

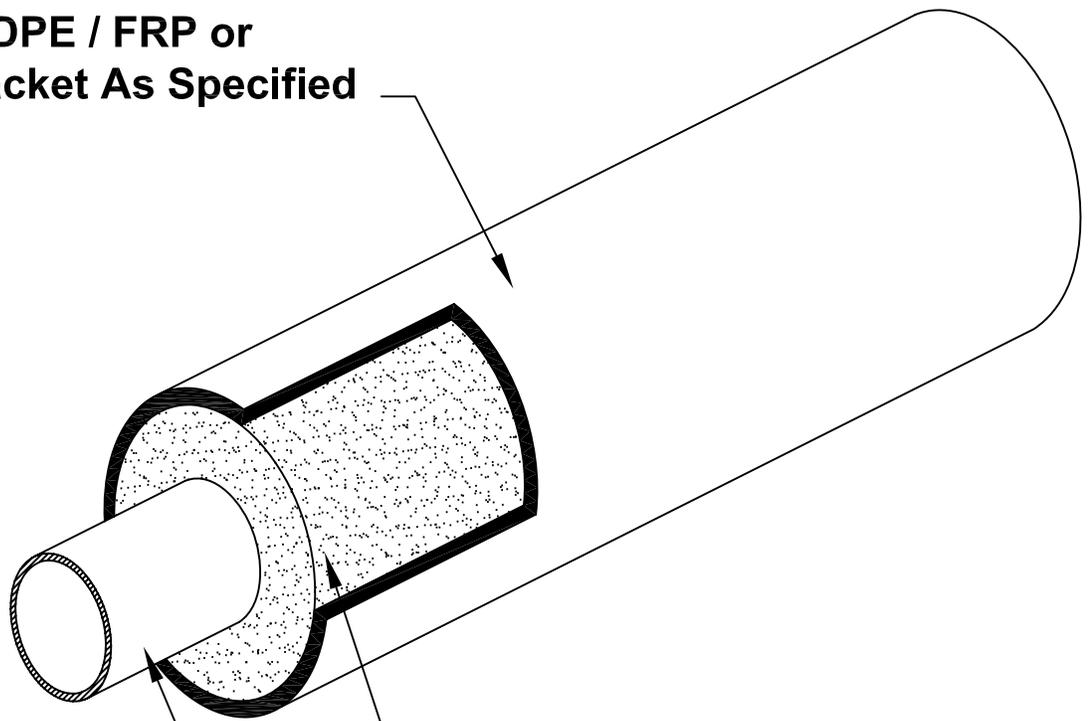
# COPPER PIPE SYSTEM



For Applications Up To 250° F Below And Above Ground

- Chilled Water
- Heating Hot Water
- Condenser Water
- Potable Water
- Domestic Water

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



**Polyurethane Foam Insulation**

**Copper Service Pipe As Specified**



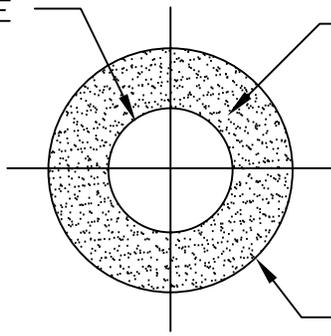
**New York**  
2 Technology Blvd  
Canastota, NY 13032  
Phone: 904-687-2874

**Texas**  
10606 Goodnight Lane  
Dallas, Texas 75220  
Phone: 904-687-2874

**Florida**  
2501 Clark St.  
Apopka, Florida 32703  
Phone: 904-687-2874



COPPER SERVICE PIPE  
(TYPE K OR L)



POLYURETHANE  
FOAM INSULATION

PVC/HDPE/FRP CASING\*

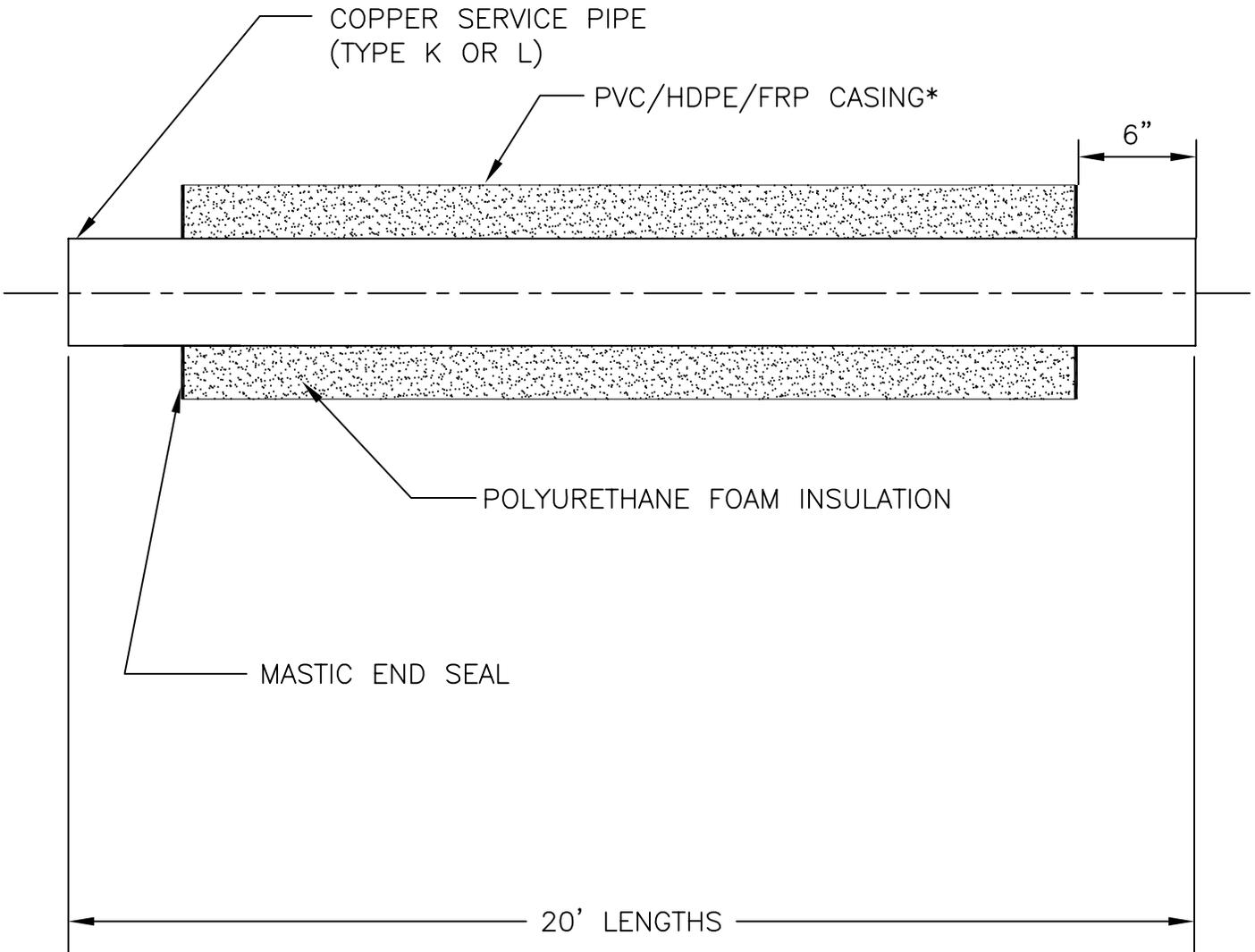
END VIEW

NOT TO SCALE

COPPER SERVICE PIPE  
(TYPE K OR L)

PVC/HDPE/FRP CASING\*

6"



POLYURETHANE FOAM INSULATION

MASTIC END SEAL

20' LENGTHS

\* OPTIONAL METAL JACKET AVAILABLE FOR ABOVE GRADE APPLICATION.

COPPER STRAIGHT LENGTH DETAIL

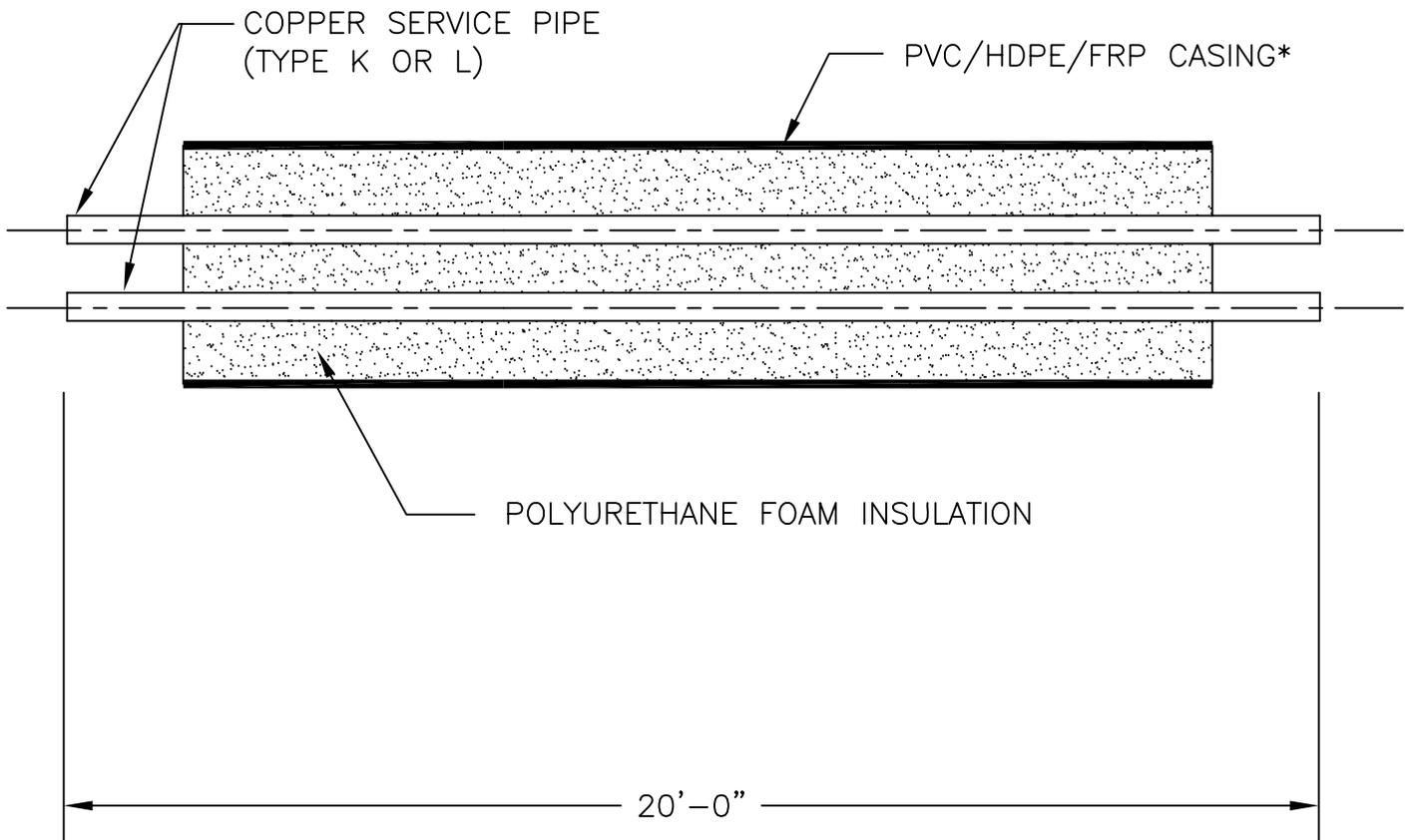
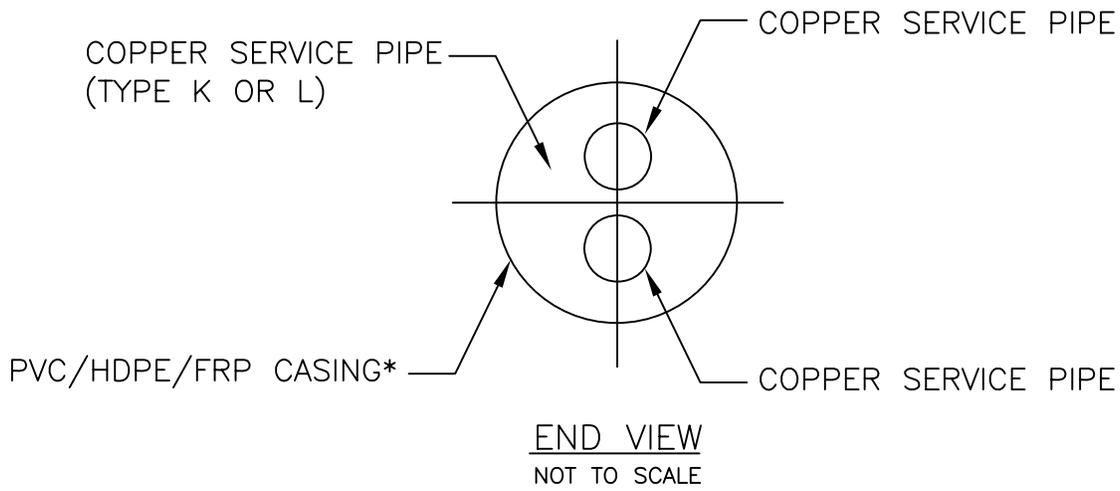
**COPPER**

Date: 03/09/06

Dwg. No.:Cu-1

Rev.:





\* OPTIONAL METAL JACKET AVAILABLE FOR ABOVE GRADE APPLICATION.

DOUBLE COPPER STRAIGHT LENGTH DETAIL

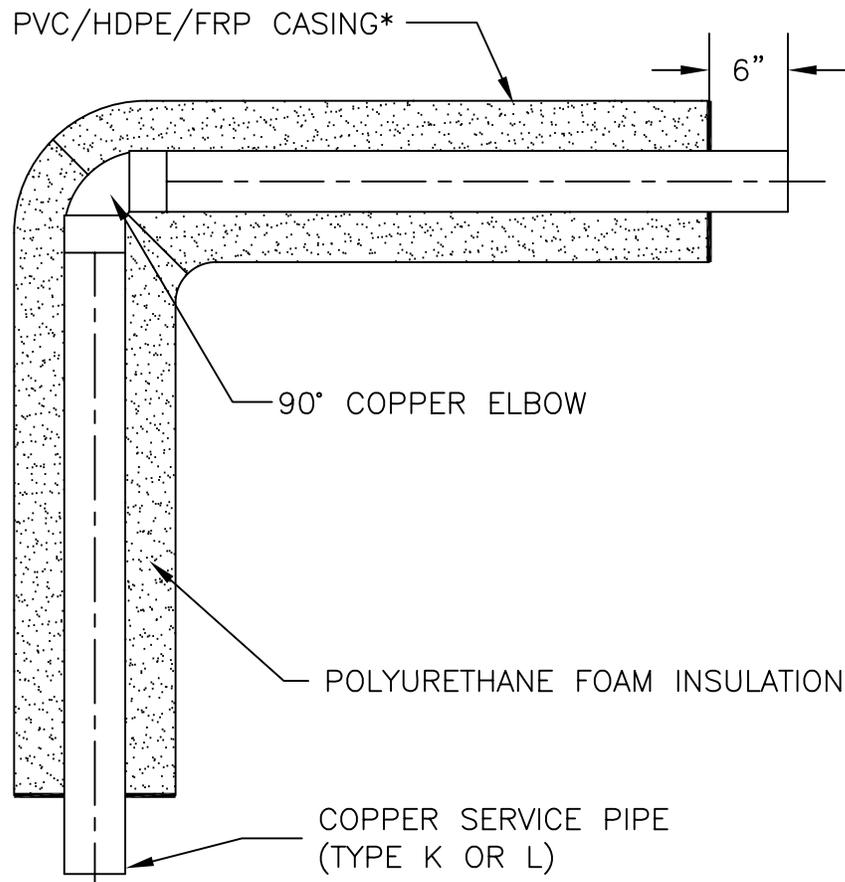
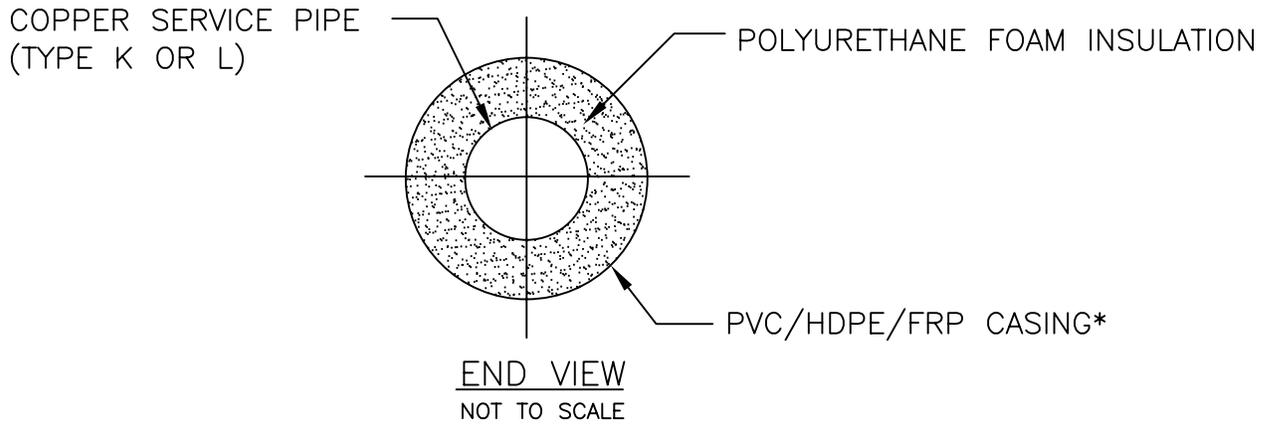
**COPPER**

Date: 03/09/06

Dwg. No.:Cu-1A

Rev.:





\* OPTIONAL METAL JACKET AVAILABLE FOR ABOVE GRADE APPLICATION.

COPPER PREFABRICATED 90° ELBOW DETAIL

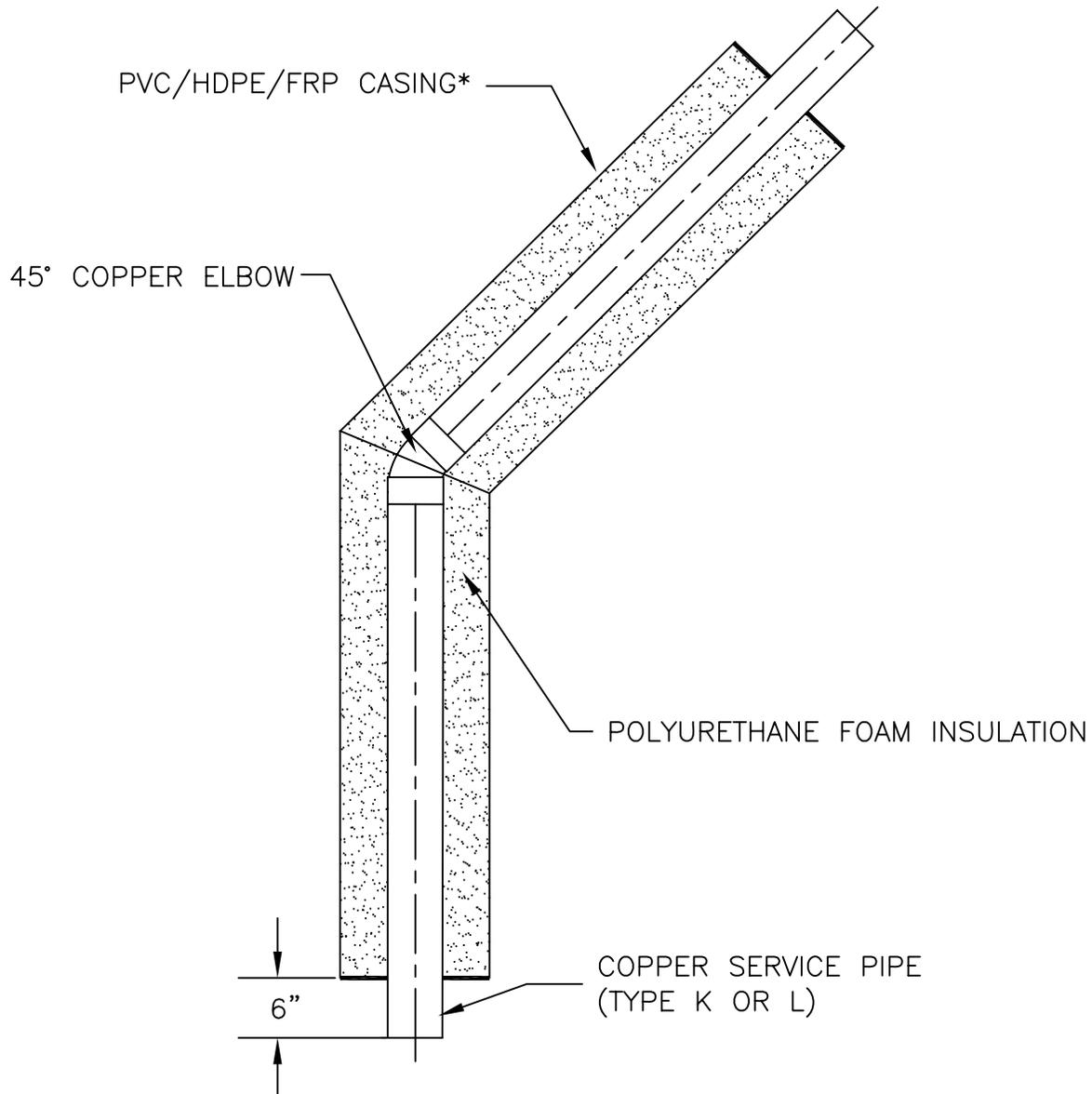
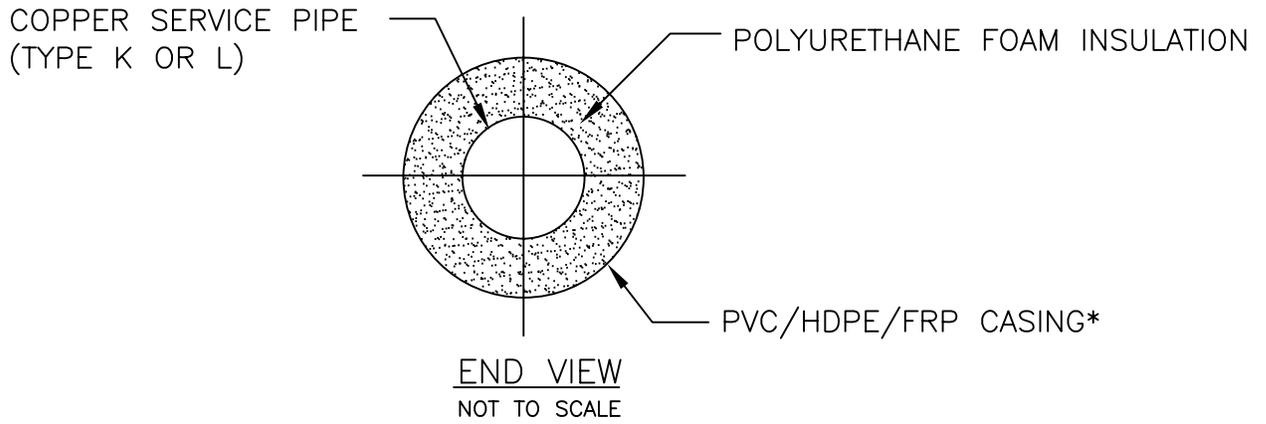
**COPPER**

Date: 03/09/06

Dwg. No.: Cu-2

Rev.:





\* OPTIONAL METAL JACKET AVAILABLE FOR ABOVE GRADE APPLICATION.

COPPER PREFABRICATED 45° ELBOW DETAIL

**COPPER**

Date: 03/09/06

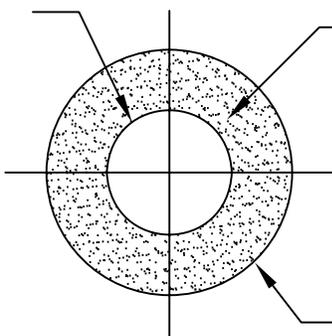
Dwg. No.: Cu-3

Rev.:



COPPER SERVICE PIPE  
(TYPE K OR L)

POLYURETHANE FOAM INSULATION

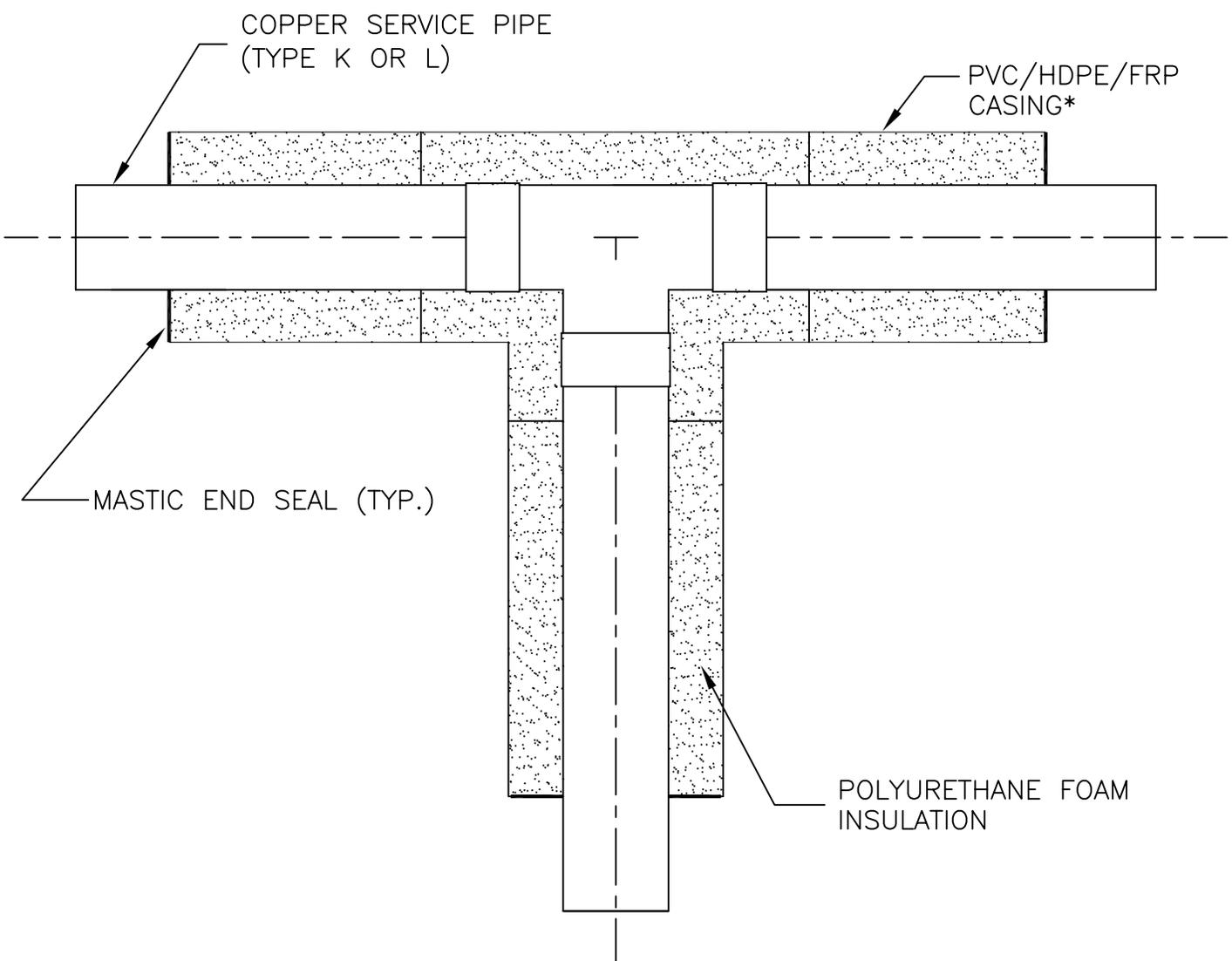


PVC/HDPE/FRP CASING\*

END VIEW  
NOT TO SCALE

COPPER SERVICE PIPE  
(TYPE K OR L)

PVC/HDPE/FRP  
CASING\*



MASTIC END SEAL (TYP.)

POLYURETHANE FOAM  
INSULATION

\* OPTIONAL METAL JACKET AVAILABLE FOR ABOVE GRADE APPLICATION.

COPPER TEE DETAIL

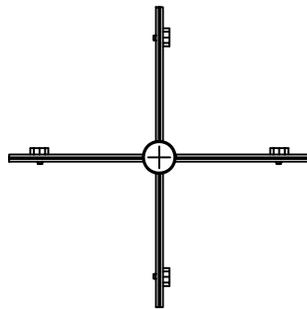
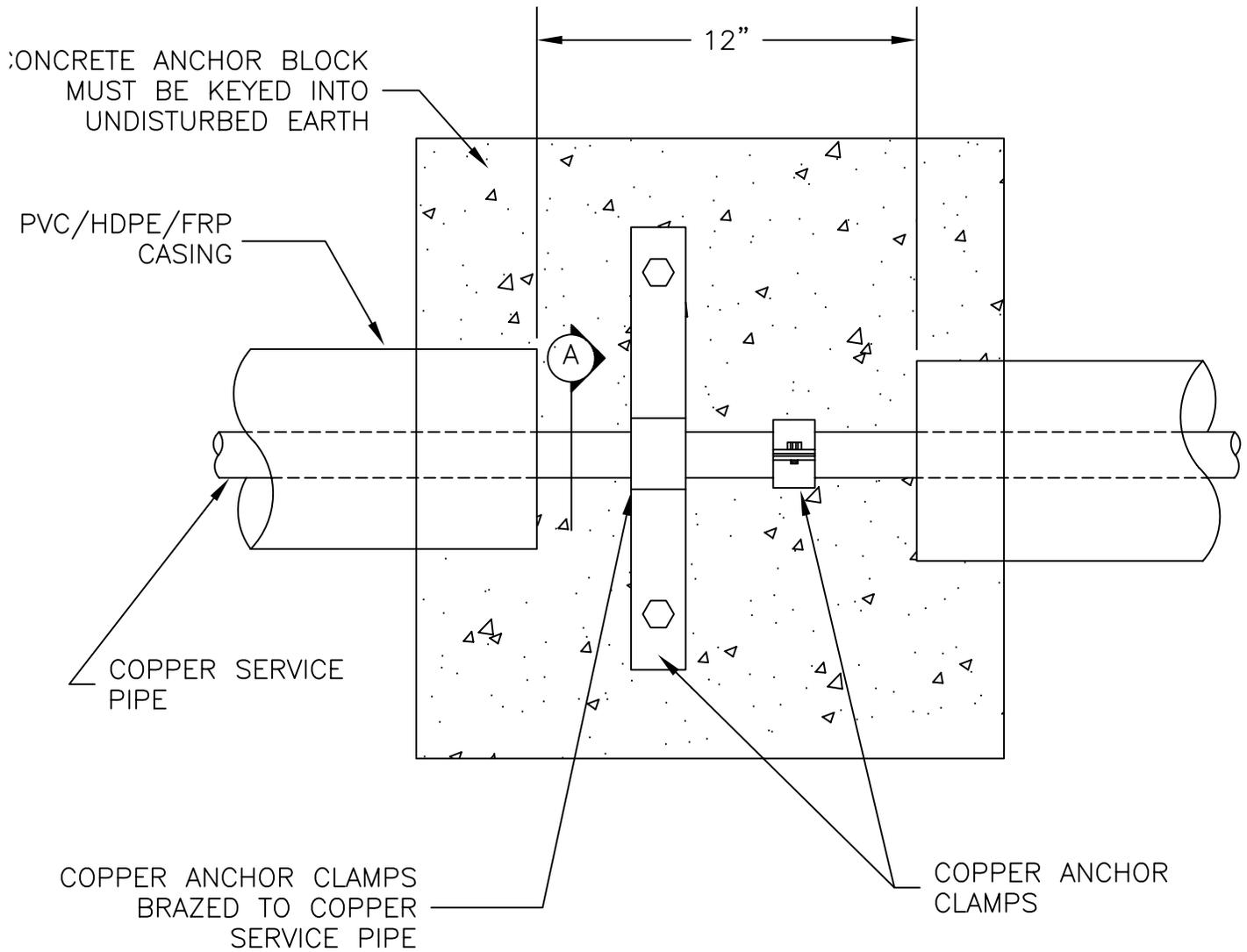
**COPPER**

Date: 03/09/06

Dwg. No.: Cu-4

Rev.:





SECTION A

NOTE: CONCRETE ANCHOR BLOCK MUST BE KEYED INTO UNDISTURBED EARTH. AMOUNT OF CONCRETE BELOW ANCHOR MAY CHANGE ACCORDING TO PIPE SIZE.

COPPER ANCHOR DETAIL

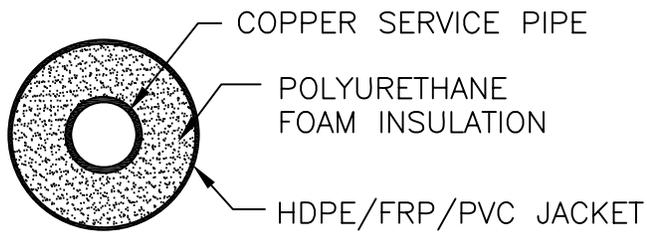
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Date: 03/09/06

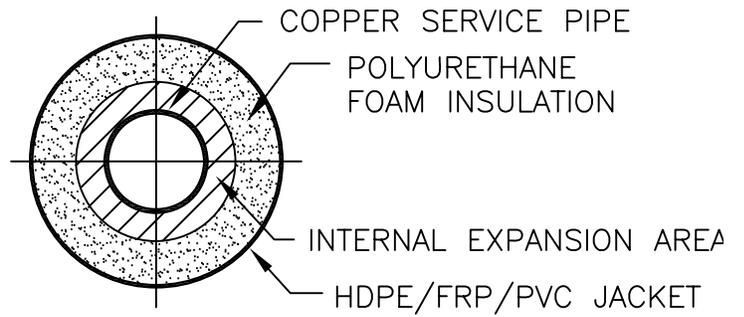
Dwg. No. Cu-5

Rev.:

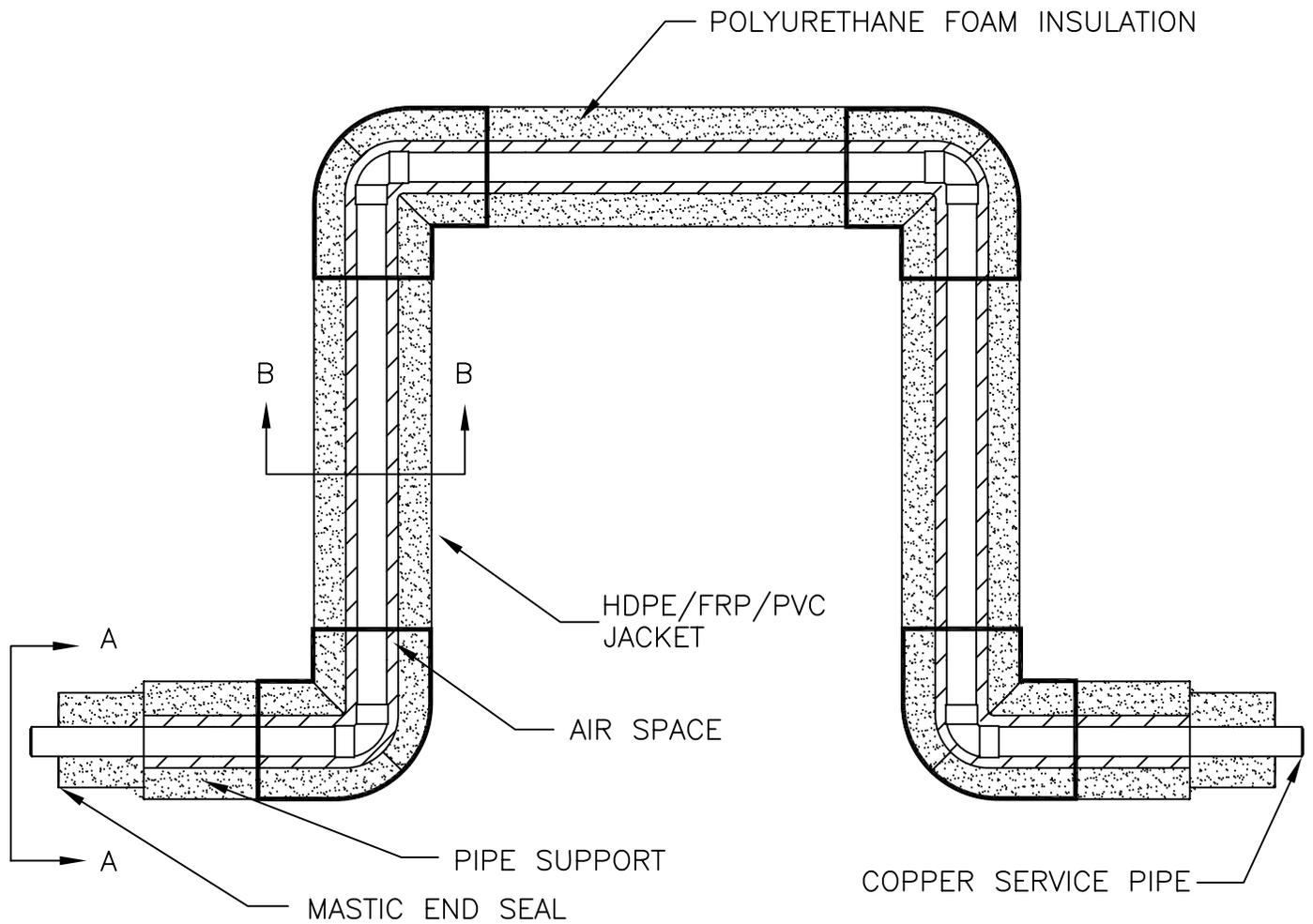




SECTION A-A



SECTION B-B



COPPER INTERNAL EXPANSION LOOP

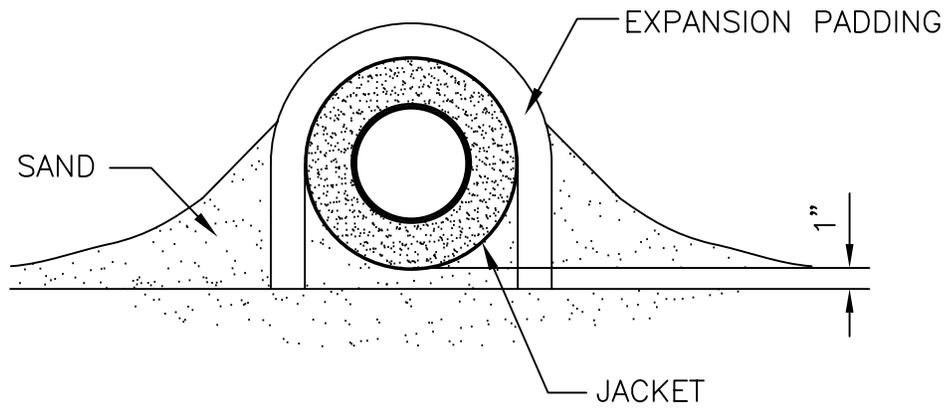
**COPPER**

Date: 03/09/06

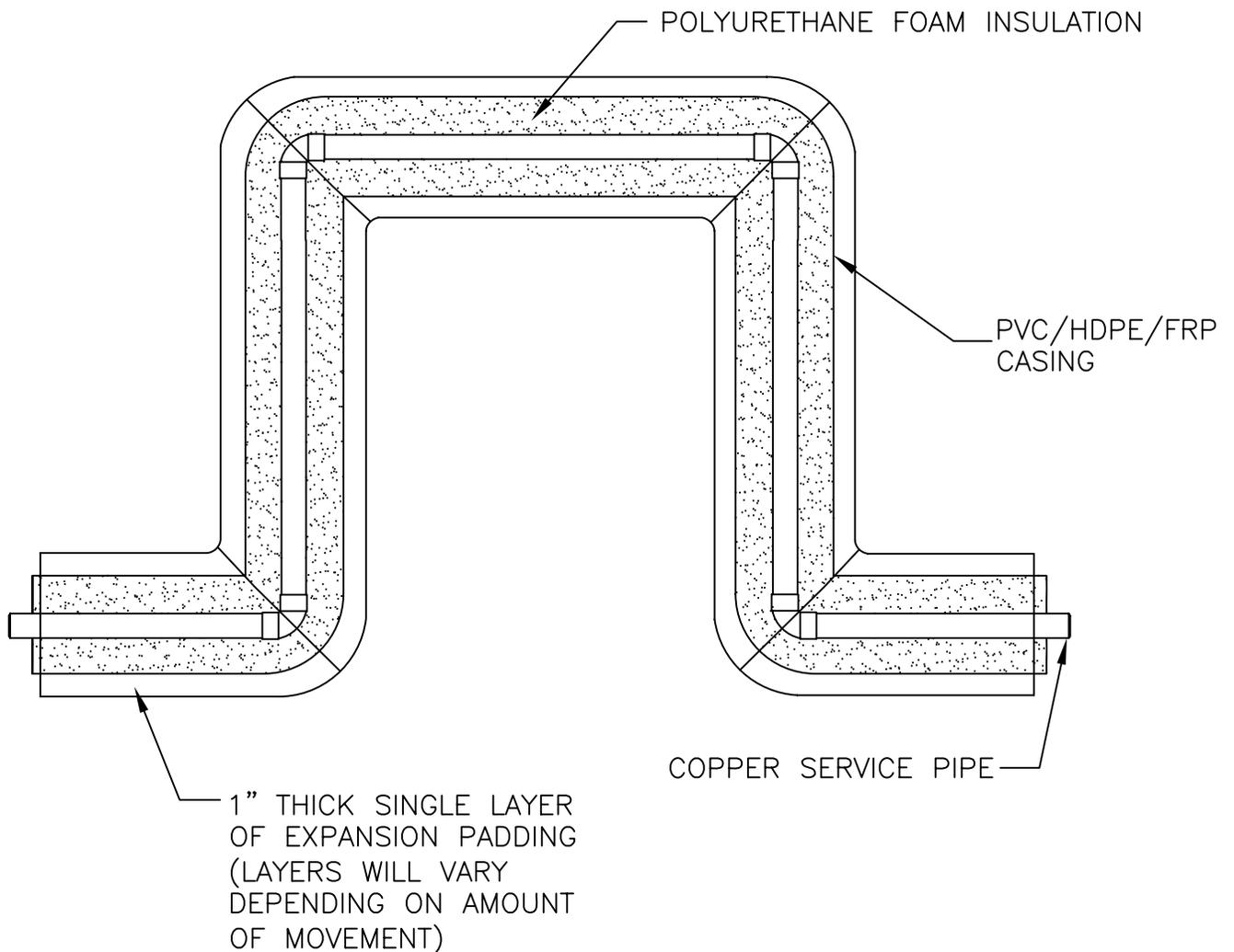
Dwg. No. Cu-6

Rev.:





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



COPPER LOOP DETAIL WITH EXTERNAL EXPANSION PADDING

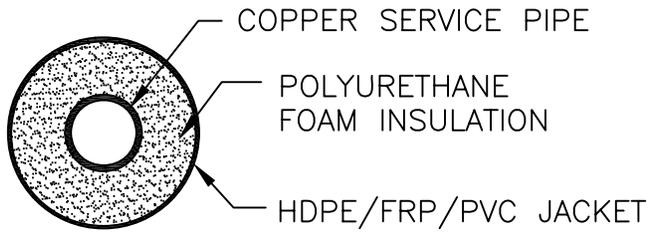
**COPPER**

Date: 03/09/06

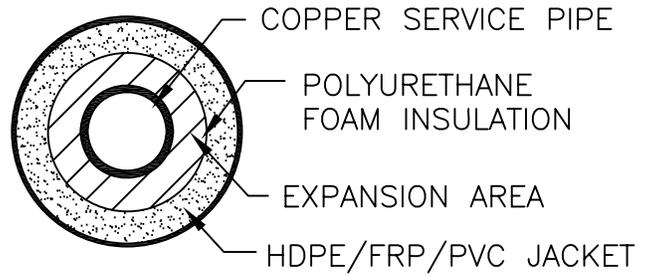
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Rev.:

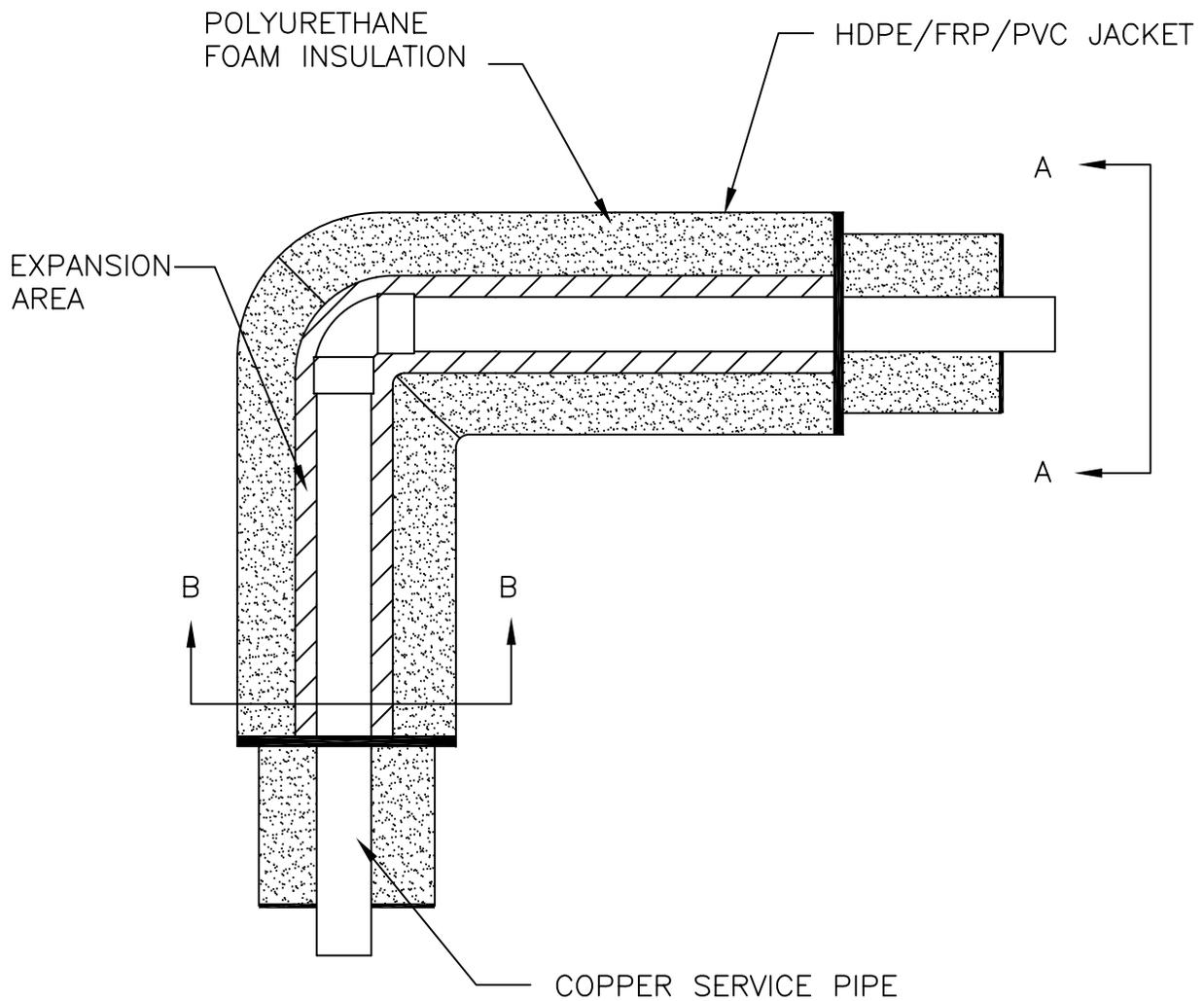




SECTION A-A



SECTION B-B



COPPER EXPANSION 90° ELBOW DETAIL  
 WITH INTERNAL EXPANSION

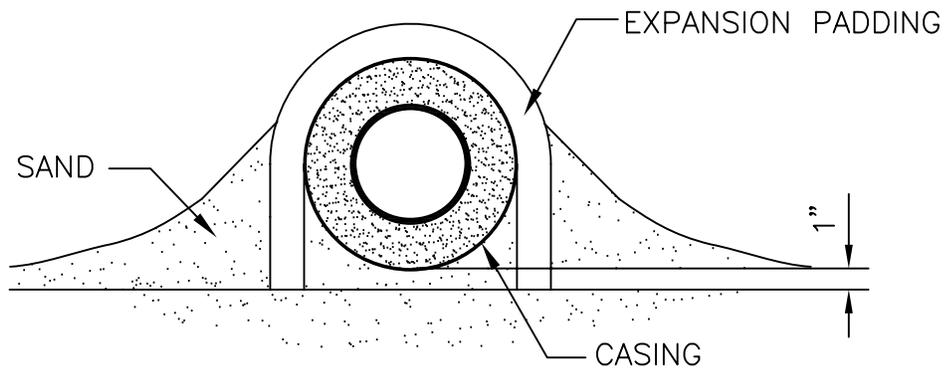
**COPPER**

Date: 03/09/06

Dwg. No. Cu-7

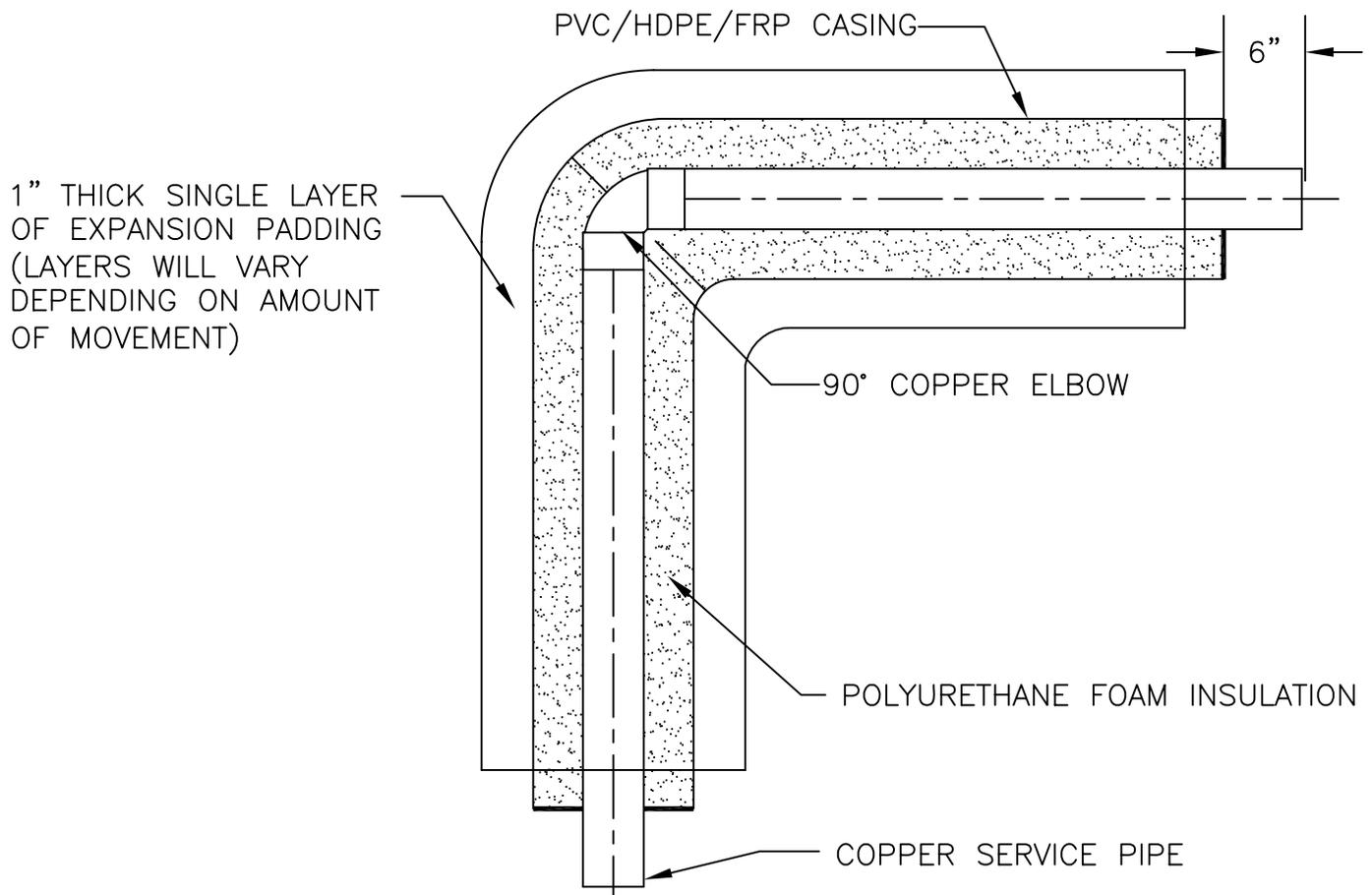
Rev.:





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

NOTE: MAKE SURE TO COVER THE 90° ELBOW COMPLETELY.



COPPER EXPANSION 90° ELBOW DETAIL  
WITH EXTERNAL PADDING

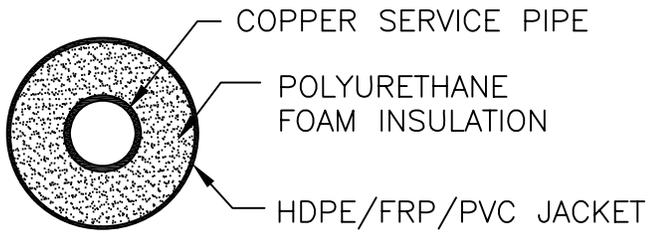
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Date: 03/09/06

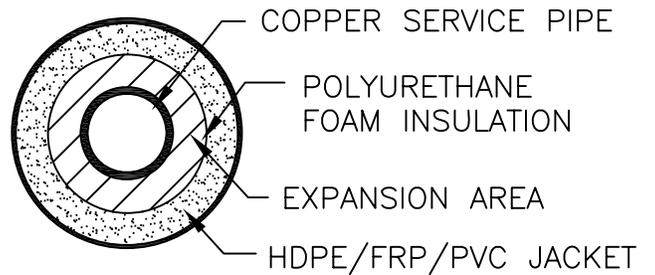
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Rev.:

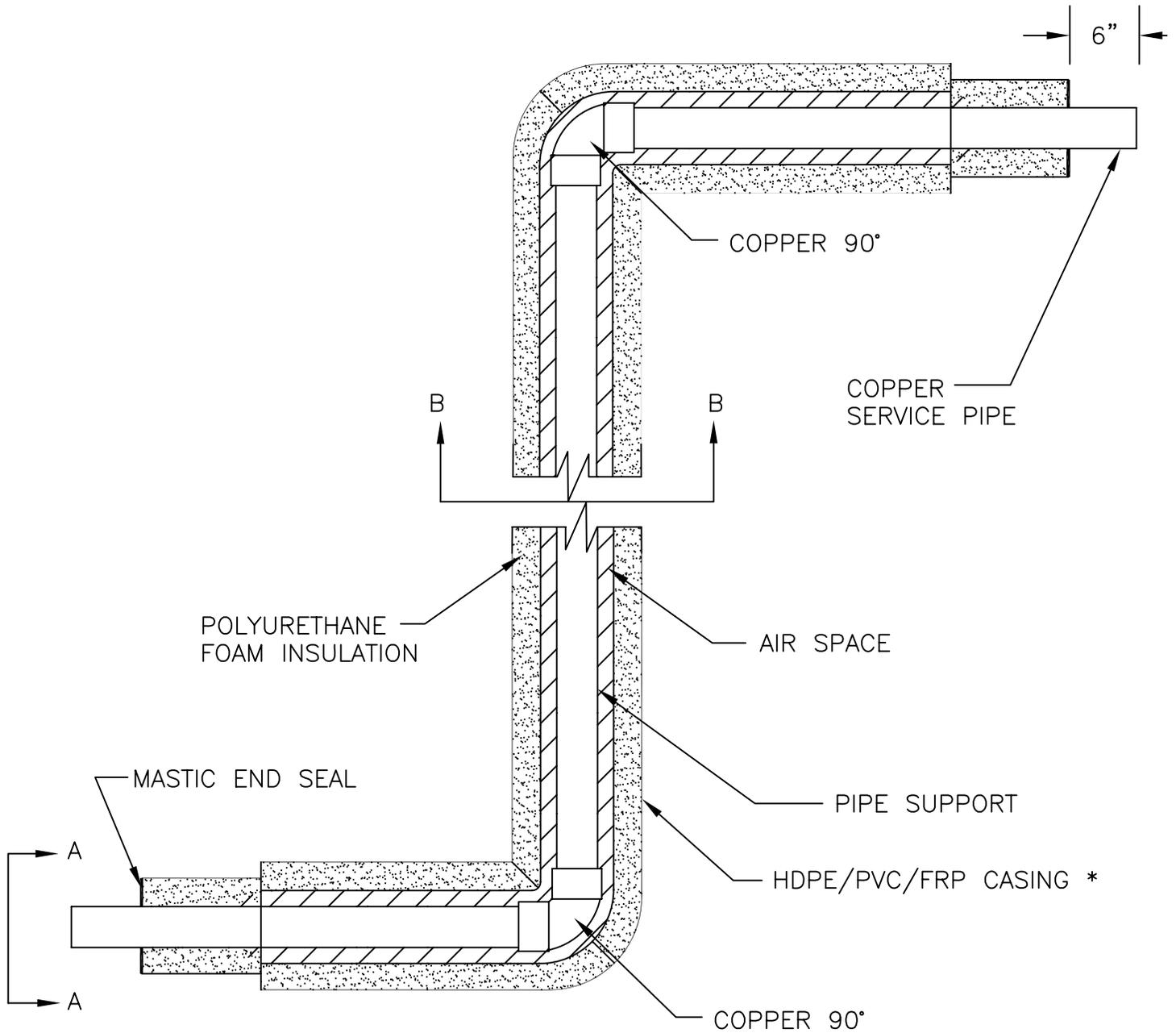




SECTION A-A



SECTION B-B



\* CONSULT MANUFACTURER FOR ADDITIONAL CASINGS

COPPER EXPANSION "Z" BEND DETAIL  
 WITH INTERNAL EXPANSION

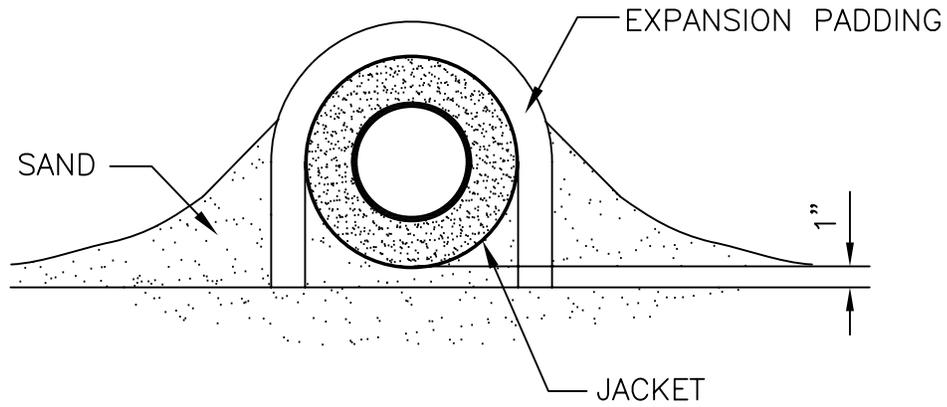
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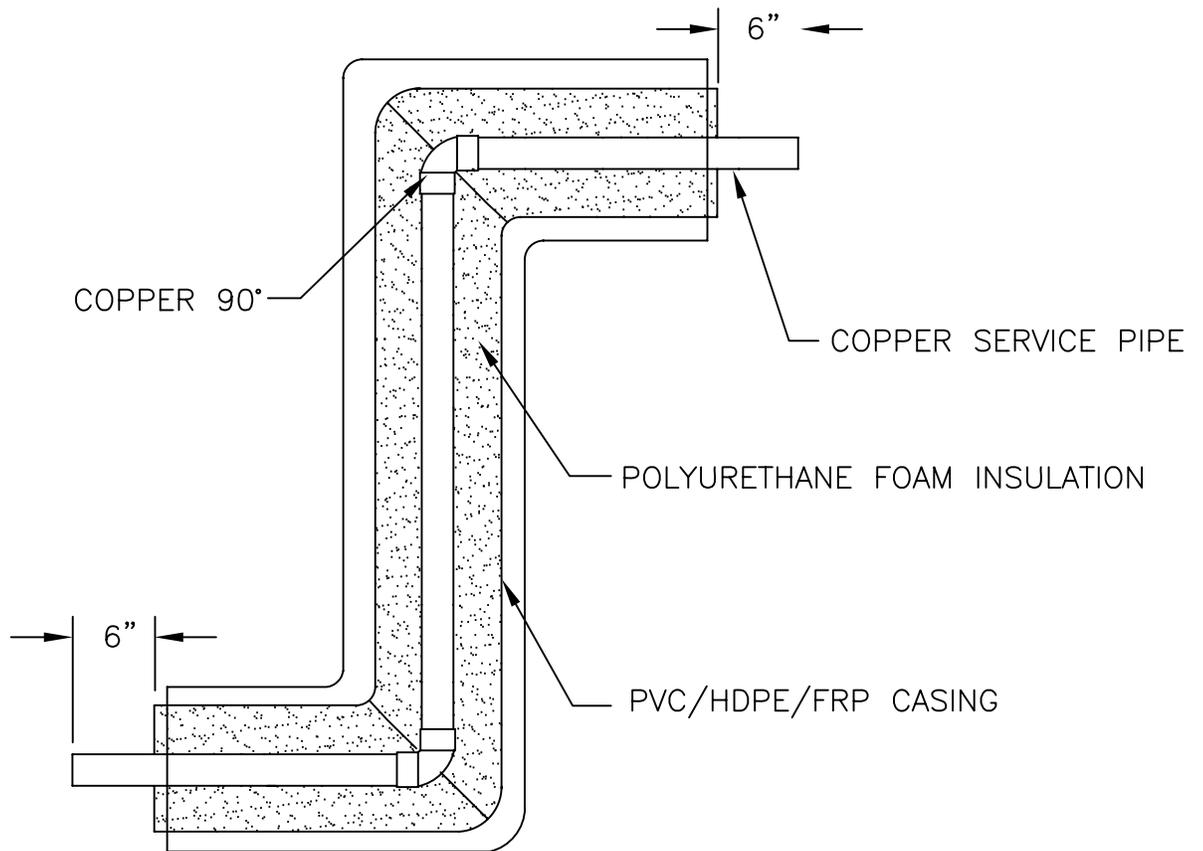
Dwg. No.: Cu-8

Rev.:





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



COPPER EXPANSION "Z" BEND DETAIL  
WITH EXTERNAL PADDING

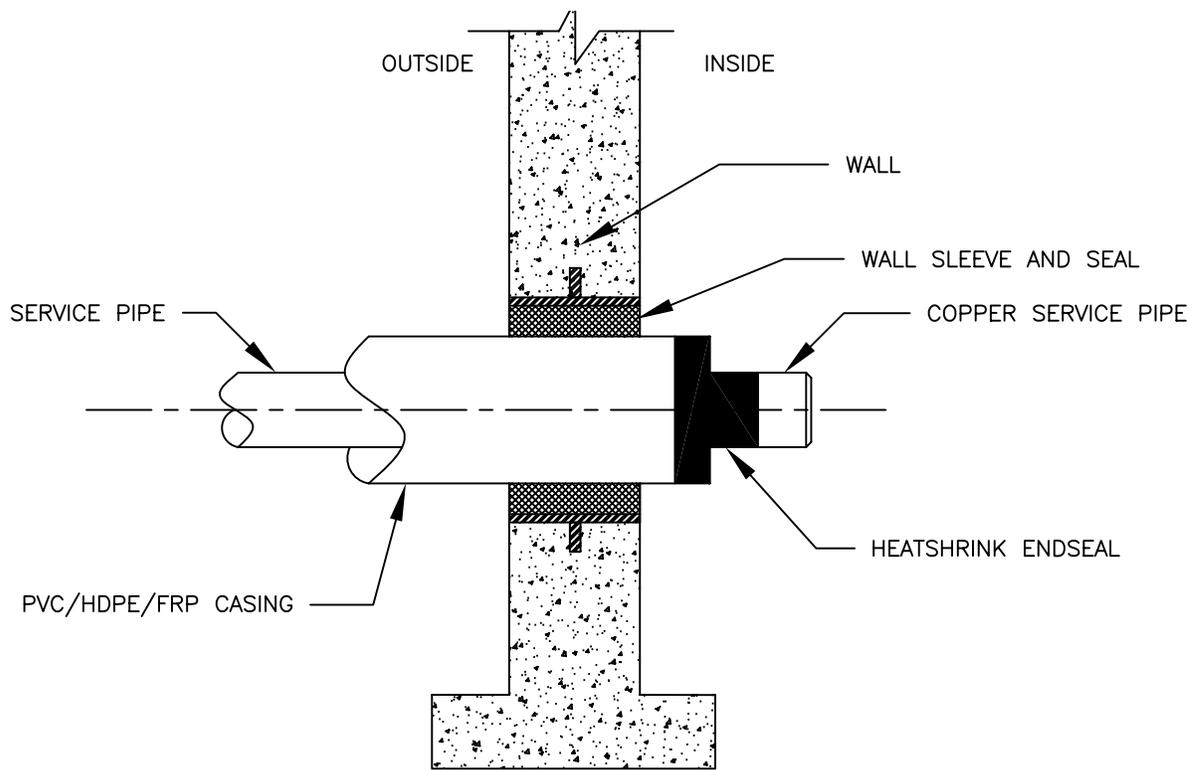
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Date: 03/09/06

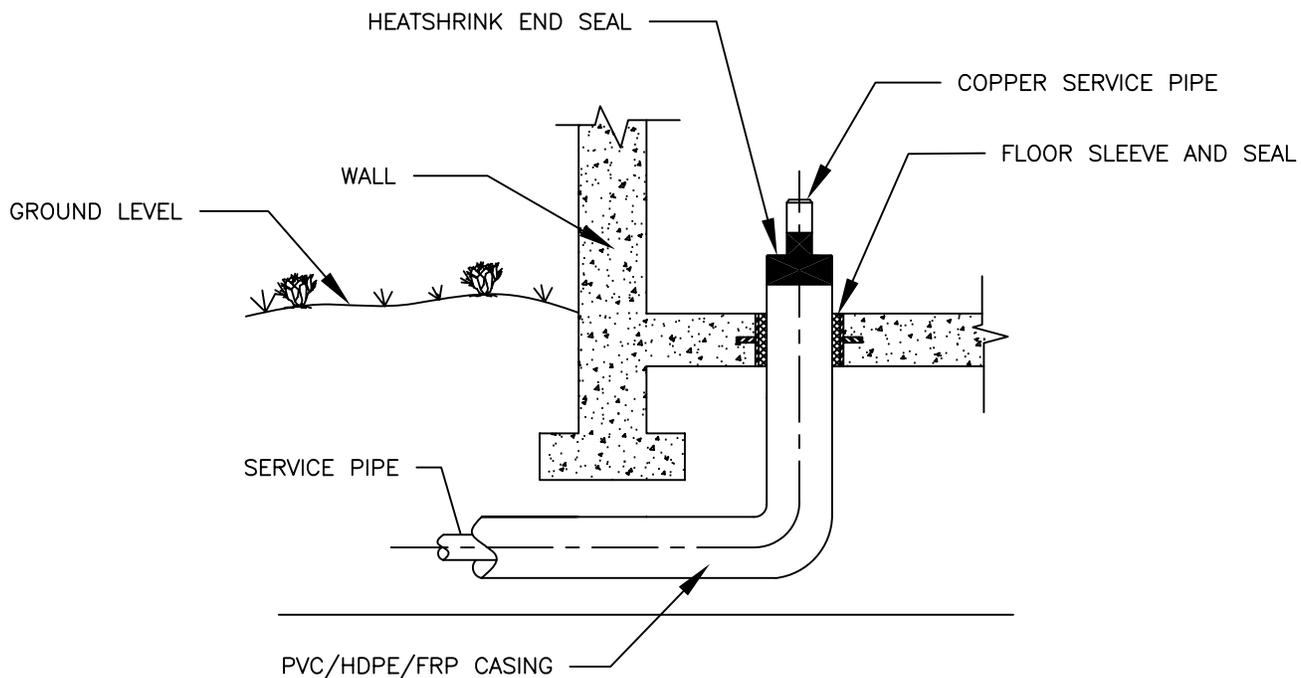
Dwg. No.: Cu-8A

Rev.:





WALL PENETRATION DETAIL



BUILDING RISER DETAIL

HEATSHRINK END SEAL DETAIL

**COPPER**

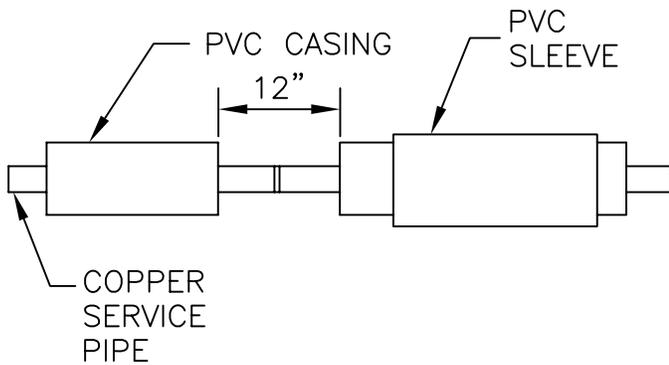
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Dwg. No.: Cu-9

Rev.:

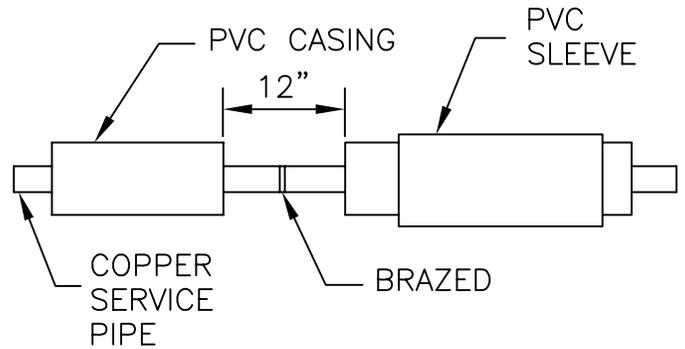


PHASE 1



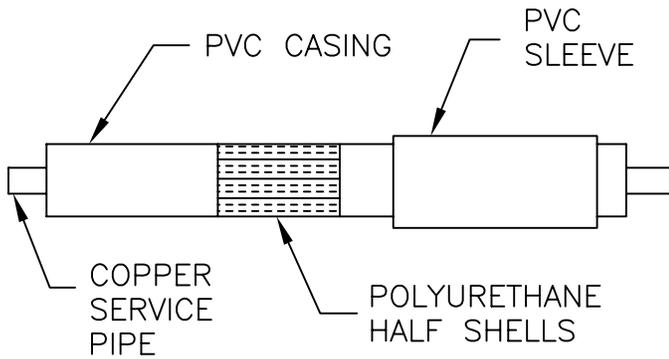
PRIOR TO BRAZING COPPER PIPE, SLIDE PVC SLEEVE OVER PVC CASING AND MOVE AWAY FROM BRAZE POINT TO PREVENT DAMAGE.

PHASE 2



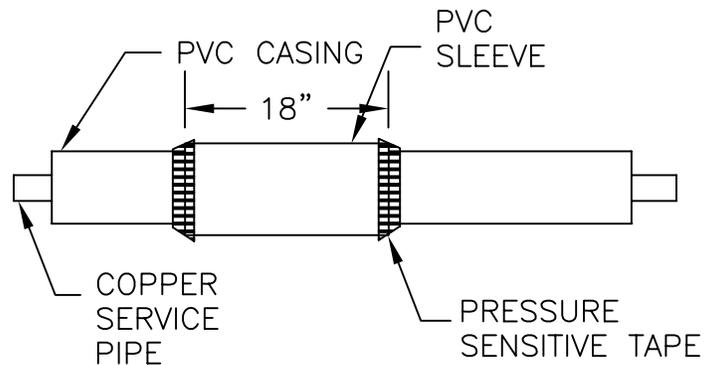
TEST ALL BRAZED JOINTS AS REQUIRED.

PHASE 2



FIT POLYURETHANE FOAM HALF SHELLS OVER SERVICE PIPE AND SECURE IN PLACE.

PHASE 4



SLIDE PVC SLEEVE ONTO 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.

COPPER FIELD JOINT KIT DETAIL WITH RIGID POLYURETHANE FOAM & PVC CASING.

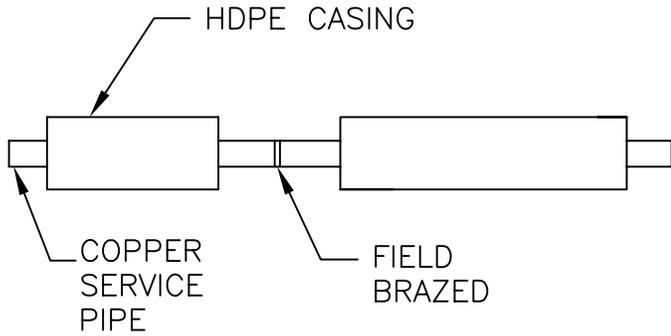
**COPPER**

Date: 03/09/06 Dwg. No.: Cu-10A

Rev.:

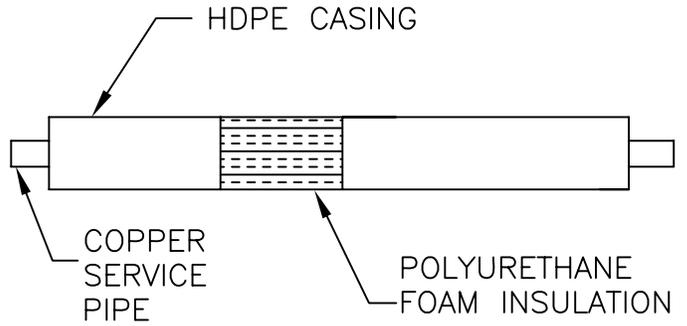


PHASE 1



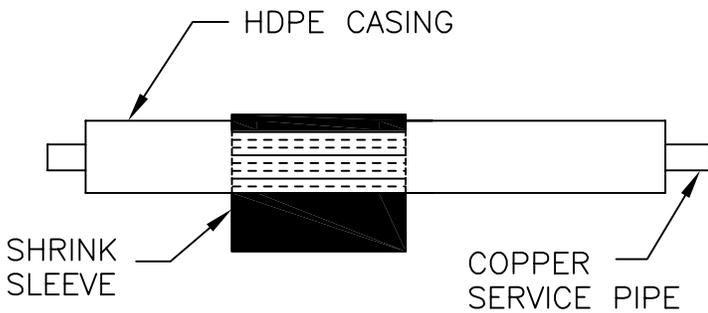
AFTER BRAZING SERVICE PIPE, TEST PER RECOMMENDATIONS.

PHASE 2



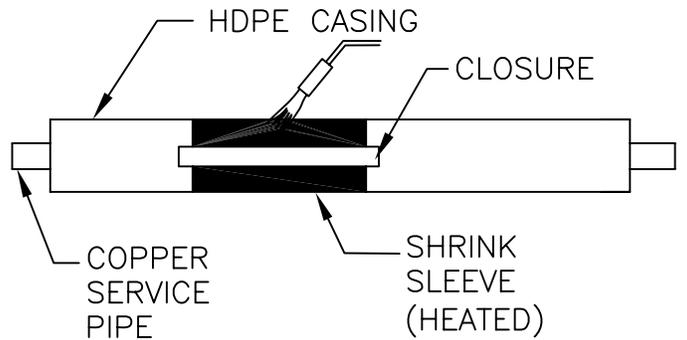
INSTALL RIGID URETHANE INSULATION TO PIPE. SECURE IN PLACE TO HDPE CASING

PHASE 3



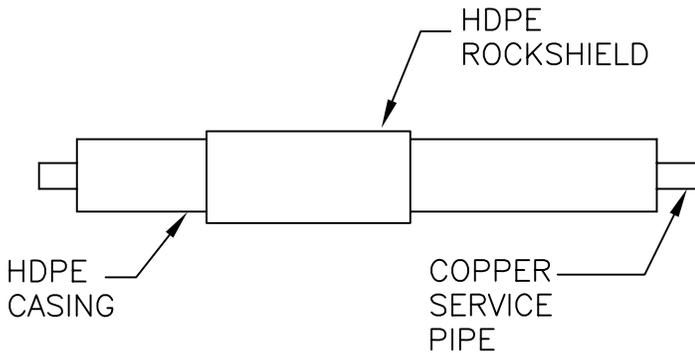
REMOVE RELEASE LINER AND PLACE SHRINK SLEEVE AROUND JOINT AND PIPE INSULATION. OVERLAP SLEEVE AT THE 10 TO 12 O'CLOCK POSITION. GENTLY HEAT BACKING OF SLEEVE AND CLOSURE. PRESS THE CLOSURE FIRMLY INTO PLACE. GENTLY HEAT CLOSURE AND PAT DOWN WITH HAND.

PHASE 4



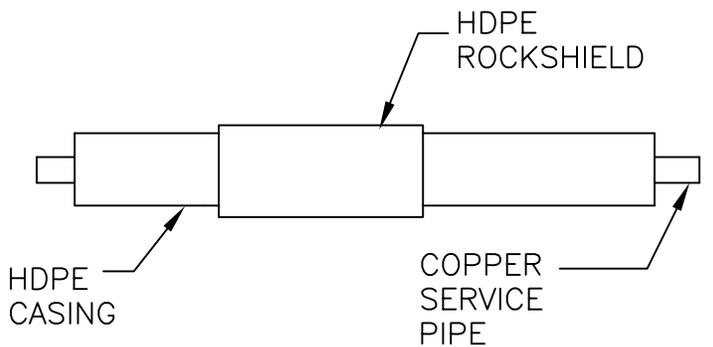
WITH LOW YELLOW FLAME, HEAT THE SHRINK SLEEVE FROM THE MIDDLE TOWARD EACH SIDE OF THE SLEEVE UNTIL RECOVERY IS COMPLETE. SHRINKING IS COMPLETED WHEN ADHESIVE OOZES FROM SIDES. AVOID EXCESSIVE HEAT TO OVERLAP AREA.

PHASE 5



SLIDE HDPE CASING OVER JOINT SO THAT SHRINK SLEEVE IS COMPLETELY COVERED

PHASE 6



SECURE HDPE ROCKSHIELD IN PLACE. FIELD JOINT IS NOW COMPLETE.

COPPER FIELD JOINT KIT DETAIL WITH RIGID POLYURETHANE FOAM & HDPE CASING.

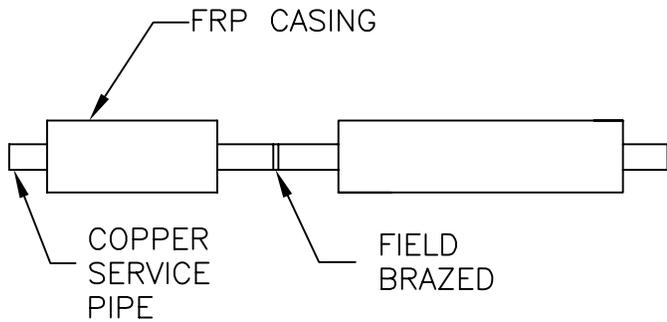
**COPPER**

Date: 03/09/06 Dwg. No.:Cu-10B

Rev.:

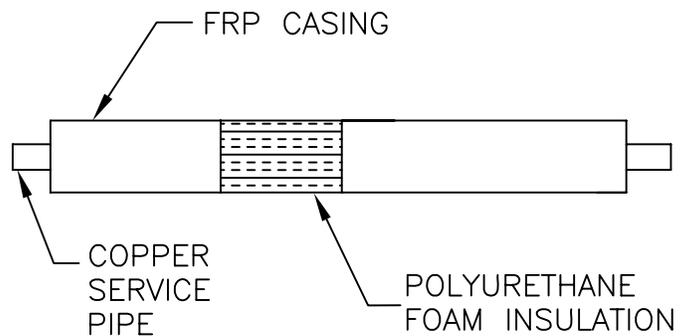


PHASE 1



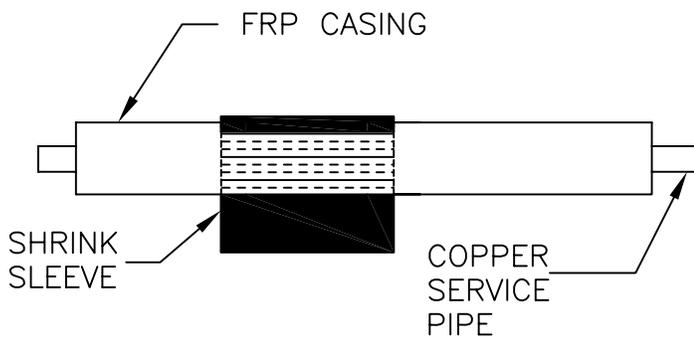
AFTER SILVER BRAZING SERVICE PIPE, TEST PER RECOMMENDATIONS.

PHASE 2



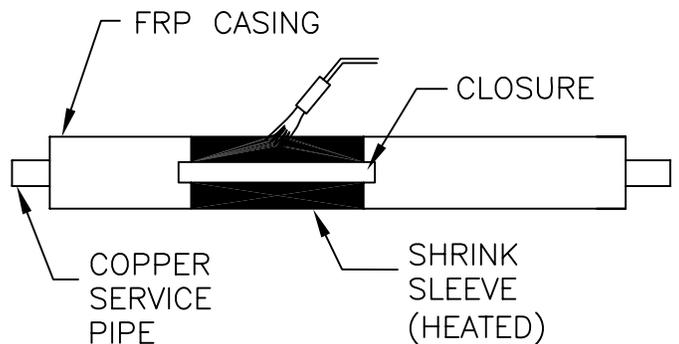
INSTALL RIGID URETHANE INSULATION TO PIPE. SECURE IN PLACE TO FRP CASING

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 WITH HAND.

PHASE 4



WITH LOW YELLOW FLAME, HEAT SHRINK SLEEVE USING CIRCUMFERENTIAL STROKES. AVOID EXCESSIVE HEAT TO OVERLAP AREA. DO NOT BACKFILL UNTIL SHRINK SLEEVE IS COOL TO THE TOUCH.

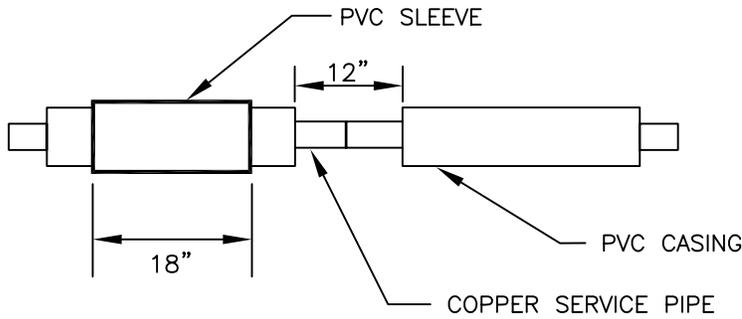
COPPER FIELD JOINT KIT DETAIL WITH RIGID POLYURETHANE FOAM & FRP CASING.

**COPPER**

Date: 03/09/06 Dwg. No.: Cu-10C  
Rev.:

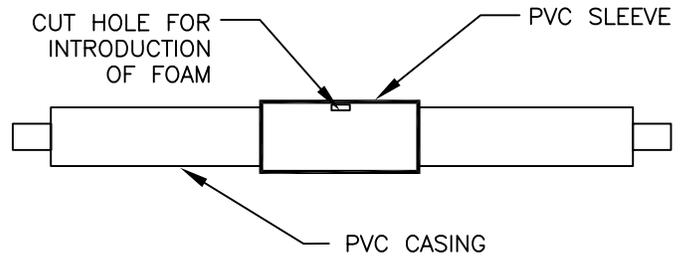


**STEP 1**



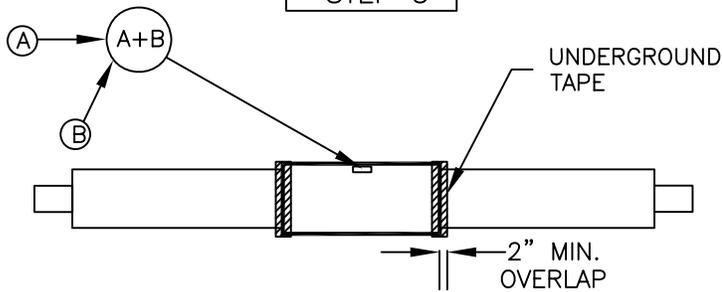
SLIDE SPLIT PVC SLEEVE OVER END OF PIPE CASING. TEST ALL SILVER BRAZED JOINTS AS REQUIRED.

**STEP 2**



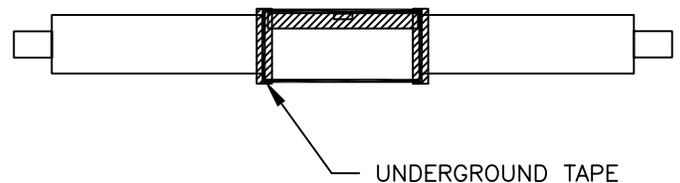
CENTER PVC SLEEVE OVER JOINT AND SECURE IN PLACE. CUT HOLE IN TOP OF PVC SLEEVE FOR INTRODUCTION OF POLYURETHANE FOAM MIXTURE.

**STEP 3**



APPLY UNDERGROUND TAPE WHERE PVC SLEEVE AND CASING MEET. PROVIDE FOR A MINIMUM OVERLAP OF 2". REFER TO CHART BELOW FOR FOAM AMOUNT BASED ON JACKET SIZE. POUR FOAM INTO OPENING. WHEN FOAM REACTS, TEMPORARILY SEAL THE OPENING WITH DUCT TAPE TO MAXIMIZE INSULATION IN CAVITY.

**STEP 4**



TRIM OFF EXCESS MATERIAL AFTER CURING IS COMPLETE. APPLY ADDITIONAL UNDERGROUND TAPE TO HOLE IN PVC SLEEVE.

POLYURETHANE FOAM MIXTURE CHART

JACKET SIZE	FIELD JOINT
3	3
4	4
5	5
6	6
8	8
10	10
12	12
14	14
16	16

CHART INDICATES PROPORTIONS OF EACH COMPONENT (NAMELY "A" & "B") TO BE MIXED PRIOR TO INTRODUCTION INTO PIPE CAVITY. A NOMINAL INSULATION THICKNESS OF 1-1/2" IS ASSUMED FOR PURPOSES OF THIS CHART. FOR THICKNESS OTHER THAN 1-1/2", CONTACT TRICON FOR QUANTITIES. EXAMPLE: FOR AN 8 INCH JACKET, 8 OUNCES OF "A" AND 8 OUNCES OF "B" ARE REQUIRED. REQUIRED PROPORTIONS MAY VARY AS A RESULT OF CHANGES IN WEATHER CONDITIONS. NOTE THAT CHEMICAL REACTION WILL TAKE LONGER IN COLDER WEATHER. CONTACT TRICON FOR ADVICE DURING INCLEMENT WEATHER. IN COLDER WEATHER, TAPE MUST BE KEPT WARM UNTIL TIME OF USE.

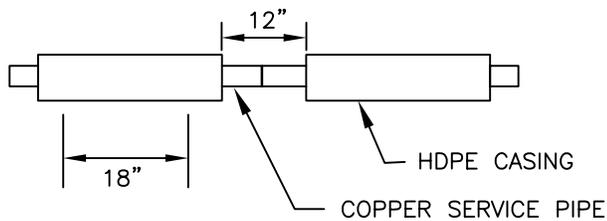
COPPER STANDARD POUR IN PLACE  
FIELD JOINT KIT DETAIL WITH PVC CASING.

**COPPER**

Date: 03/09/06 Dwg. No.: Cu-10D  
Rev.:

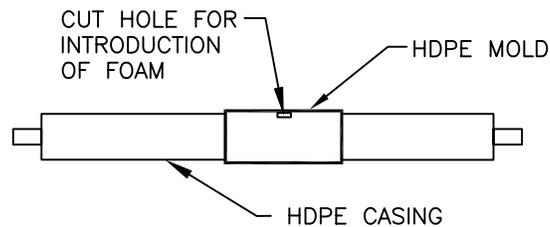


**STEP 1**



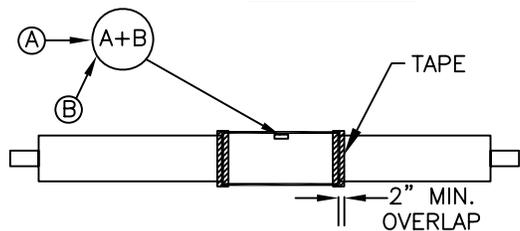
TEST ALL BRAZED JOINTS AS REQUIRED.

**STEP 2**



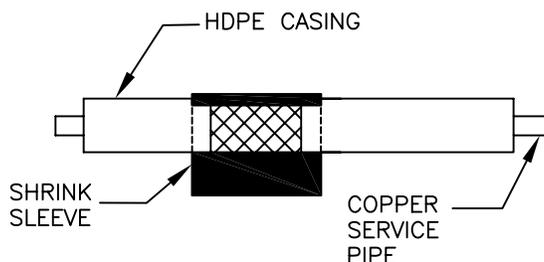
CENTER HDPE MOLD OVER JOINT AND SECURE IN PLACE. CUT HOLE IN TOP OF HDPE MOLD FOR INTRODUCTION OF POLYURETHANE FOAM MIXTURE.

**STEP 3**



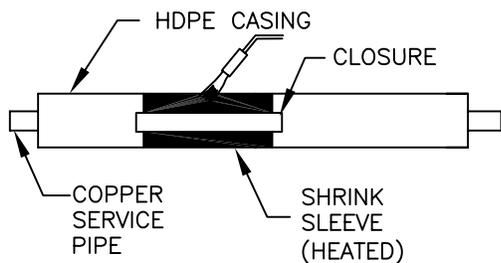
APPLY UNDERGROUND TAPE WHERE HDPE MOLD AND CASING MEET. PROVIDE FOR A MINIMUM OVERLAP OF 2". REFER TO CHART BELOW FOR FOAM AMOUNT BASED ON JACKET SIZE. POUR FOAM INTO OPENING. WHEN FOAM REACTS, TEMPORARILY SEAL THE OPENING WITH DUCT TAPE TO MAXIMIZE INSULATION IN CAVITY.

**STEP 4**



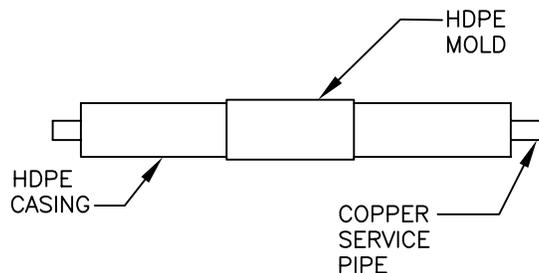
AFTER FOAM HAS REACTED, TRIM OFF ANY EXCESS AND REMOVE MOLD. PLACE SHRINK SLEEVE AROUND JOINT AND URETHANE. OVERLAP SLEEVE BETWEEN 10 & 12 O'CLOCK POSITION.

**STEP 5**



WITH LOW YELLOW FLAME, HEAT SHRINK SLEEVE USING CIRCUMFERENTIAL STROKES. AVOID EXCESSIVE HEAT TO OVERLAP AREA.

**STEP 6**



WHEN SHRINK SLEEVE HAS COOLED DOWN, APPLY HDPE MOLD AND SECURE IN PLACE. FIELD JOINT IS NOW COMPLETE.

**POLYURETHANE FOAM MIXTURE CHART**

JACKET SIZE	FIELD JOINT	JACKET SIZE	FIELD JOINT
3	3	10	10
4	4	12	12
5	5	14	14
6	6	16	16
8	8		

CHART INDICATES THE PROPORTIONS OF EACH COMPONENT ("A" & "B") TO BE MIXED PRIOR TO INTRODUCTION INTO PIPE CAVITY. INSULATION THICKNESS OF 1-1/2" IS ASSUMED FOR THE PURPOSES OF THIS CHART. EXAMPLE: FOR AN 8 INCH JACKET, 8 OUNCES OF "A" AND 8 OUNCES OF "B" ARE REQUIRED. PROPORTIONS MAY VARY AS A RESULT OF CHANGES IN WEATHER CONDITIONS. NOTE: CHEMICAL REACTION WILL TAKE LONGER IN COLDER WEATHER. CONTACT TRICON FOR ADVICE DURING INCLEMENT WEATHER.

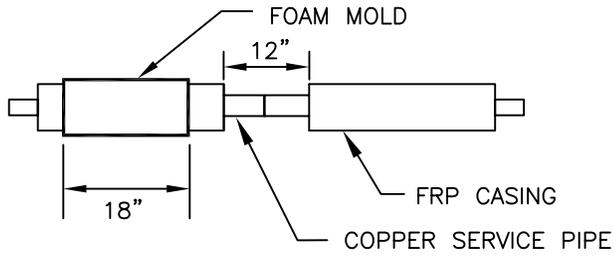
**COPPER STANDARD POUR IN PLACE FIELD JOINT KIT DETAIL WITH HDPE CASING.**

**COPPER**

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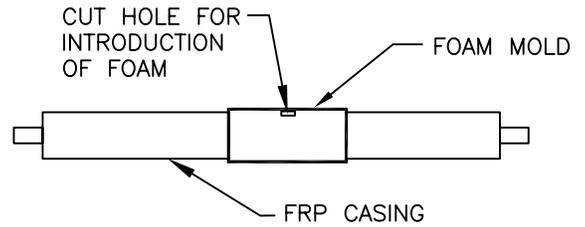


**STEP 1**



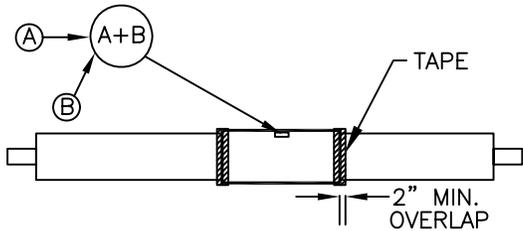
TEST ALL BRAZED JOINTS AS REQUIRED. SLIDE FOAM MOLD OVER JOINT.

**STEP 2**



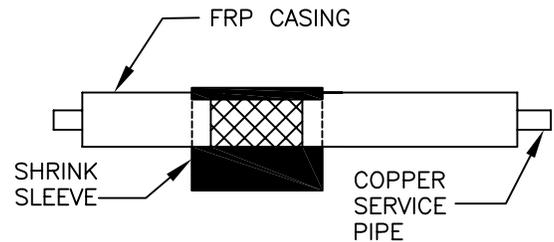
CENTER FOAM MOLD OVER JOINT AND SECURE IN PLACE. CUT HOLE IN TOP OF FOAM MOLD FOR INTRODUCTION OF POLYURETHANE FOAM MIXTURE.

**STEP 3**



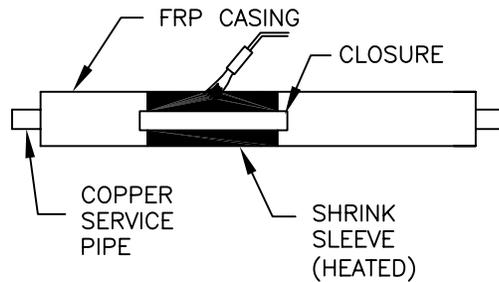
APPLY UNDERGROUND TAPE WHERE FOAM MOLD AND CASING MEET. PROVIDE FOR A MINIMUM OVERLAP OF 2". REFER TO CHART BELOW FOR FOAM AMOUNT BASED ON JACKET SIZE, POUR FOAM INTO OPENING. WHEN FOAM REACTS, TEMPORARILY SEAL THE OPENING WITH DUCT TAPE TO MAXIMIZE INSULATION IN CAVITY.

**STEP 4**



AFTER FOAM HAS REACTED, TRIM OFF ANY EXCESS AND REMOVE MOLD. PLACE SHRINK SLEEVE AROUND JOINT AND URETHANE. OVERLAP SLEEVE BETWEEN THE 10 & 12 O'CLOCK POSITION.

**STEP 5**



WITH YELLOW FLAME, HEAT SHRINK SLEEVE USING CIRCUMFERENTIAL STROKES. AVOID EXCESSIVE HEAT TO OVERLAP AREA. DO NOT BACKFILL UNTIL SHRINKSLEEVE IS COOL TO THE TOUCH.

**POLYURETHANE FOAM MIXTURE CHART**

JACKET SIZE	FIELD JOINT	JACKET SIZE	FIELD JOINT
3	3	10	10
4	4	12	12
5	5	14	14
6	6	16	16
8	8		

CHART INDICATES THE PROPORTIONS OF EACH COMPONENT ("A" & "B") TO BE MIXED PRIOR TO INTRODUCTION INTO PIPE CAVITY. INSULATION THICKNESS OF 1-1/2" IS ASSUMED FOR THE PURPOSES OF THIS CHART. EXAMPLE: FOR AN 8 INCH JACKET, 8 OUNCES OF "A" AND 8 OUNCES OF "B" ARE REQUIRED. PROPORTIONS MAY VARY AS A RESULT OF CHANGES IN WEATHER CONDITIONS. NOTE: CHEMICAL REACTION WILL TAKE LONGER IN COLDER WEATHER. CONTACT TRICON FOR ADVICE DURING INCLEMENT WEATHER.

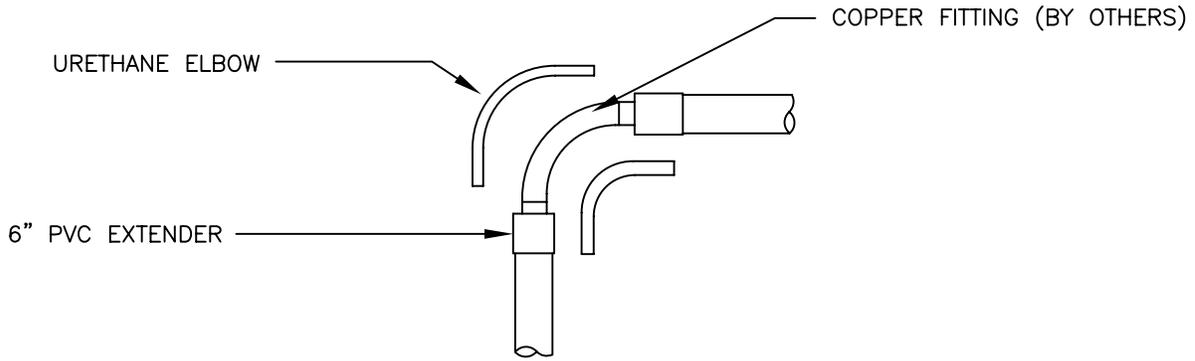
COPPER STANDARD POUR IN PLACE FIELD JOINT KIT DETAIL WITH FRP CASING.

**COPPER**

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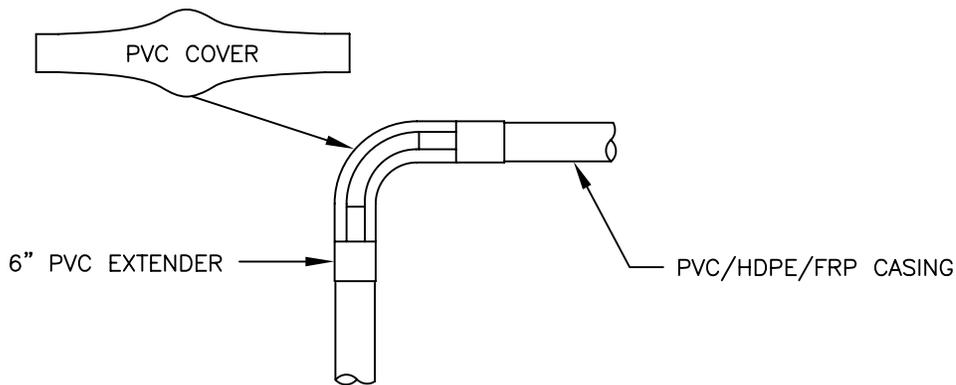
STEP 1



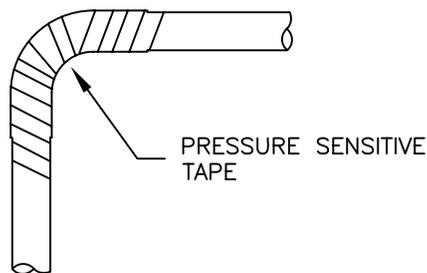
1. SLIDE PVC SLEEVE EXTENDERS ONTO END OF PIPE CASING BEFORE ELBOW IS BRAZED.
2. TEST ALL BRAZED JOINTS AS REQUIRED.
3. FIT POLYURETHANE FOAM INSULATION OVER FITTING AND SECURE IN PLACE.
4. CUT AND FIT STRAIGHT PIPE COVERING INTO PLACE THAT URETHANE ELBOW DOES NOT COVER.
5. SLIDE EXTENDERS IN PLACE AND SECURE WITH POLYKEN TAPE.

STEP 2

6. FIT PVC COVER OVER FITTING.



STEP 3



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

7. WRAP FITTING WITH PRESSURE SENSITIVE TAPE AS SHOWN.

COPPER STANDARD FIELD INSULATED ELBOW FITTING KIT DETAIL WITH RIGID INSULATION

**COPPER**

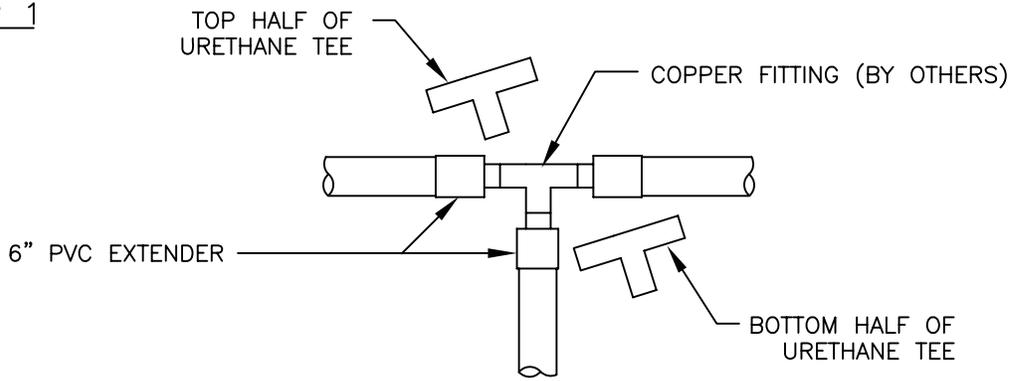
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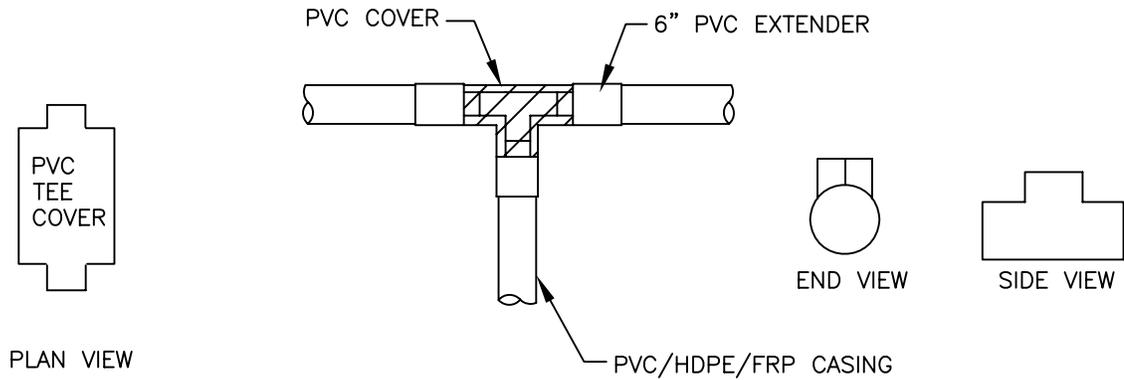


STEP 1



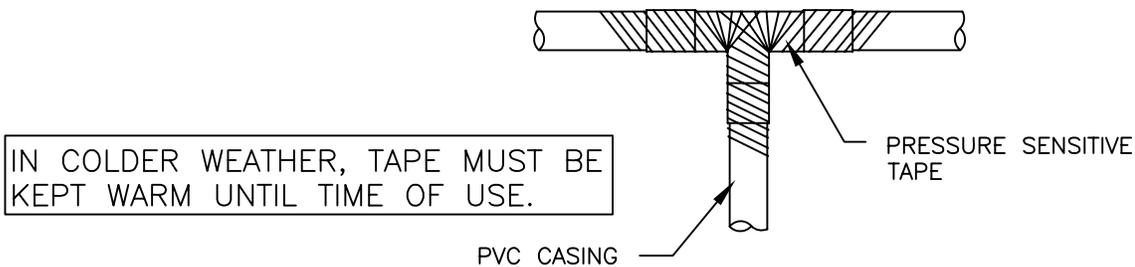
1. SLIDE 6" PVC SLEEVE EXTENDERS ONTO END OF PIPE BEFORE TEE IS BRAZED.
2. TEST ALL BRAZED JOINTS AS REQUIRED.
3. FIT POLYURETHANE FOAM INSULATION OVER FITTING AND SECURE IN PLACE.
4. CUT AND FIT STRAIGHT PIPE COVERING INTO PLACE THAT URETHANE TEE DOES NOT COVER.
5. SLIDE EXTENDERS IN PLACE AND SECURE WITH POLYKEN TAPE.

STEP 2



6. FIT PVC COVER OVER FITTING.

STEP 3



7. SPIRALLY WRAP FITTING WITH PRESSURE SENSITIVE TAPE AS SHOWN.

COPPER STANDARD FIELD INSULATED ELBOW  
FITTING KIT DETAIL WITH RIGID INSULATION

**COPPER**

Date: 03/09/06

Dwg. No. Cu-12

Rev.:

