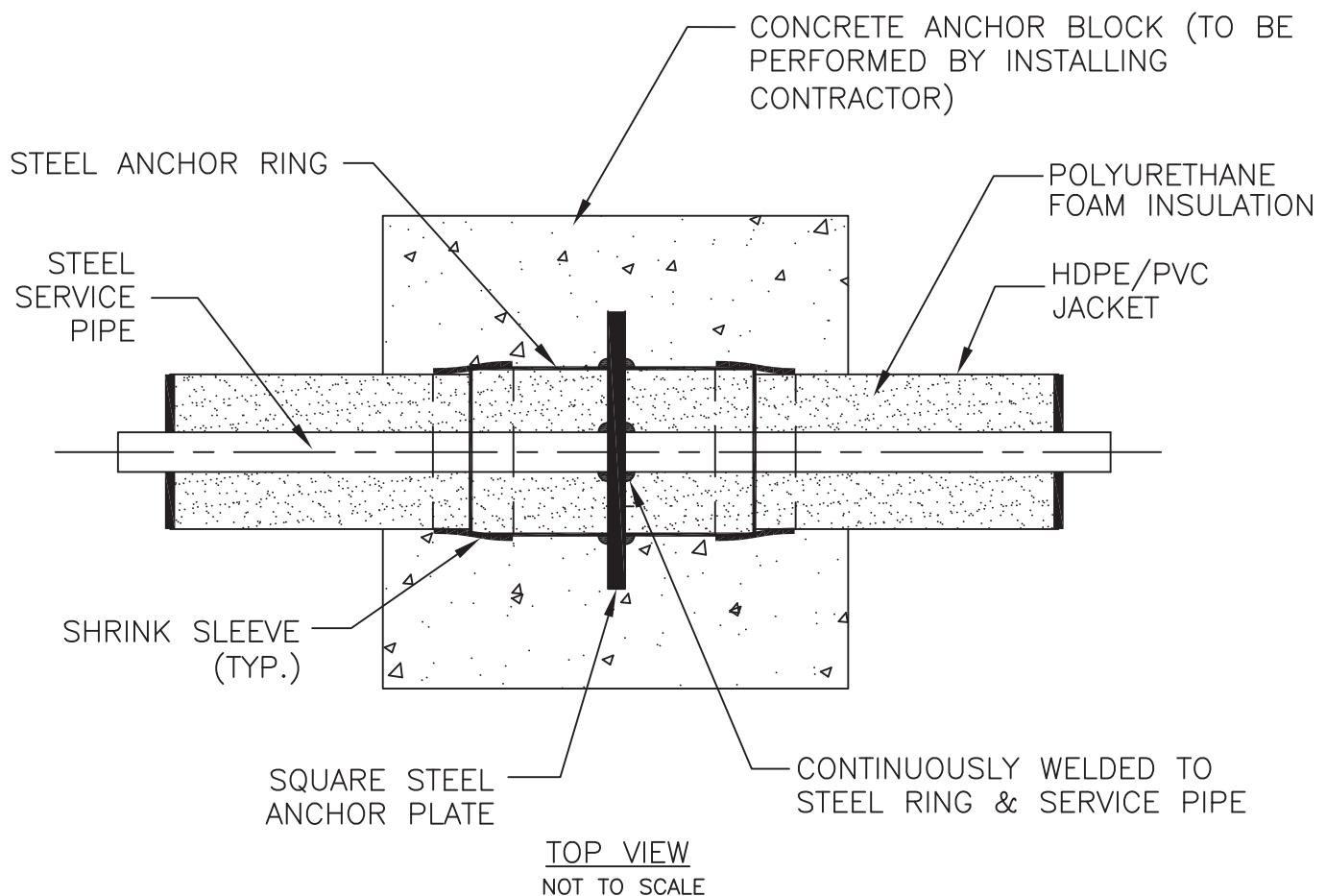
END VIEW  
NOT TO SCALE



## PREFABRICATED TEE DETAIL

**STEEL 200**

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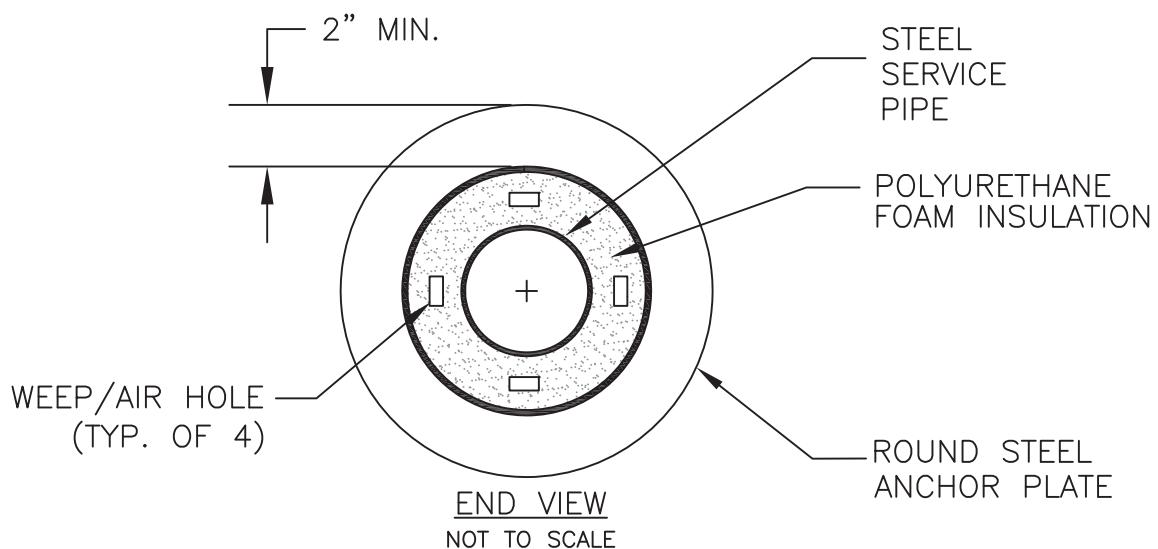
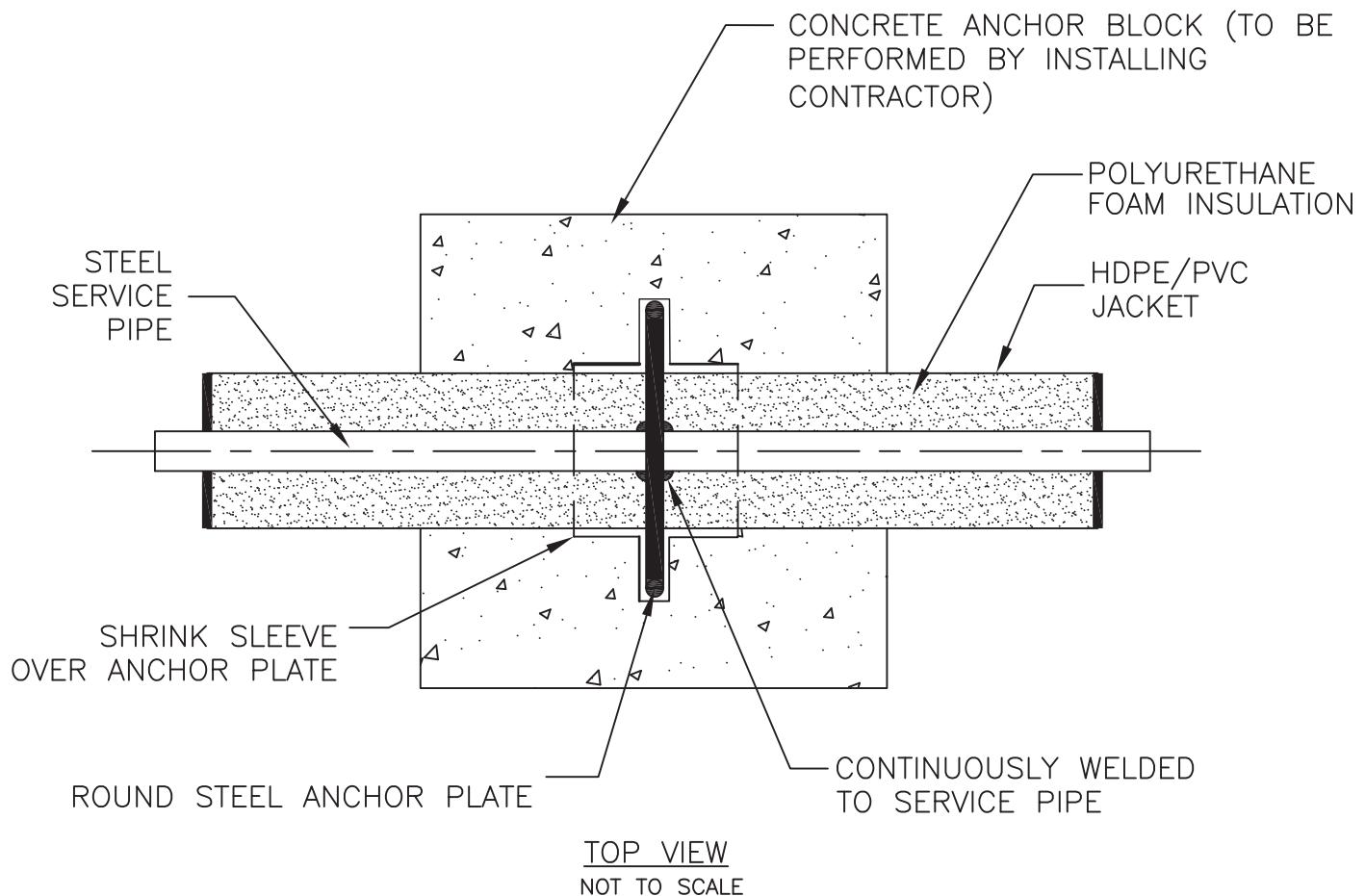


NOTE: CONCRETE ANCHOR BLOCK MUST BE KEYED INTO UNDISTURBED EARTH.

## SQUARE ANCHOR DETAIL

**STEEL 200**

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Rev.:	

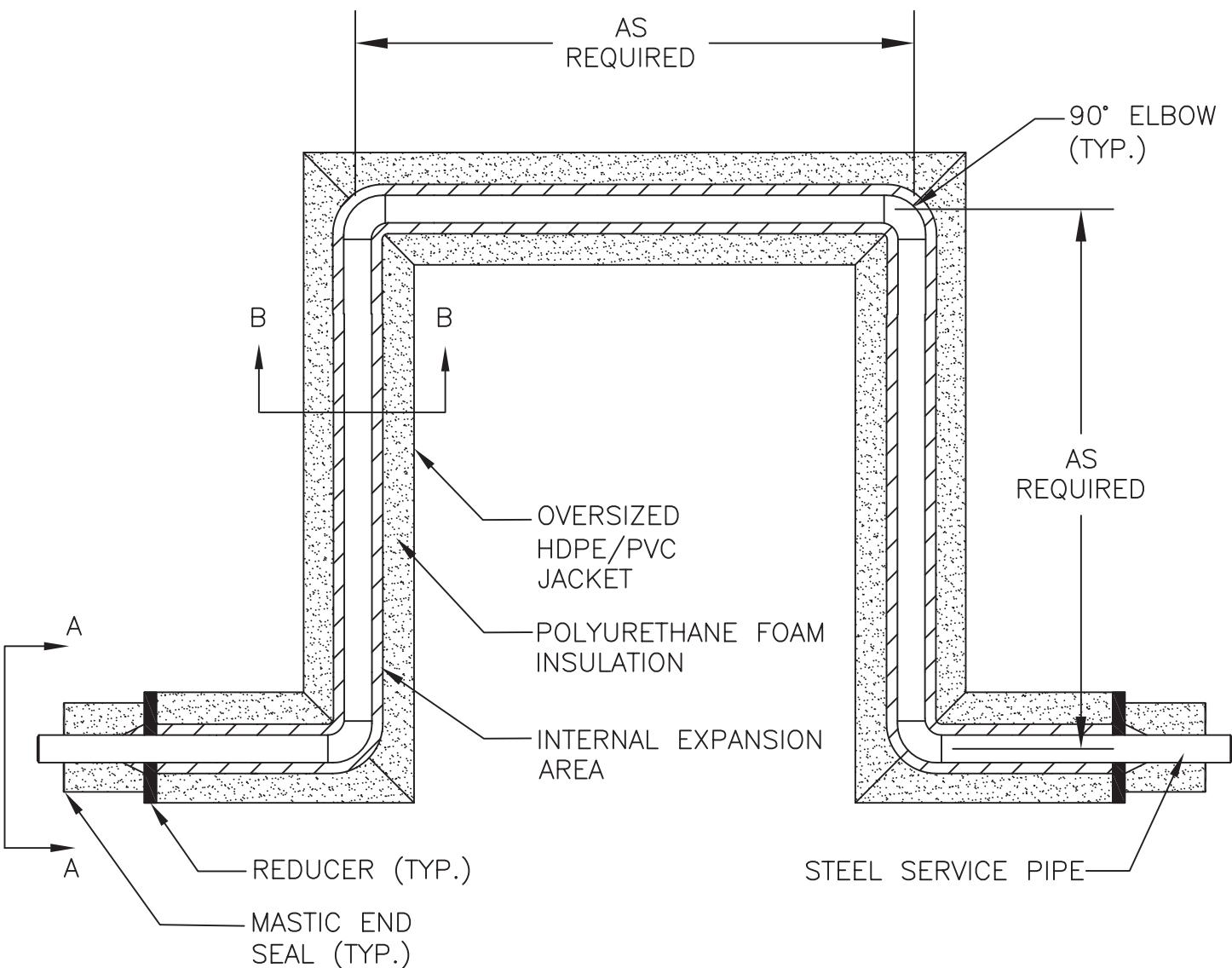
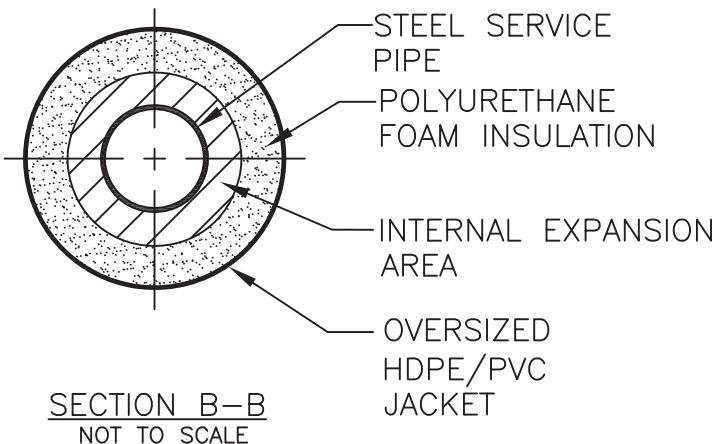
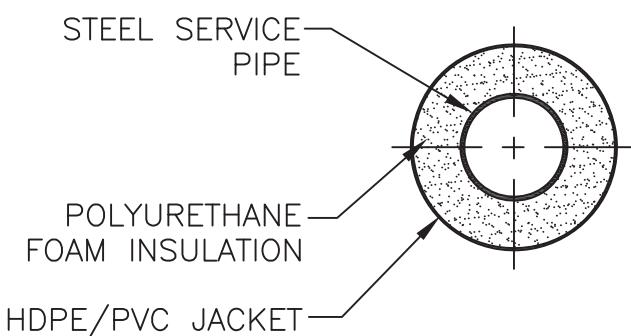


NOTE: CONCRETE ANCHOR BLOCK MUST  
BE KEYED INTO UNDISTURBED EARTH.

## ROUND ANCHOR DETAIL

**STEEL 200**

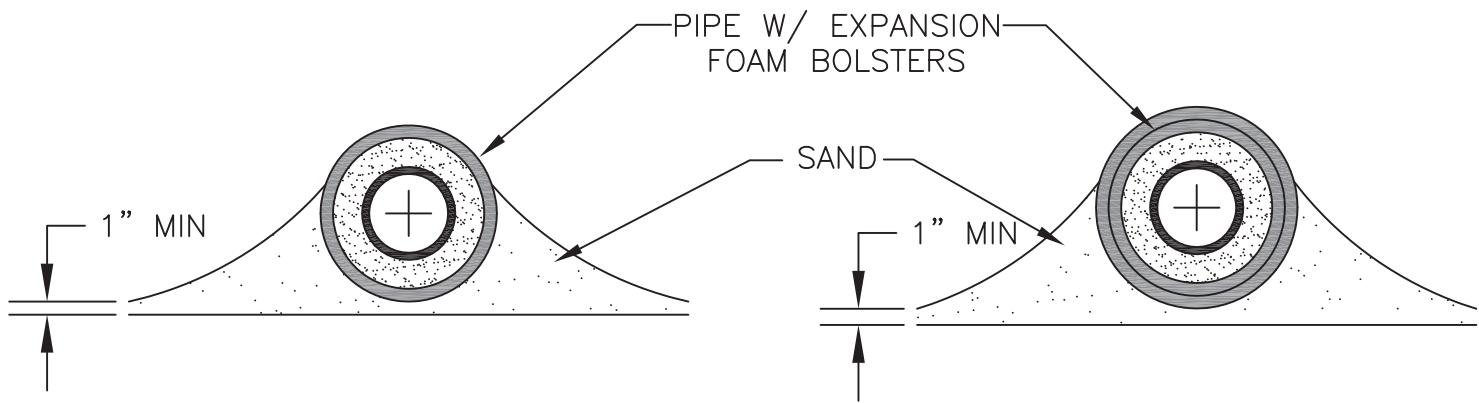
Date: 04/01/18	Dwg. No.: S250-5B
Rev.:	



## EXPANSION LOOP DETAIL WITH INTERNAL EXPANSION

**STEEL 200**

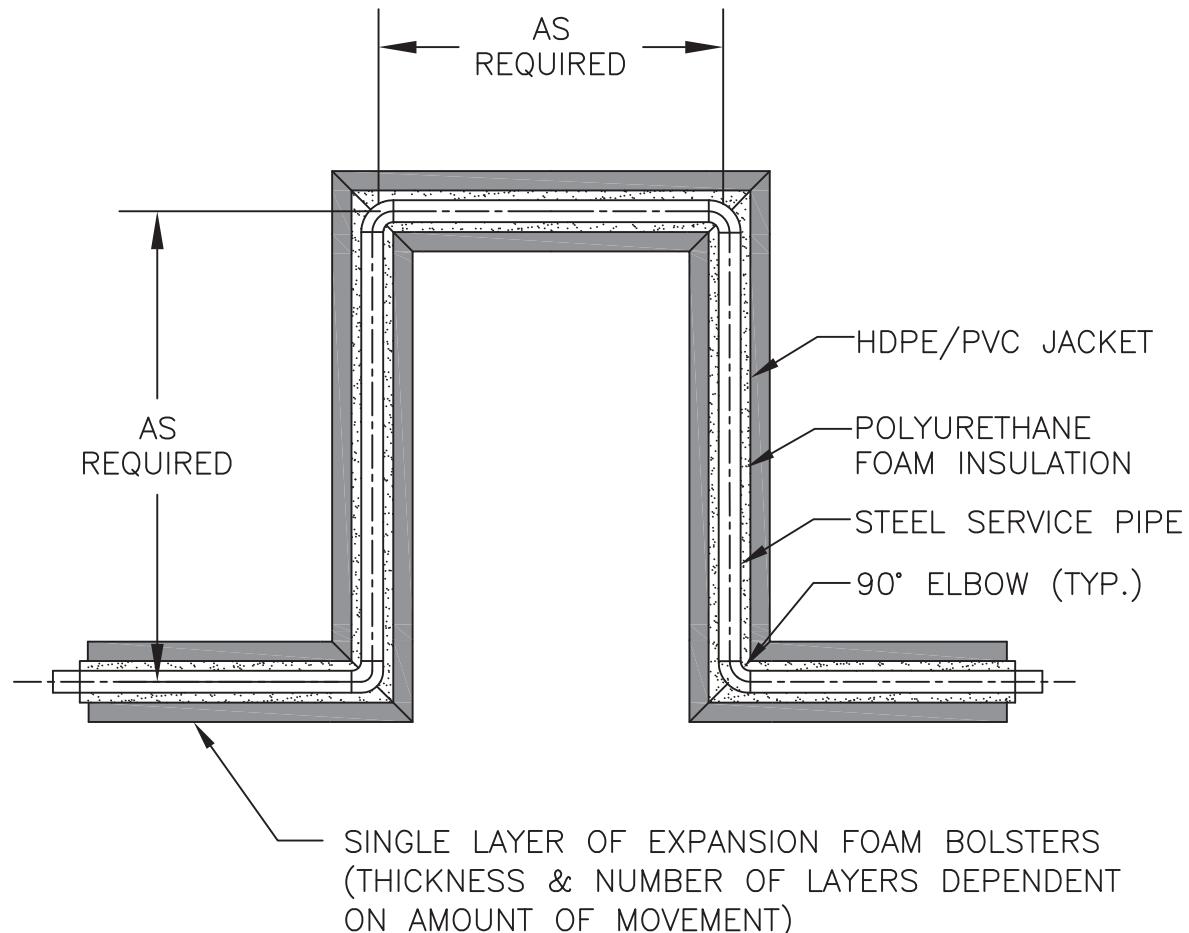
Date: 04/01/18	Dwg. No. S250-6A
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1 LAYER CROSS SECTION  
NOT TO SCALE

2 LAYER CROSS SECTION  
NOT TO SCALE

1. EXPANSION PADDING MATERIAL IS SUPPLIED IN PRECUT LENGTHS AND WIDTHS.
2. WRAP PADDING FULLY AROUND THE JACKET FOR A SNUG FIT.
3. HOLD IN PLACE WITH A 1" MINIMUM LAYER OF BEDDING SAND.

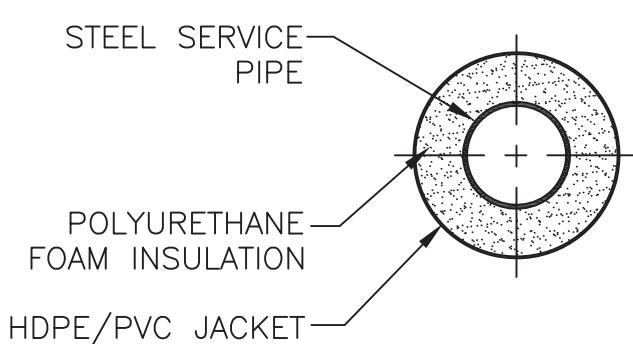


**EXPANSION LOOP DETAIL WITH  
EXTERNAL EXPANSION FOAM BOLSTERS**

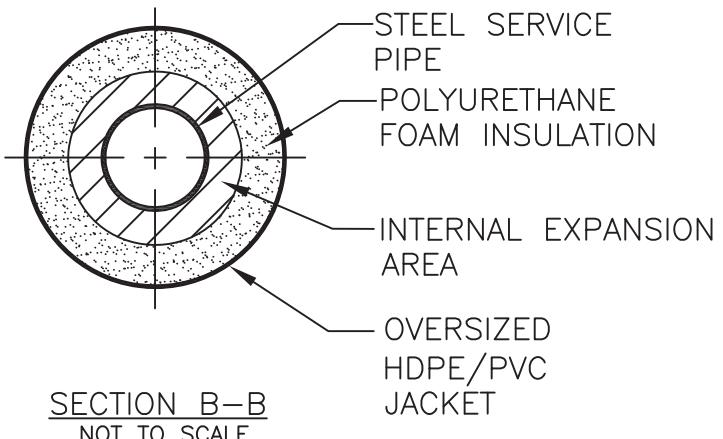
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Date: 04/01/18	Dwg. No.: S250-6B
Rev.:	

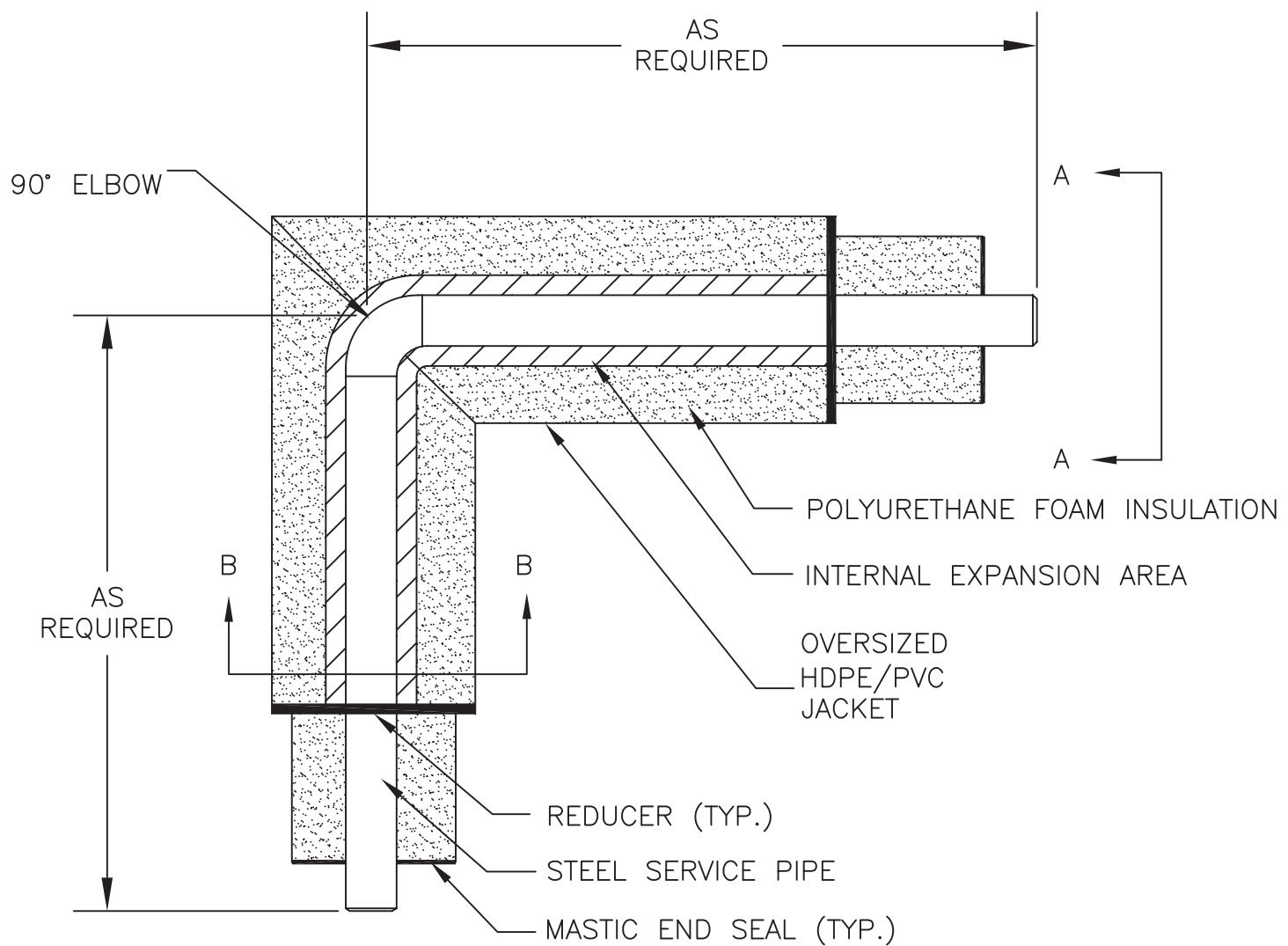
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SECTION A-A  
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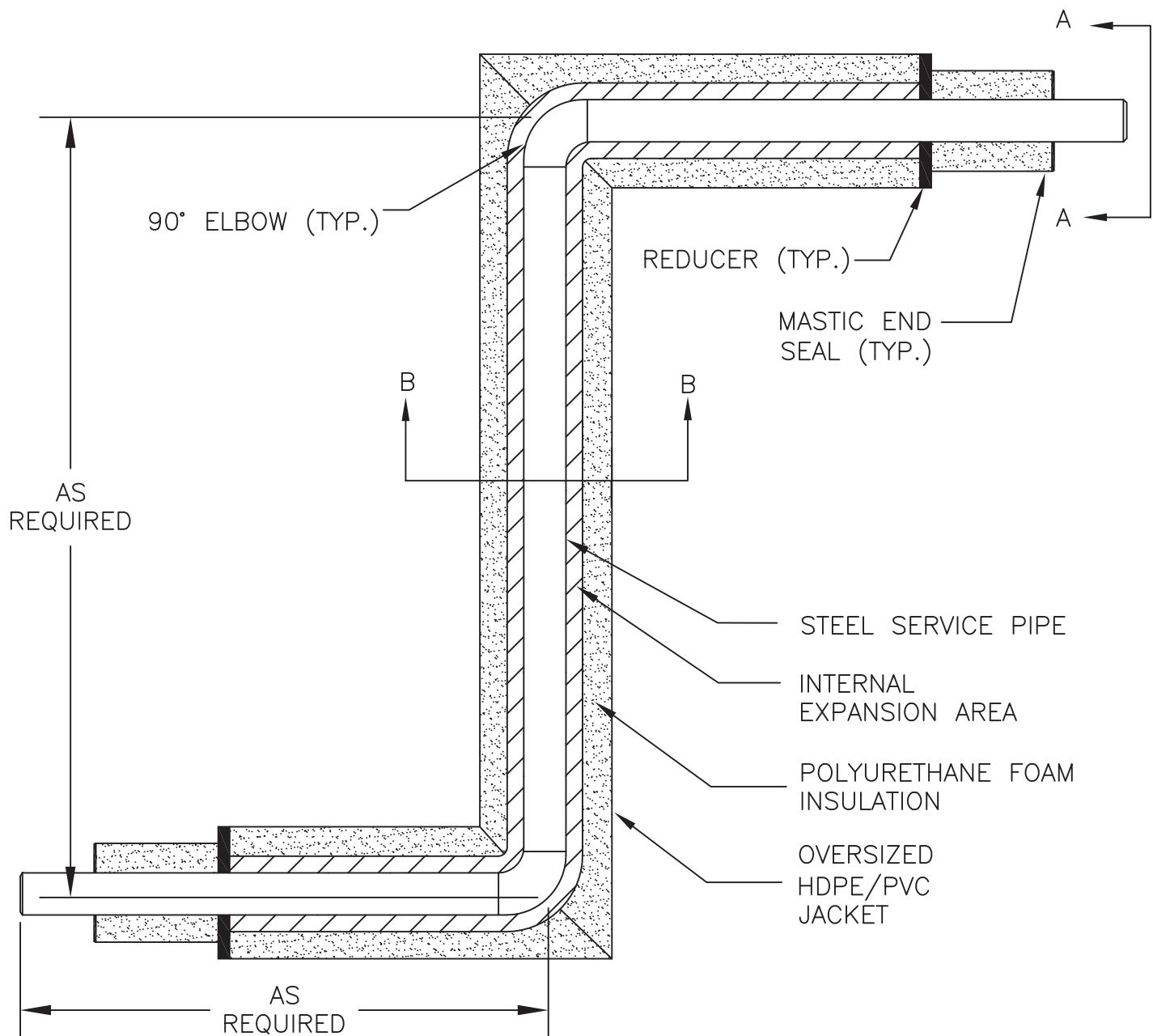
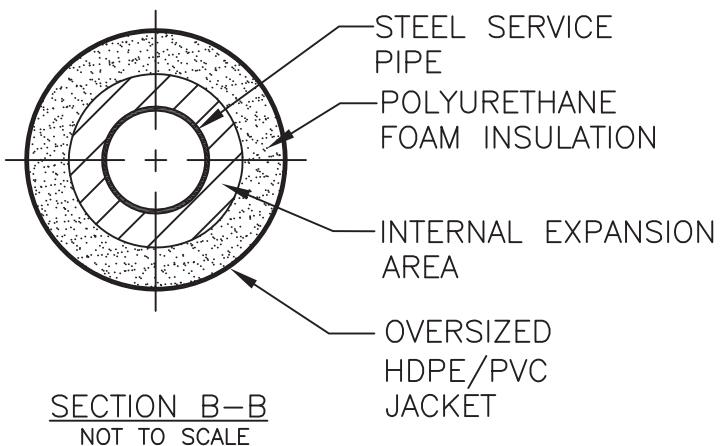
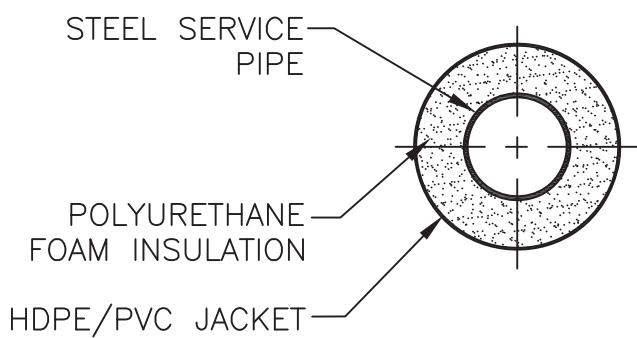
SECTION B-B  
NOT TO SCALE



**EXPANSION 90° ELBOW DETAIL WITH  
INTERNAL EXPANSION**

**STEEL 200**

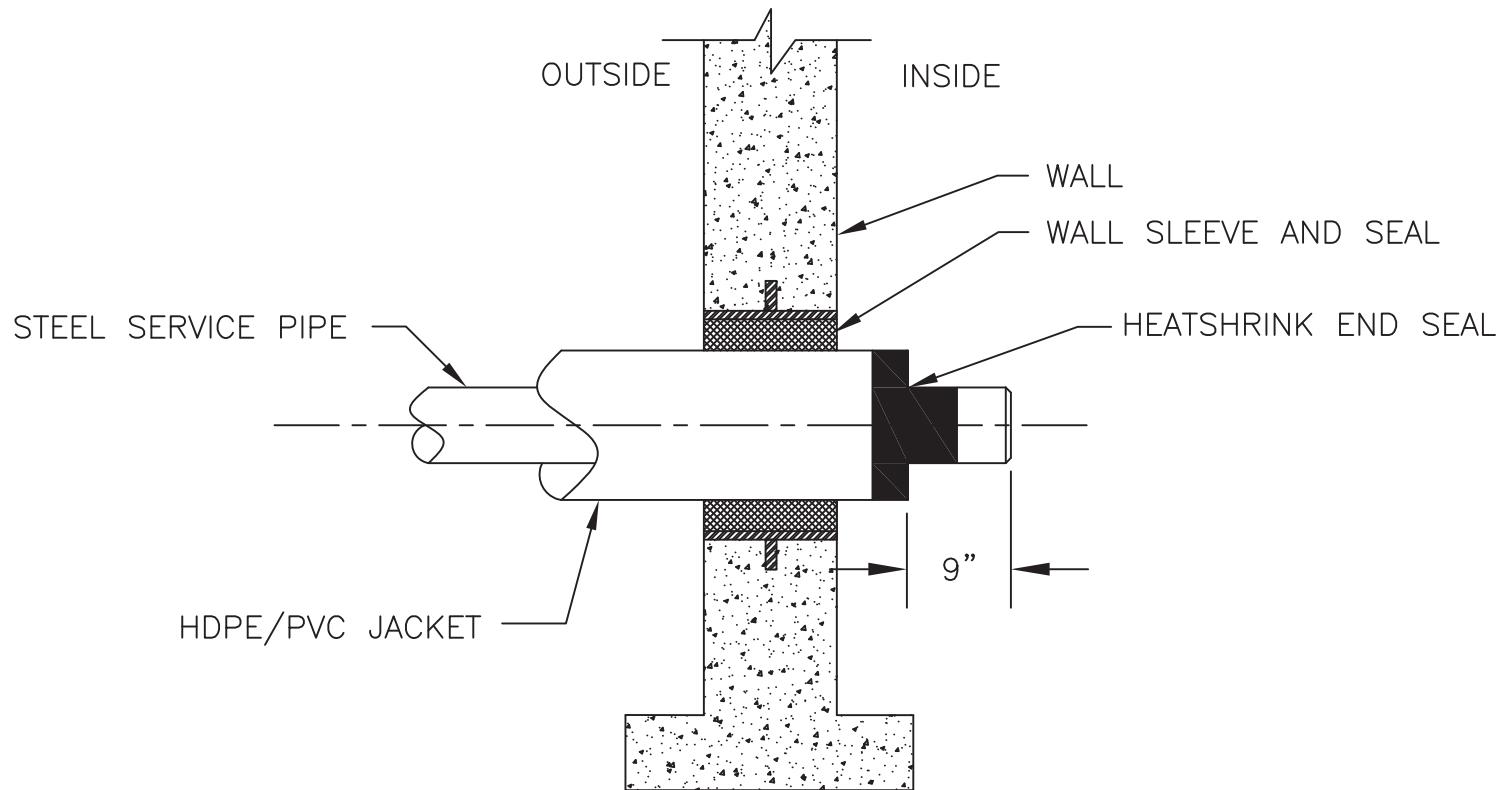
Date: 04/01/18	Dwg. No. S250-7
Rev.:	



**EXPANSION "Z" BEND DETAIL  
WITH INTERNAL EXPANSION**

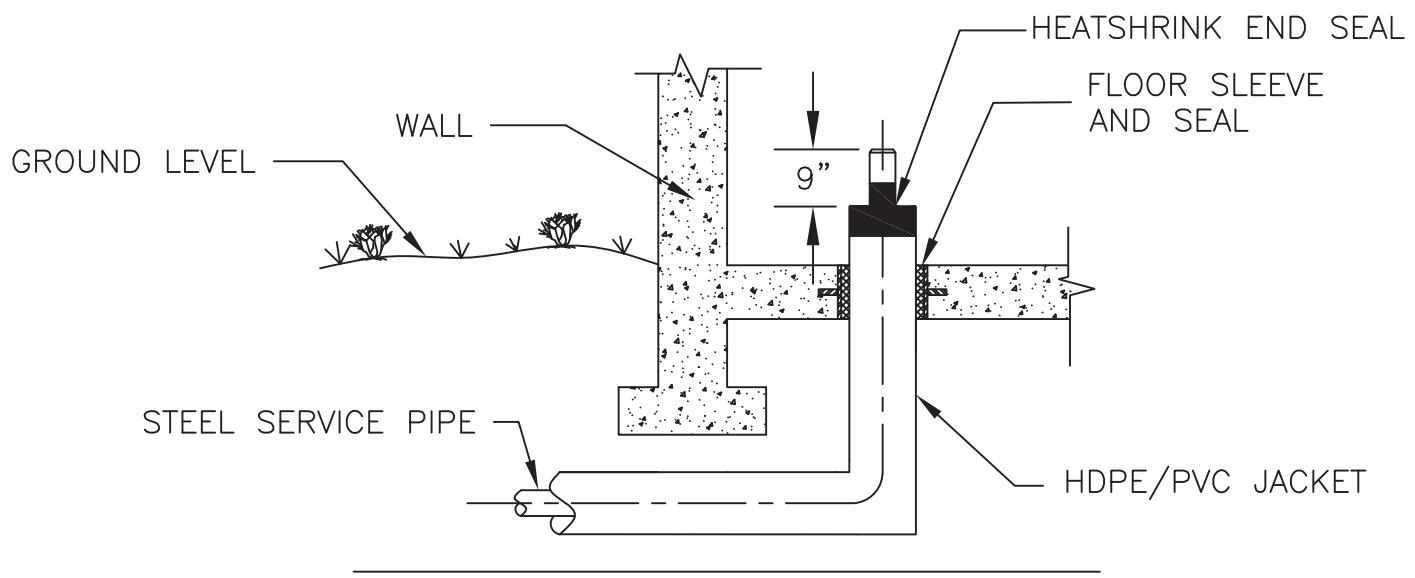
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Date: 04/01/18	Dwg. No.: S250-8
Rev.:	



### WALL PENETRATION DETAIL

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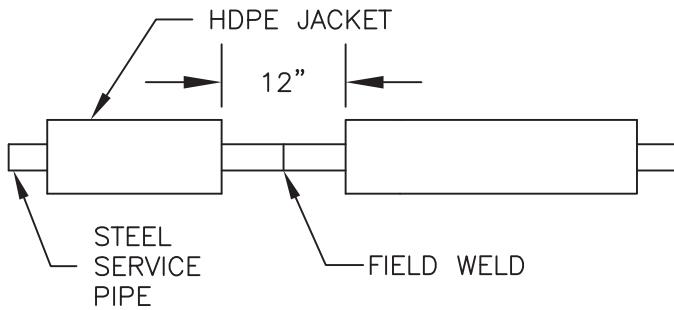
### BUILDING RISER DETAIL

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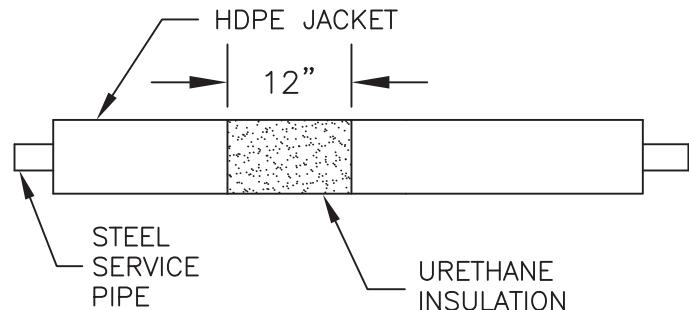
### **HEATSHRINK END SEAL DETAIL**

**STEEL 200**

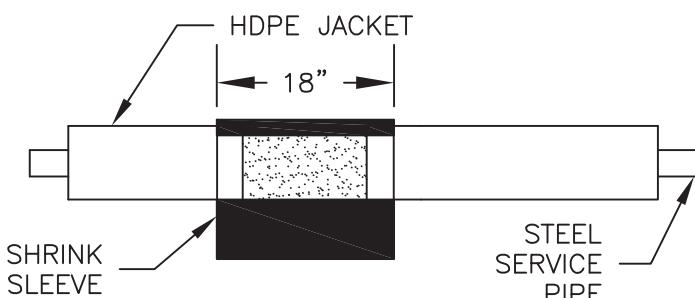
Date: 04/01/18	Dwg. No.: S250-9
Rev.:	

**STEP 1**

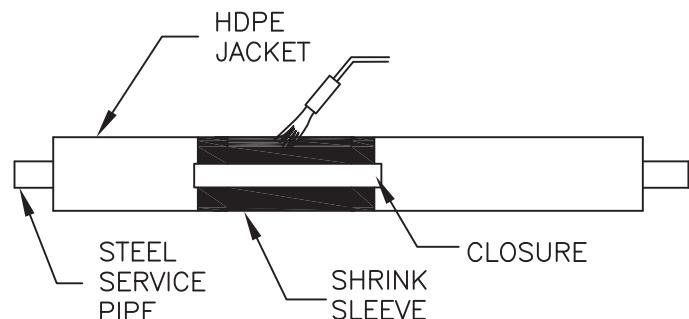
JOIN SERVICE PIPES TOGETHER AND WELD IN PLACE. WHEN WELDS ARE COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

**STEP 2**

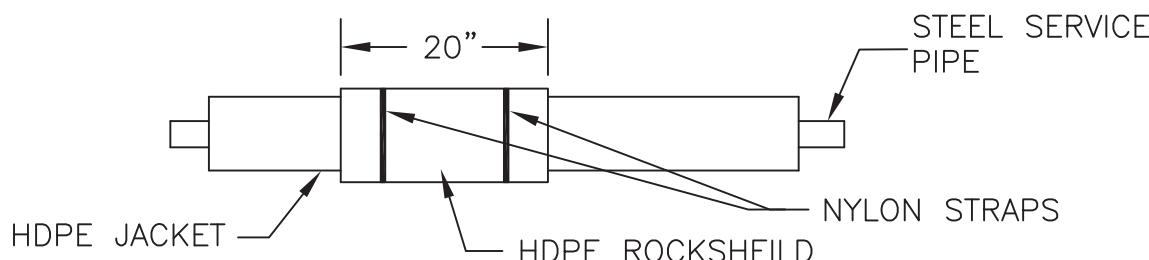
MAKE SURE THAT PIPE AND JACKET ARE CLEAN AND DRY. INSTALL LAYER OF PIPE INSULATION OVER JOINT AND SECURE IN PLACE. SOME TRIMMING MAY BE NECESSARY FOR A SNUG FIT OVER JOINT.

**STEP 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.

**STEP 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 OOZES FROM SIDES. AVOID EXCESSIVE HEAT TO OVERLAP AREA.

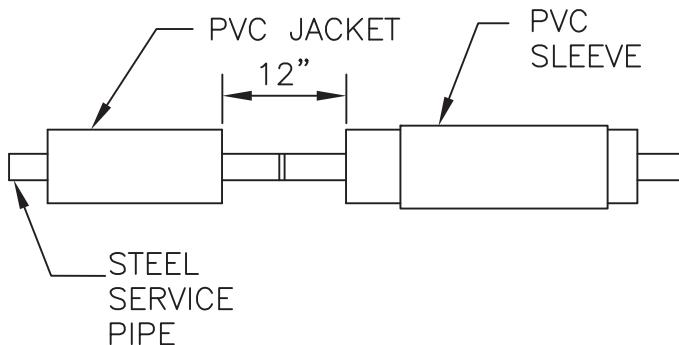
**STEP 5**

AFTER SHRINK SLEEVE HAS COOLED, INSPECT THE SLEEVE TO ENSURE FULL CONTACT WITH JACKET 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 AND SECURE IN PLACE WITH NYLON STRAPS (ZIP TIES).

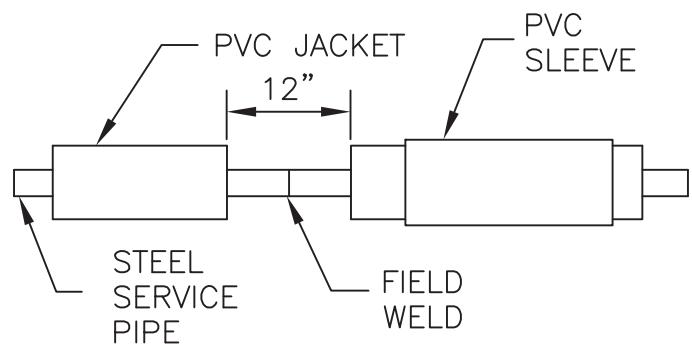
**FIELD JOINT KIT DETAIL WITH****RIGID POLYURETHANE FOAM & HDPE JACKET****STEEL 200**

Date: 04/01/18	Dwg. No.:S250-10A
Rev.:	

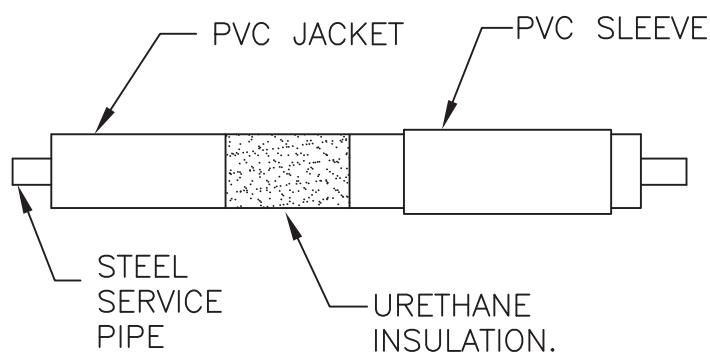
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**STEP 1**

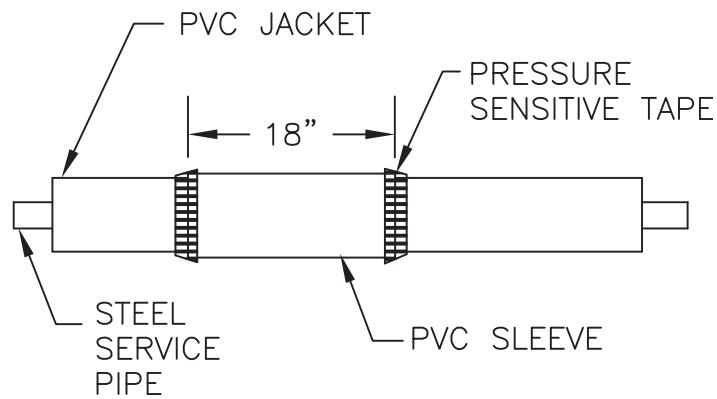
PRIOR TO WELDING SERVICE PIPE, SLIDE PVC SLEEVE OVER JACKET AND MOVE AWAY FROM WELD POINT TO PREVENT DAMAGE.

**STEP 2**

JOIN SERVICE PIPES TOGETHER AND WELD IN PLACE. WHEN WELDS ARE COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

**STEP 3**

MAKE SURE THAT PIPE AND JACKET ARE CLEAN AND DRY. INSTALL LAYER OF PIPE INSULATION OVER JOINT AND SECURE IN PLACE. SOME TRIMMING MAY BE NECESSARY FOR A SNUG FIT OVER JOINT.

**STEP 4**

SLIDE PVC SLEEVE INTO CENTER OF JOINT OVER INSULATION. APPLY A WRAP OF PRESSURE SENSITIVE TAPE AROUND THE AREA WHERE THE CASING AND SLEEVE MEET. ALLOW A 2" OVERLAP OF TAPE ONTO BOTH SURFACES.

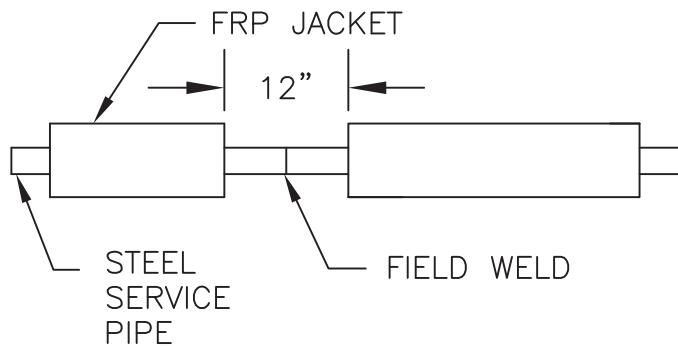
IN COLDER WEATHER, TAPE MUST BE KEPT WARM UNTIL TIME OF USE.

**FIELD JOINT KIT DETAIL WITH  
RIGID POLYURETHANE FOAM & PVC JACKET**
**STEEL 200**

Date: 04/01/18	Dwg.No.:S250-10B
Rev.:	

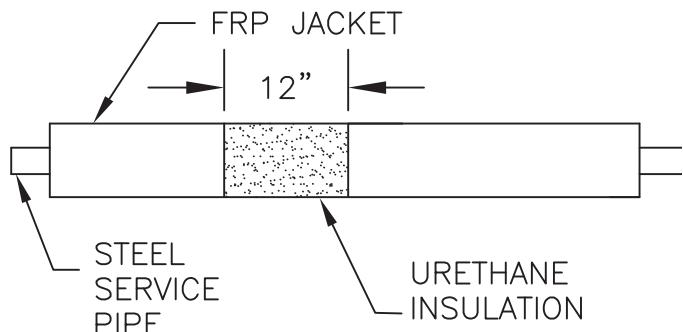
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STEP 1



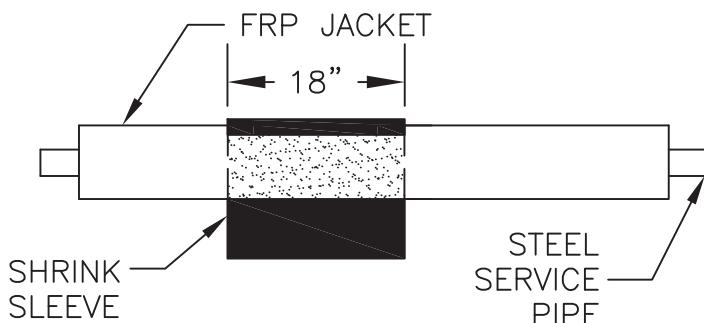
JOIN SERVICE PIPES TOGETHER AND WELD IN PLACE. WHEN WELDS ARE COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

STEP 2



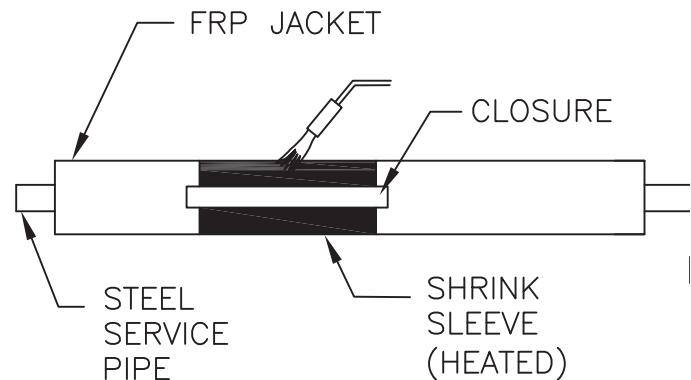
MAKE SURE THAT PIPE AND JACKET ARE CLEAN AND DRY. INSTALL LAYER OF PIPE INSULATION OVER JOINT AND SECURE IN PLACE. SOME TRIMMING MAY BE NECESSARY FOR A SNUG FIT OVER JOINT.

STEP 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.

STEP 4



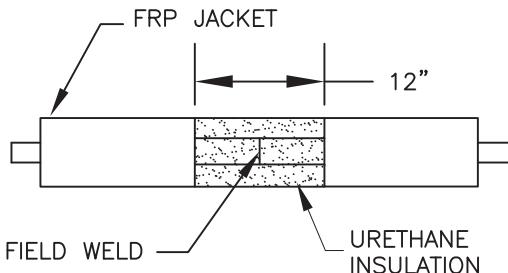
WITH LOW YELLOW FLAME, HEAT THE SHRINK SLEEVE FROM THE MIDDLE TOWARD EACH SIDE OF THE SLEEVE UNTIL RECOVERY IS COMPLETE. SHRINKING HAS BEEN COMPLETED WHEN ADHESIVE OÖZES FROM SIDES. AVOID EXCESSIVE HEAT TO OVERLAP AREA. AFTER SHRINK SLEEVE HAS COOLED, INSPECT THE SLEEVE TO ENSURE FULL CONTACT WITH JACKET AND THAT ADHESIVE HAS FLOWED BEYOND BOTH SLEEVE EDGES. MAKE SURE THAT NO CRACKS OR HOLES ARE IN SLEEVE BEFORE BEGINNING BACKFILL.

### FIELD JOINT KIT DETAIL WITH RIGID POLYURETHANE FOAM & FRP JACKET

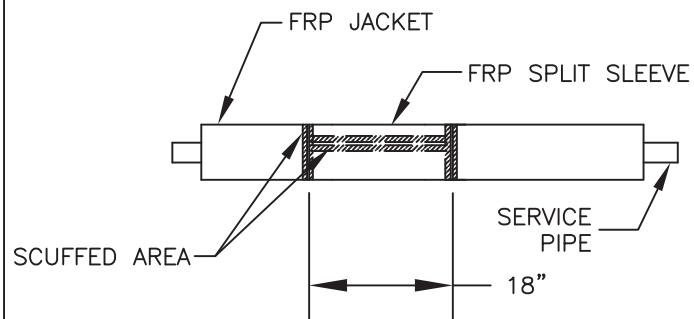
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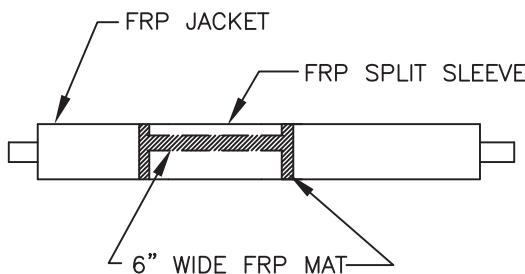
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**STEP 1**

JOIN SERVICE PIPES TOGETHER AND WELD IN PLACE. WHEN WELDS ARE COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED. MAKE SURE THAT PIPE AND JACKET ARE CLEAN AND DRY. INSTALL LAYER OF PIPE INSULATION OVER JOINT AND SECURE IN PLACE. SOME TRIMMING MAY BE NECESSARY FOR A SNUG FIT OVER JOINT.

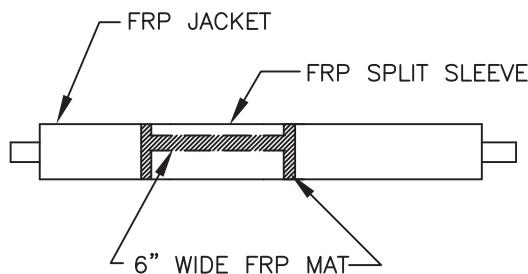
**STEP 2**

PLACE SPLIT FRP SLEEVE AROUND INSULATION WITH THE HORIZONTAL SPLIT AT THE 10 O'CLOCK POSITION. CREATE A GOOD BINDING SURFACE FOR THE HAND LAY-UP BY SCUFFING THE ENDS OF FRP SPLIT SLEEVE AND JACKET.

**STEP 3**

TAKE 3 LAYERS OF PRECUT 6" WIDE FIBERGLASS MAT AND SATURATE WITH FRP RESIN. (MIX 1/2 GAL. OF FRP RESIN WITH 1/2 OZ. OF CATALYST AND STIR. IT IS IMPERATIVE THAT YOU HAVE A GOOD MIX BETWEEN RESIN AND CATALYST.) PICK UP THE THREE STRIPS OF SATURATED MAT AND PLACE ONE END AT THE 12 O'CLOCK POSITION AND THE OTHER AT THE 6 O'CLOCK POSITION.

NOTE: IN COLDER WEATHER, FRP MATERIALS & RESIN MUST REMAIN WARM UNTIL TIME OF USE AND MUST NOT FREEZE. COLDER TEMPERATURES MAY CAUSE A LONGER CURING TIME.

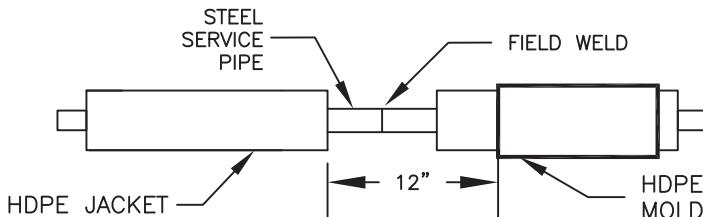
**STEP 4**

ROLL INTO PLACE WITH FRP ROLLER UNTIL MATT LIES FLAT AND AIR BUBBLES ARE OUT. REPEAT FOR OTHER SIDE AND FOR OTHER CIRCUMFERENTIAL JOINT. FOR HORIZONTAL JOINT REPEAT PREVIOUS PROCEDURE EXCEPT LAY MATERIAL IN HORIZONTAL POSITION AND ROLL. MAKE SURE MATT AND RESIN ARE DRY AND CREATE A STRONG SEALANT BEFORE BEGINNING BACKFILL.

**FIELD JOINT KIT DETAIL WITH  
RIGID POLYURETHANE FOAM & FRP HAND LAY-UP**
**STEEL 200**

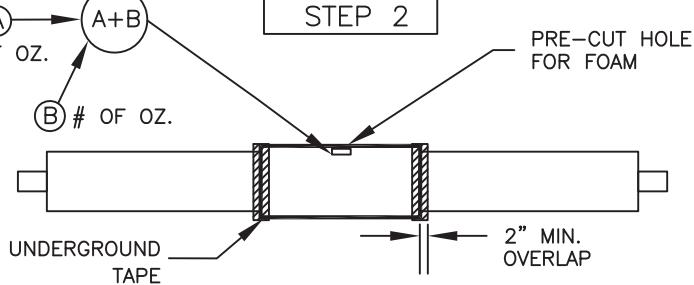
Date: 04/01/18 Dwg. No.:S250-10D  
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**STEP 1**

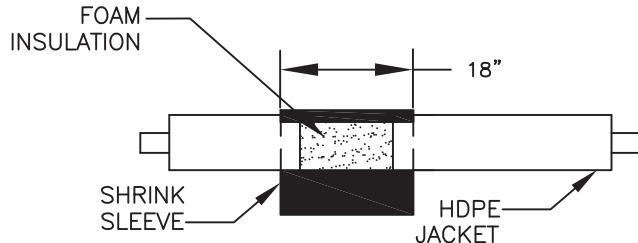
PRIOR TO JOINING SERVICE PIPES, SLIDE HDPE MOLD OVER END OF HDPE JACKET. WELD STEEL SERVICES PIPES TOGETHER. WHEN COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

**\*\*NOTE:** SAFETY GLASSES AND GLOVES MUST BE WORN AT ALL TIMES WHEN PERFORMING EACH STEP.

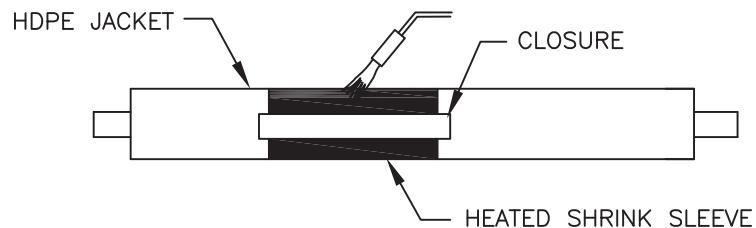
**STEP 2**

SPRAY INSIDE OF HDPE MOLD WITH SILICONE SPRAY. SLIDE THE MOLD OVER THE JOINT AND TAPE IN PLACE WITH A 2" MINIMUM OVERLAP. MAKE SURE PRE-CUT HOLE IS NOT COVERED. IN SEPARATE MEASURING CUPS, MEASURE APPROPRIATE OZ. OF "A" FOAM AND APPROPRIATE OZ. OF "B" FOAM (NUMBER OF REQUIRED OUNCES IS DEPENDANT ON PIPE SIZE AND INSULATION THICKNESS). ONCE MEASURED, POUR "A" AND "B" FOAM INTO THE MIXING CUP AND MIX WITH MIXING TOOL AND DRILL FOR ABOUT THIRTY (30) SECONDS UNTIL MIXTURE TURNS A CARAMEL COLOR. ONCE CARAMEL COLOR IS REACHED, IMMEDIATELY POUR MIXED "A+B" FOAM INTO CUT HOLE IN MOLD UNTIL FOAM MIXTURE FULLY REACTS. WHEN FOAM BEGINS TO REACT, COVER THE OPENING WITH TAPE TO MAXIMIZE INSULATION VOLUME.

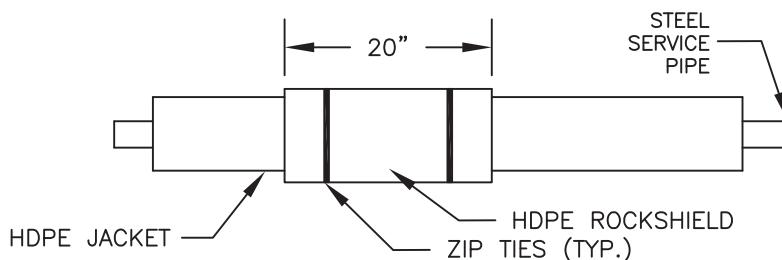
**\*\*NOTE:** IN COLDER WEATHER, CHEMICAL REACTION MAY TAKE LONGER AND TAPE MUST BE KEPT WARM UNTIL TIME OF USE.

**STEP 3**

ONCE FOAM HAS FULLY REACTED, TRIM OFF ANY EXCESS AND REMOVE THE HDPE MOLD AND TAPE. IF FOAM HAS NOT COMPLETELY FILLED THE AREA OF THE MOLD, REPEAT STEP 3 USING LESS FOAM (FOR EXAMPLE, IF ONLY HALF THE AREA OF THE MOLD IS FILLED, MIX HALF OF THE REQUIRED OUNCES OF BOTH "A" AND "B" FOAM). REMOVE THE RELEASE LINER FROM SHRINK SLEEVE AND PLACE AROUND THE INSULATION. OVERLAP THE SHRINK SLEEVE BETWEEN THE 10 TO 12 O'CLOCK POSITION. GENTLY HEAT BACKING OF SHRINK SLEEVE AND CLOSURE. PRESS CLOSURE FIRMLY INTO PLACE. GENTLY HEAT CLOSURE AND PAT DOWN.

**STEP 4**

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

**STEP 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 1" OVERLAP OF SLEEVE AND SECURE IN PLACE WITH NYLON STRAPS (ZIP TIES).

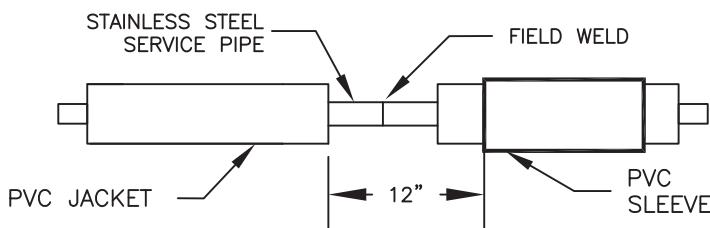
### FIELD JOINT KIT DETAIL WITH POUR-IN-PLACE FOAM & HDPE JACKET

**STEEL 200**

Date: 04/01/18 Dwg.No.: S250-10E

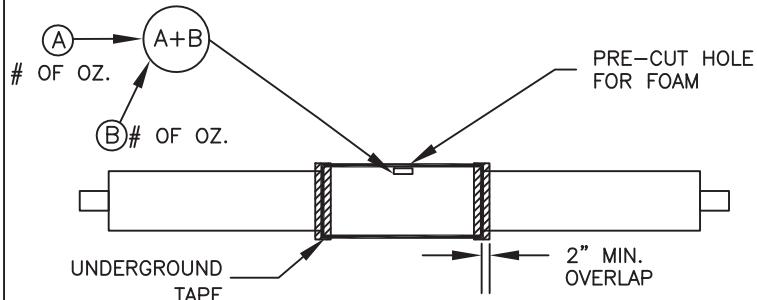
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**STEP 1**

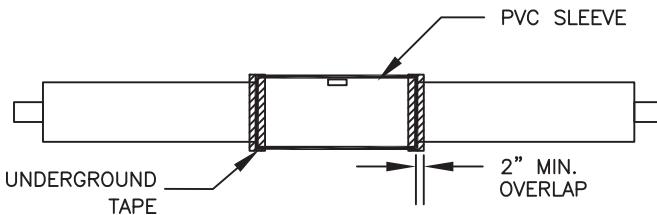
PRIOR TO JOINING SERVICE PIPES, SLIDE PVC SLEEVE OVER END OF PVC JACKET. WELD STEEL SERVICES PIPES TOGETHER. WHEN COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

**\*\*NOTE:** SAFETY GLASSES AND GLOVES MUST BE WORN AT ALL TIMES WHEN PERFORMING EACH STEP.

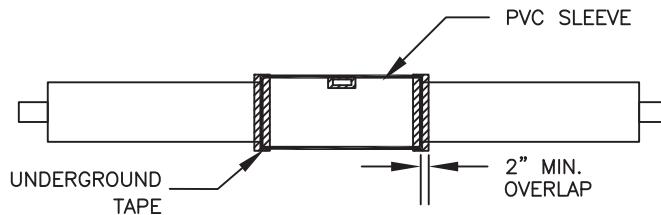
**STEP 2**

SLIDE THE PVC OVER JOINT AND TAPE IN PLACE WITH UNDERGROUND TAPE. ENSURE A 2" MINIMUM OVERLAP OF THE TAPE ONTO PVC SLEEVE AND JACKET. MAKE SURE PRE-CUT HOLE IS NOT COVERED. IN SEPARATE MEASURING CUPS, MEASURE APPROPRIATE OZ. OF "A" FOAM AND APPROPRIATE OZ. OF "B" FOAM (NUMBER OF REQUIRED OUNCES IS DEPENDANT ON PIPE SIZE AND INSULATION THICKNESS). ONCE MEASURED, POUR "A" AND "B" FOAM INTO THE MIXING CUP AND MIX WITH MIXING TOOL AND DRILL FOR ABOUT THIRTY (30) SECONDS UNTIL MIXTURE TURNS A CARAMEL COLOR. ONCE CARAMEL COLOR IS REACHED, IMMEDIATELY POUR MIXED "A+B" FOAM INTO CUT HOLE IN MOLD UNTIL FOAM MIXTURE FULLY REACTS. WHEN FOAM BEGINS TO REACT, COVER OPENING WITH TAPE TO MAXIMIZE INSULATION VOLUME.

\*\*NOTE: IN COLDER WEATHER, CHEMICAL REACTION MAY TAKE LONGER AND TAPE MUST BE KEPT WARM UNTIL TIME OF USE.

**STEP 3**

ONCE FOAM HAS FULLY REACTED, TRIM OFF ANY EXCESS AND IF FOAM HAS NOT COMPLETELY FILLED THE AREA OF THE MOLD, REPEAT STEP 3 USING LESS FOAM (FOR EXAMPLE, IF ONLY HALF THE AREA OF THE MOLD IS FILLED, MIX HALF OF THE REQUIRED OUNCES OF BOTH "A" AND "B" FOAM).

**STEP 4**

ONCE JOINT IS COMPLETELY INSULATED, COVER HOLE WITH THE UNDERGROUND TAPE. ENSURE THAT THE TAPE AT THE EDGES OF THE PVC SLEEVE/JACKET ARE SECURE AND COMPLETELY SEALED BEFORE BEGINNING BACKFILL. IF NOT, RE-TAPE NECESSARY AREAS.

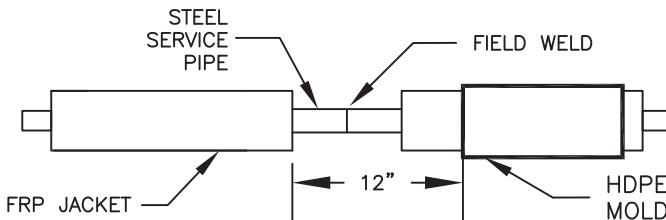
### FIELD JOINT KIT DETAIL WITH POUR-IN-PLACE FOAM & PVC JACKET

**STEEL 200**

Date: 04/01/18 Dwg.No.: S250-10F

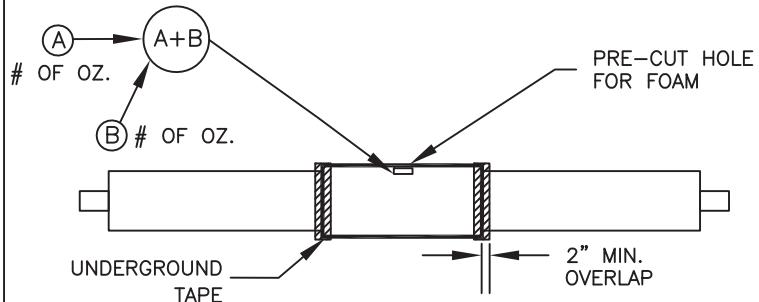
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**STEP 1**

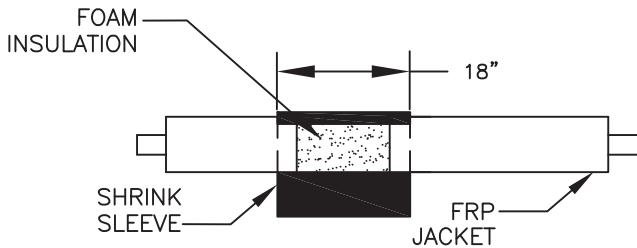
PRIOR TO JOINING SERVICE PIPES, SLIDE HDPE MOLD OVER END OF FRP JACKET. WELD STEEL SERVICES PIPES TOGETHER. WHEN COOL TO TOUCH, CHECK/TEST ALL WELDS AS REQUIRED.

**\*\*NOTE:** SAFETY GLASSES AND GLOVES MUST BE WORN AT ALL TIMES WHEN PERFORMING EACH STEP.

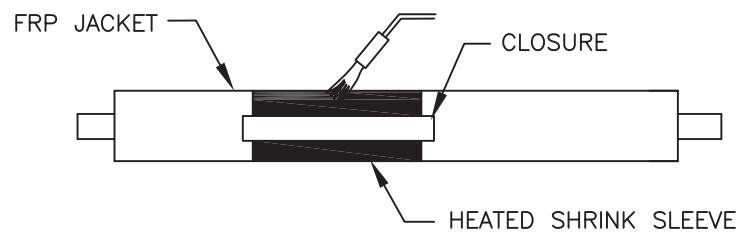
**STEP 2**

SPRAY INSIDE OF HDPE MOLD WITH SILICONE SPRAY. SLIDE THE MOLD OVER THE JOINT AND TAPE IN PLACE WITH A 2" MINIMUM OVERLAP. MAKE SURE PRE-CUT HOLE IS NOT COVERED. IN SEPARATE MEASURING CUPS, MEASURE APPROPRIATE OZ. OF "A" FOAM AND APPROPRIATE OZ. OF "B" FOAM (NUMBER OF REQUIRED OUNCES IS DEPENDANT ON PIPE SIZE AND INSULATION THICKNESS). ONCE MEASURED, POUR "A" AND "B" FOAM INTO THE MIXING CUP AND MIX WITH MIXING TOOL AND DRILL FOR ABOUT THIRTY (30) SECONDS UNTIL MIXTURE TURNS A CARAMEL COLOR. ONCE CARAMEL COLOR IS REACHED, IMMEDIATELY POUR MIXED "A+B" FOAM INTO CUT HOLE IN MOLD UNTIL FOAM MIXTURE FULLY REACTS. WHEN FOAM BEGINS TO REACT, COVER THE OPENING WITH TAPE TO MAXIMIZE INSULATION VOLUME.

**\*\*NOTE:** IN COLDER WEATHER, CHEMICAL REACTION MAY TAKE LONGER AND TAPE MUST BE KEPT WARM UNTIL TIME OF USE.

**STEP 3**

ONCE FOAM HAS FULLY REACTED, TRIM OFF ANY EXCESS AND REMOVE THE HDPE MOLD AND TAPE. IF FOAM HAS NOT COMPLETELY FILLED THE AREA OF THE MOLD, REPEAT STEP 3 USING LESS FOAM (FOR EXAMPLE, IF ONLY HALF THE AREA OF THE MOLD IS FILLED, MIX HALF OF THE REQUIRED OUNCES OF BOTH "A" AND "B" FOAM). REMOVE THE RELEASE LINER FROM SHRINK SLEEVE AND PLACE AROUND THE INSULATION. OVERLAP THE SHRINK SLEEVE BETWEEN THE 10 TO 12 O'CLOCK POSITION. GENTLY HEAT BACKING OF SHRINK SLEEVE AND CLOSURE. PRESS CLOSURE FIRMLY INTO PLACE. GENTLY HEAT CLOSURE AND PAT DOWN.

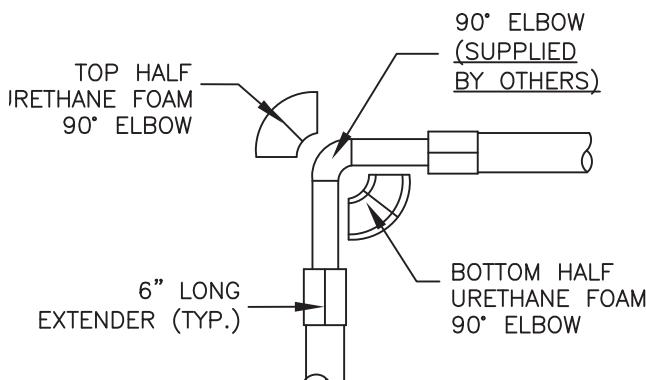
**STEP 4**

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 OOZES FROM SIDES. AVOID EXCESSIVE HEAT TO OVERLAP AREA. AFTER SHRINK SLEEVE HAS COOLED, INSPECT THE SLEEVE TO ENSURE FULL CONTACT WITH JACKET AND THAT ADHESIVE HAS FLOWED BEYOND BOTH SLEEVE EDGES. MAKE SURE THAT NO CRACKS OR HOLES ARE IN SLEEVE BEFORE BEGINNING BACKFILL.

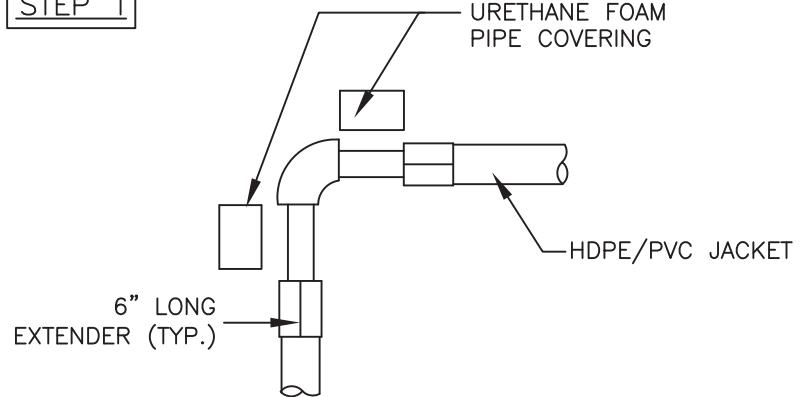
**FIELD JOINT KIT DETAIL WITH  
POUR-IN-PLACE FOAM & FRP JACKET**
**STEEL 200**

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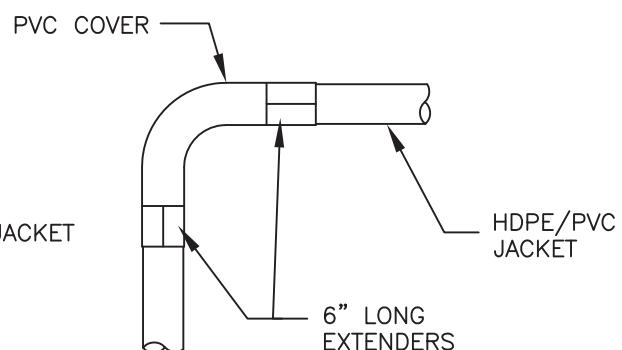
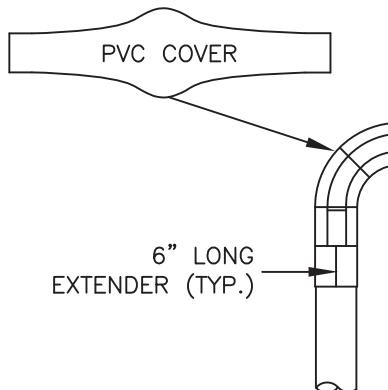


STEP 1



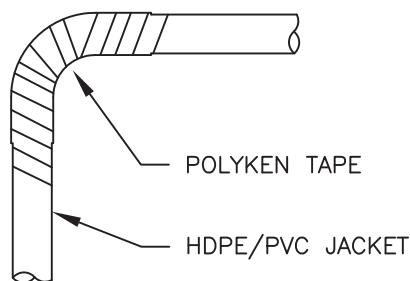
1. SLIDE THE 6" LONG EXTENDERS ONTO THE ENDS OF JACKET BEFORE 90° ELBOW IS WELDED.
2. WELD 90° ELBOW TO SERVICE PIPES AND TEST AS REQUIRED.
3. FIT BOTH HALVES OF THE URETHANE FOAM 90° ELBOW OVER FITTING AND SECURE IN PLACE WITH TAPE.
4. FIT STRAIGHT URETHANE FOAM PIPE COVERING INTO PLACE WHERE THE URETHANE FOAM 90° ELBOW DOES NOT COVER SERVICE PIPE. SOME TRIMMING MAY BE REQUIRED FOR A SNUG FIT. SECURE IN PLACE WITH TAPE.
5. WRAP EXTENDERS IN PLACE OVER THE STRAIGHT PIPE COVERING WITH AN OVERLAP ONTO THE JACKET AND SECURE IN PLACE WITH TAPE.

STEP 2



6. APPLY PVC COVER OVER FITTING WITH THE SEAM OVERLAP IN THE THROAT OF THE FITTING FACING DOWNWARDS.
7. MAKE SURE THAT THE PVC COVER OVERLAPS THE EXTENDERS.

STEP 3



8. ONCE EVERYTHING IS SECURED IN PLACE, COMPLETELY & TIGHTLY SPIRAL WRAP FITTING COVER AND EXTENDERS WITH THE POLYKEN TAPE. ENSURE A MINIMUM OF AN 1" OVERLAP OF TAPE ONTO JACKET. MAKE SURE TO STRETCH POLYKEN TAPE AND APPLY HIGH TENSION DURING APPLICATION SO THE TAPE PROPERLY ADHERES TO THE SURFACES. MAKE SURE THERE ARE NO WRINKLES IN THE TAPE.

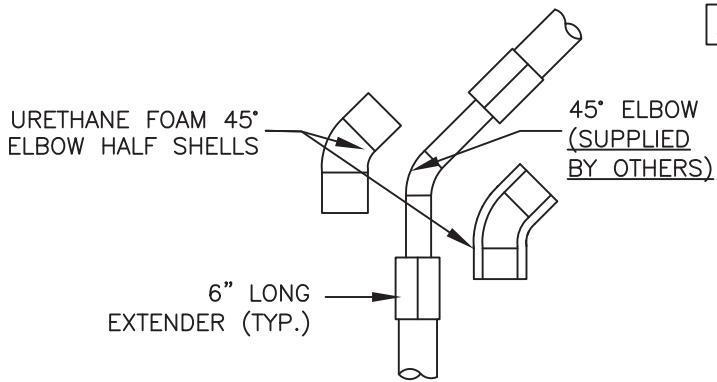
\*\* IN COLDER WEATHER, ALL TAPE MUST BE KEPT WARM UNTIL TIME OF USE. \*\*

## FIELD INSULATED 90° ELBOW KIT DETAIL

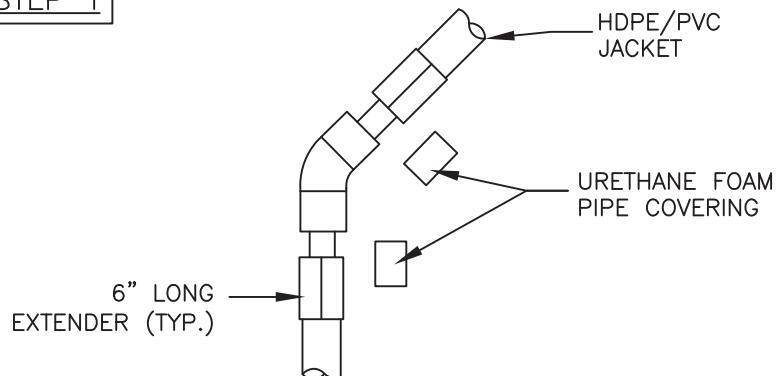
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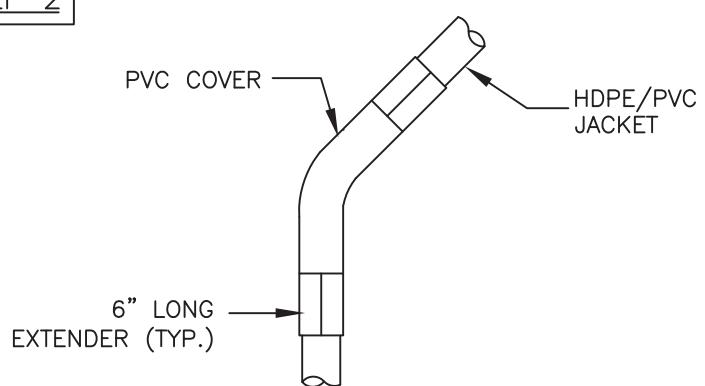
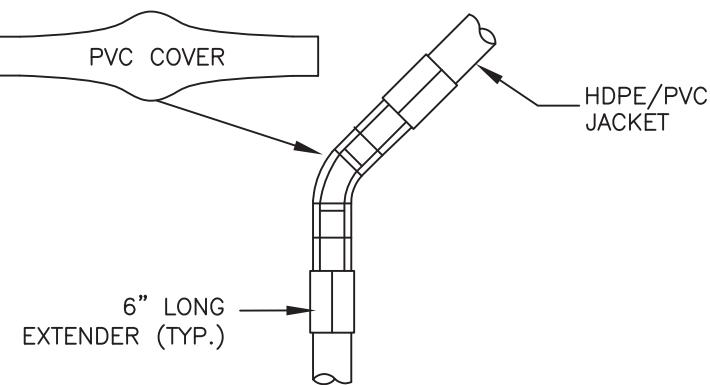


STEP 1



1. SLIDE THE 6" LONG EXTENDERS ONTO THE ENDS OF JACKET BEFORE 45° ELBOW IS WELDED.
2. WELD 45° ELBOW TO SERVICE PIPES AND TEST AS REQUIRED.
3. FIT BOTH HALVES OF THE URETHANE FOAM 45° ELBOW OVER FITTING AND SECURE IN PLACE WITH TAPE.
4. FIT STRAIGHT URETHANE FOAM PIPE COVERING INTO PLACE WHERE THE URETHANE FOAM 45° ELBOW DOES NOT COVER SERVICE PIPE. SOME TRIMMING MAY BE REQUIRED FOR A SNUG FIT. SECURE IN PLACE WITH TAPE.
5. WRAP EXTENDERS IN PLACE OVER THE STRAIGHT PIPE COVERING WITH AN OVERLAP ONTO THE JACKET AND SECURE IN PLACE WITH TAPE.

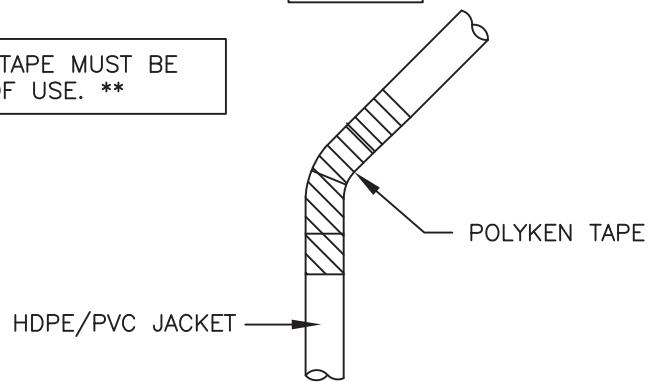
STEP 2



6. APPLY PVC COVER OVER FITTING WITH THE SEAM OVERLAP IN THE THROAT OF THE FITTING FACING DOWNWARDS.
7. MAKE SURE THAT THE PVC COVER OVERLAPS THE EXTENDERS.

STEP 3

\*\* IN COLDER WEATHER, ALL TAPE MUST BE KEPT WARM UNTIL TIME OF USE. \*\*

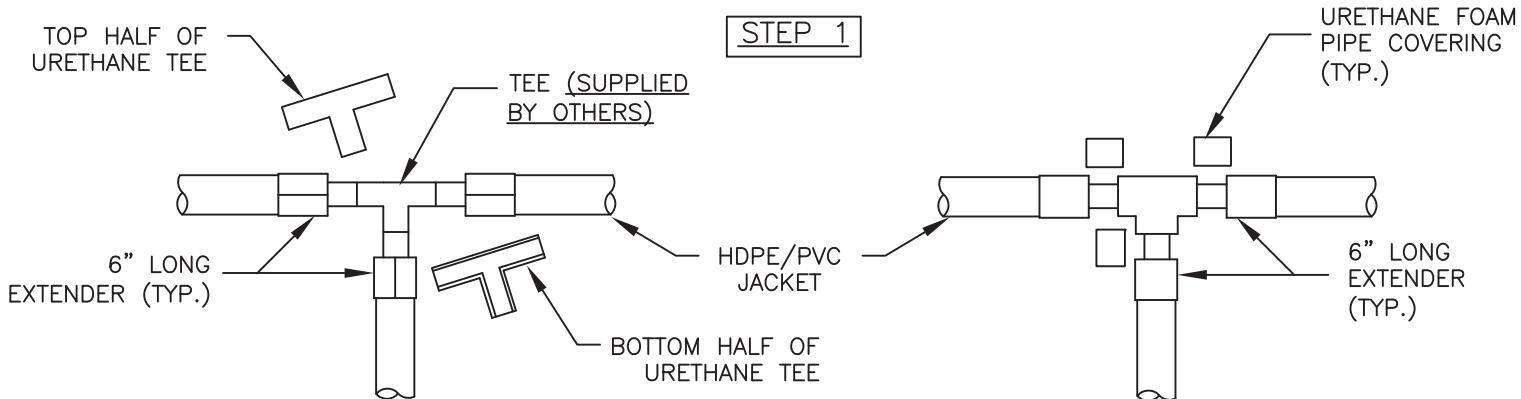


8. ONCE EVERYTHING IS SECURED IN PLACE, COMPLETELY & TIGHTLY SPIRAL WRAP FITTING COVER AND EXTENDERS WITH THE POLYKEN TAPE. ENSURE A MINIMUM OF AN 1" OVERLAP OF TAPE ONTO JACKET. MAKE SURE TO STRETCH POLYKEN TAPE AND APPLY HIGH TENSION DURING APPLICATION SO THE TAPE PROPERLY ADHERES TO THE SURFACES. MAKE SURE THERE ARE NO WRINKLES IN THE TAPE.

## FIELD INSULATED 45° ELBOW KIT DETAIL

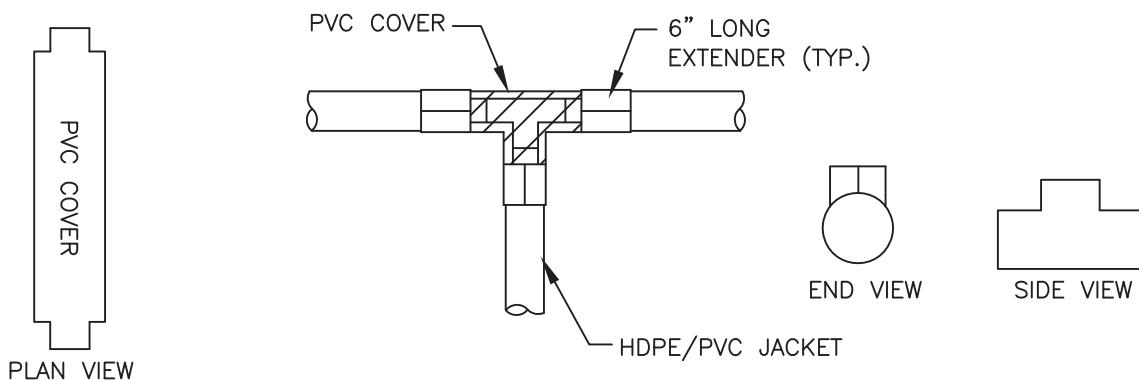
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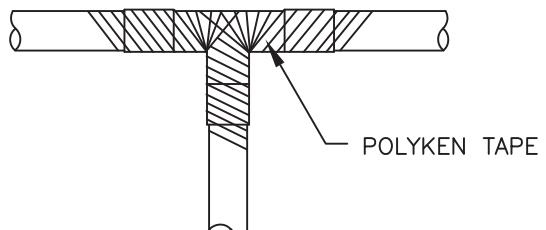
1. SLIDE THE 6" LONG EXTENDERS ONTO THE ENDS OF JACKET BEFORE TEE IS WELDED.
2. WELD TEE TO SERVICE PIPES AND TEST AS REQUIRED.
3. FIT BOTH HALVES OF THE URETHANE FOAM TEE OVER FITTING AND SECURE IN PLACE WITH TAPE.
4. FIT STRAIGHT URETHANE FOAM PIPE COVERING INTO PLACE WHERE THE URETHANE FOAM TEE DOES NOT COVER SERVICE PIPE. SOME TRIMMING MAY BE REQUIRED FOR A SNUG FIT. SECURE IN PLACE WITH TAPE.
5. WRAP EXTENDERS IN PLACE OVER THE STRAIGHT PIPE COVERING WITH AN OVERLAP ONTO THE JACKET AND SECURE IN PLACE WITH TAPE.

### STEP 2



6. APPLY PVC COVER OVER FITTING WITH THE SEAM OVERLAP IN THE THROAT OF THE FITTING FACING DOWNWARDS.
7. MAKE SURE THAT THE PVC COVER OVERLAPS THE EXTENDERS.

### STEP 3



8. ONCE EVERYTHING IS SECURED IN PLACE, COMPLETELY & TIGHTLY SPIRAL WRAP FITTING COVER AND EXTENDERS WITH THE POLYKEN TAPE. ENSURE A MINIMUM OF AN 1" OVERLAP OF TAPE ONTO JACKET. MAKE SURE TO STRETCH POLYKEN TAPE AND APPLY HIGH TENSION DURING APPLICATION SO THE TAPE PROPERLY ADHERES TO THE SURFACES. MAKE SURE THERE ARE NO WRINKLES IN THE TAPE.

\*\* IN COLDER WEATHER, ALL TAPE MUST BE KEPT WARM UNTIL TIME OF USE. \*\*

## FIELD INSULATED TEE KIT DETAIL

**STEEL 200**

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