



Field Insulation Kit

Installation Instructions

FKII
14.101

THERMAFAB

3.14.07

THERMACOR® Thermafab System pre-insulated piping products and kits are supplied to provide optimum thermal efficiency with maximum ease of installation. The following instructions are for use in field insulating fittings, anchors, and straight pipe joints on **THERMACOR® Thermafab** systems. Carrier pipes, jacket and tape materials, and pipe joining methods may vary based on different piping requirements and project specifications. Check your approved submittal to verify specification compliance before proceeding with these instructions.

Notes & General Instructions

- 1) These instructions are applicable to a range of material types and size combinations.** Be sure you are using the correct procedure and have chosen the correct tape size, length, and amount of foam from the Foam & Tape table.
- 2) Check the packing slip accompanying your order** to insure all kit materials have been received. Shortages ***must*** be noted on shipper's packing list in order to file a claim for replacement materials.
- 3) Store all kit material in a dry place.** Liquid foam components shall be stored at room temperature (75°F ± 15°F). Do not allow liquid foam components to freeze.
- 4) The following supplies and hand tools may be needed to complete the procedures** listed below: work gloves, eye protection, sharp knife, ½" wide strapping tape, 2" wide duct tape, drill with 1" bit, and if you are using heat shrink products; a butane or propane brush burning torch that has a billowy flame.
- 5) When called for, refer to the Polyurethane Foam Mixing Instructions** for the correct procedure in using these materials.
- 6) When insulating mechanically coupled pipe joints or fittings** (e.g., Victaulic type), it is recommended to wrap the couplings with plastic (Saran Wrap or similar) to prevent foam from fouling the bolt threads should disassembly ever become necessary.
- 7) All sealing tape products should be applied with firm tension without stretching the tape.** Each winding should be half-lapped over the previous layer. Tape wraps should start and end with one full wrap around the jacket at least two inches before any seam to be sealed. Be sure the surface to which you are applying tape is clean and dry to maximize adhesion.
- 8) Minor shipping damage** to the jacketing on factory sections of insulated pipe may be repaired with a tape overwrap after any cracks have been stop-drilled.
- 9) If you are unsure** about any of these instructions, or if you have a special installation condition, **please contact your local Thermacor Sales Representative** for assistance or feel free to call us direct at (817) 847-7300. **We want your installation to go in smoothly and correctly!**

A Note On SAFETY

For complete safety and handling instructions, please refer to the MSDS sheets provided with the shipment.

Do not eat, drink, or smoke while handling the liquid foam components. Precautions should be taken to limit skin exposure to the liquid materials. The foam will generate some heat while reacting, and confined foam may create considerable pressure while reacting. Eye protection in the form of goggles or a face shield is recommended in case of a sudden release of pressure.



Field Insulation Kit

Installation Instructions

**FKII
14.102**

FIELD KIT FOAM & TAPE TABLE

3.14.07

Pipe Size (4)	Jacket Size	Fitting Cover # 90/other	Tape Width (5)	Feet of Tape				TOTAL Liquid Ounces of A & B Foam (1,2,3)					
				Field Joint or Red.	90 Ell	45 Ell	Tee	Anchor	Field Joint or Red.	90 Ell	45 Ell	Tee	Anchor (6)
1/2" Copper	3	9	2	4.9	14	11	21	4.9	3.0	3.5	3.5	5.0	3.5
	4	11	2	5.9	21	18	31	5.9	5.0	5.5	5.5	8.5	5.5
	6	15	2	7.6	37	28	55	7.6	9.5	10.5	10.5	16.5	10.0
1/2" IPS or 3/4" Copper	3	9	2	4.9	14	11	21	4.9	3.0	3.5	3.5	5.5	3.5
	4	11	2	5.9	21	16	31	5.9	5.0	5.5	5.5	9.5	5.5
	6	15	2	7.6	37	28	55	7.6	9.5	10.5	10.5	17.5	10.0
3/4" IPS or 1" Copper	3	9	2	4.9	14	11	21	4.9	3.0	3.5	3.0	5.5	3.0
	4	11	2	5.9	21	16	31	5.9	5.0	5.5	5.5	9.5	5.5
	6	15	2	7.6	37	28	55	7.6	9.5	10.5	10.5	17.5	10.0
1" IPS or 1-1/4" Copper	3	9	2	4.9	14	11	21	4.9	3.0	3.0	3.0	5.5	3.0
	4	11	2	5.9	21	16	31	5.9	5.0	5.5	5.5	9.5	5.0
	6	15	2	7.6	37	28	55	7.6	9.5	10.5	10.0	18.5	10.0
1-1/4" IPS or 1-1/2" Copper	3	11	2	5.9	21	16	31	5.9	4.5	5.0	5.0	9.5	5.0
	4	15	2	7.6	37	28	55	7.6	9.0	10.5	10.0	18.5	9.5
	6	18	2	9.7	62	47	93	9.7	16.5	19.0	18.0	34.0	17.5
1-1/2" IPS or 2" Copper	3	11	2	5.9	21	16	31	5.9	4.5	5.0	5.0	9.5	4.5
	4	15	2	7.6	37	28	55	7.6	9.0	10.0	10.0	19.0	9.5
	6	18	2	9.7	62	47	93	9.7	16.0	19.0	18.0	35.0	17.0
2" IPS or 2-1/2" Copper	4	11	2	5.9	21	16	31	5.9	5.5	6.0	5.5	8.5	6.0
	6	15	2	7.6	37	28	55	7.6	12.0	12.5	12.0	18.5	13.0
	8	18	2	9.7	62	47	93	9.7	23.0	24.0	23.0	35.0	25.0
2-1/2" IPS	6	15	2	7.6	37	28	55	7.6	7.5	9.5	8.5	18.0	8.0
	8	18	2	9.7	62	47	93	9.7	15.0	18.5	17.0	35.5	16.0
	10	20	2	11.8	93	70	140	11.8	24.5	30	28.0	58.0	26.0
3" Copper	6	15	2	7.6	37	28	55	7.6	10.5	12.5	12.0	22.5	11.5
	8	18	2	9.7	62	47	93	9.7	21.5	26.0	24.5	46.0	23.0
	10	20	2	11.8	93	70	140	11.8	36.0	43.0	40.5	76.5	38.5
3" IPS	6	15	2	7.6	37	28	55	7.6	6.5	8.0	7.5	16.0	7.0
	8	18	2	9.7	62	47	93	9.7	14.0	17.5	16.0	34.5	15.0
	10	20	2	11.8	93	70	140	11.8	23.5	29.5	27.0	58.0	25.0
4" Copper	6	15	2	7.6	37	28	55	7.6	7.5	9.5	9.0	17.5	8.5
	8	18	2	9.7	62	47	93	9.7	19.0	23.5	21.5	43.0	20.0
	10	20	2	11.8	93	70	140	11.8	33.0	41.0	38.0	76.0	35.0
	12	22	4	13.9	53	40	80	13.9	50.5	62.5	58.0	116.0	54.0
4" IPS	6	15	2	7.6	37	28	55	7.6	4.5	6.0	5.0	11.5	4.5
	8	18	2	9.7	62	47	93	9.7	11.5	15.5	14.0	31.5	12.5
	10	20	2	11.8	93	70	140	11.8	21.0	28.5	25.5	57.0	22.5
	12	22	4	13.9	53	40	80	13.9	33.0	43.5	39.5	88.5	35.0
5" Copper	8	18	2	9.7	62	47	93	9.7	15.0	19.5	18.0	37.5	16.0
	10	20	2	11.8	93	70	140	11.8	29.5	38.0	34.5	73.0	31.5
	12	22	4	13.9	53	40	80	13.9	46.5	60.0	55.0	116.0	50.0
5" IPS	8	18	2	9.7	62	47	93	9.7	9.0	12.5	11.0	25.5	9.5
	10	20	2	11.8	93	70	140	11.8	18.5	25.5	22.5	53.0	19.5
	12	22	4	13.9	53	40	80	13.9	30.0	42.0	37.0	86.5	32.0
6" Copper	10	20	2	11.8	93	70	140	11.8	25.0	33.0	30.0	66.0	26.5
	12	22	4	13.9	53	40	80	13.9	42.0	56.5	50.5	112.5	45.0
	14	23	4	16.0	69	52	104	16.0	62.5	84.0	75.5	167.5	67.0
	16	25	4	18.1	87	64	128	18.1	80.5	107.5	97.5	205.5	81.5
6" IPS	10	20	2	11.8	93	70	140	11.8	15.0	22.0	19.0	46.0	16.0
	12	22	4	13.9	53	40	80	13.9	26.5	39.0	33.5	82.0	28.5
	14	23	4	16.0	69	52	104	16.0	40.0	59.0	51.0	124.5	43.0
8" IPS	10	20	2	11.8	93	70	140	11.8	7.0	11.0	9.0	23.5	7.5
	12	22	4	13.9	53	40	80	13.9	18.5	29.5	24.5	64.0	20.0
	14	8x3 23	4	16.0	69	52	104	16.0	32.0	51.5	43.0	111.5	34.5
10" IPS	14	10x2 23	4	16.0	69	52	104	16.0	21.5	37.0	30.0	82.0	23.0
	15	10x2-1/2 25	4	17.0	78	59	117	17.0	29.0	50.0	40.5	111.5	31.0
	16	10x3 26	4	17.8	85	64	128	17.8	34.5	59.5	48.5	133.0	37.0
12" IPS	15	12x1-1/2 25	4	17.0	78	59	117	17.0	16.5	31.0	24.5	70.5	18.0
	16	12x2 26	4	17.8	85	64	128	17.8	22.0	41.0	32.5	94.0	23.5
	18	12x3 28	4	20.2	108	81	162	20.2	42.5	79.5	62.5	181.5	45.5
14" IPS	18	14x2 28	4	20.2	108	81	162	20.2	34.0	67.5	52.0	153.0	36.0
	20	14x3 30	4	22.3	131	98	197	22.3	54.0	107.5	82.5	244.0	57.5
	24	16x2 30	4	26.3	157	117	234	26.3	80.5	141.5	109.5	311.5	70.5
16" IPS	20	16x2 30	4	22.3	131	98	197	22.3	38.0	81.0	61.0	182.5	40.5

- (1) Foam quantity listed is the total of both A & B components.
- (2) Keep foam containers sealed when not in use.
- (3) Use multiple pours for foam quantities over 64 oz. total.
- (4) IPS sizes include Steel, PVC, PE, and FRP pipe.



JOINT KIT FOAM CHART

FKII
14.103

POUR FOAM- STANDARD FOAM

3.14.07

STANDARD POUR FOAM MIXING QUANTITIES

Pipe (in)	Pipe O.D. (in)	Jacket O.D. (in)	"A" Component (fl. oz)	"B" Component (fl. oz)
1/2	0.840	5.40	3.0	3.0
		6.68	5.0	5.0
3/4	1.050	5.40	3.0	3.0
		6.68	5.0	5.0
1	1.315	5.40	3.0	3.0
		6.68	5.0	5.0
1 1/4	1.660	5.40	3.0	3.0
		8.68	5.0	5.0
1 1/2	1.900	5.40	3.0	3.0
		6.68	4.0	4.0
2	2.375	6.68	4.0	4.0
		8.68	7.0	7.0
2 1/2	2.875	6.68	4.0	4.0
		8.68	7.0	7.0
3	3.500	8.68	7.0	7.0
		10.85	11.0	11.0
4	4.500	8.68	6.0	6.0
		10.85	10.0	10.0
6	6.625	10.85	8.0	8.0
		12.85	12.0	12.0
8	8.625	12.85	9.0	9.0
		14.12	12.0	12.0
10	10.750	14.12	9.0	9.0
		16.14	14.0	14.0
12	12.750	18.22	10.0	10.0
		18.22	17.0	17.0
14	14.000	18.22	14.0	14.0
		20.28	21.0	21.0
16	16.000	20.28	15.0	15.0
		22.25	23.0	23.0
18	18.000	22.25	17.0	16.5
20	20.000	24.38	19.0	19.0
24	24.000	28.25	22.0	22.0
		30.60	35.0	35.0
28	28.000	32.25	25.0	25.0
30	30.000	36.60	43.0	43.0

IMPORTANT: THE JOINT AND JOINT MATERIALS MUST BE KEPT DRY!!



Field Insulation Kit

Installation Instructions

FKII
14.111

THERMAFAB - PRESSURE SENSITIVE TAPE

3.14.07

Polyurethane Foam Mixing Instructions

Materials Included:

- 1 Container of Isocyanate (Part "A")
- 1 Container of Resin (Part "B")
- 2 Measuring Cups (8 oz or 32 oz) for Measuring Each Foam Component Separately
- Wooden Stir Sticks
- Disposable Foam Mixing Pails.

1. Determine Foam Requirement:

Locate proper carrier pipe and jacket size combination in the Foam Table on page FKII 14.102. **The quantity listed is the total of both the "A" and "B" components.** Measure one-half the listed amount of Part "A" using the "A" measuring beaker, and one-half the listed amount of Part "B" into the "B" measuring cup.

2. Mix and Pour Foam:

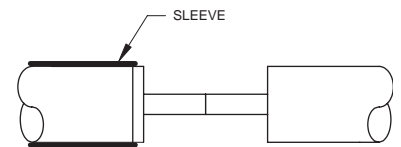
Pour Part "A" (iso) into the mixing pail first. Using wooden stir stick, mix vigorously as Part "B" (resin) is added. Stir for 20 to 25 seconds and immediately pour material through the hole in fitting cover or sleeve. (Be prepared for a quicker reaction time on warm days.)

3. Allow to Cream:

Allow four to five minutes foam reaction time before continuing. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered.

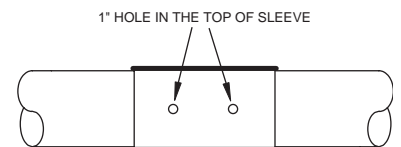
Straight Run Joint Kit

- Slide a pre-cut sleeve of jacket material onto one end of the pipe. Make the field weld and pressure test as specified for your project.



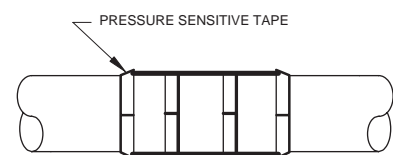
- After testing, slide the sleeve over the joint so that there is an equal overlap at each end. Use duct tape to seal each end of the sleeve.

- Drill two, one-inch diameter holes into the top of the sleeve.



- Follow foam mixing instructions precisely using correct quantity (see Foam & Tape Table on the last page) and pour immediately into one of the holes in the sleeve.

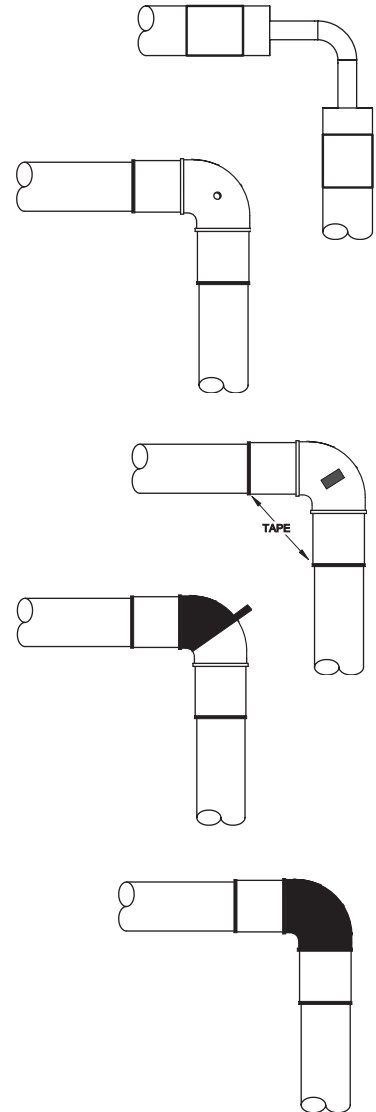
- Allow 4 to 5 minutes reaction time for foam to completely fill the void. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered. Trim excess foam from the joint with knife. Remove duct tape used to temporarily seal seams.



- Apply pieces of pressure sensitive tape to seal foam pour holes and ends of sleeve. Each piece of tape should go completely around the jacket with three inches of overlap.

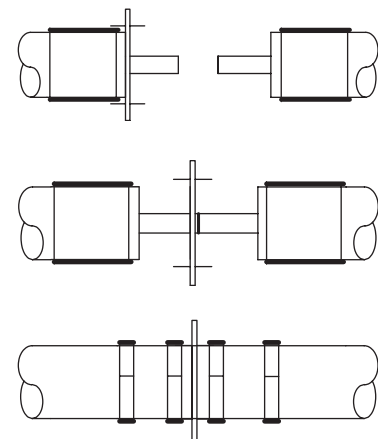
Field Insulation of Fittings

1. Remove five inches of insulation and jacketing from each pipe section end and slide sleeve extenders over each end of pipe adjacent to the fitting. Weld and test- fit as specified for your project.
2. Slide sleeve extenders into position over pipe stubs leaving 2" of overlap on the adjacent jacket.
3. Install correct fitting cover (see Foam & Tape Table on FKII 14.102) and tape in place using strapping tape. Secure all seams with duct tape. Cut a one inch "C" shaped flap opening in fitting cover with sharp knife, leaving the flap in place.
4. Follow foam mixing instructions precisely using correct quantity (see Foam Table on FKII 14.102) and pour immediately into opening in cover.
5. Allow 4 to 5 minutes reaction time for foam to completely fill the void. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered. Trim excess foam from joint with knife and seal flap in the opening with a piece of duct tape.
6. Cut two pieces of sealing tape approximately three inches longer than the circumference of the jacket and wrap the ends of the sleeve extenders.
7. Overwrap fitting cover completely, making sure the sealing tape is half lapped over the previous layer. Begin and end the wrapping with one full wrap around the jacket at least two inches before any seam to be sealed. Inspect the wrapping closely and press close any lips or buckles that are discovered.



Field Insulated Anchor Insulation Kit

1. Before welding field joint, slide a 9" sleeve over each jacket end and slide the anchor plate onto one pipe. Make a field weld and pressure test as specified for your project.
2. Slide anchor plate to 1/2" from field weld and fillet weld both sides of anchor plate to carrier pipe.
3. Slide sleeves into position inside anchor rings and insulate both sides of anchor plate using the Straight Run Joint Kit instructions. Use half the foam quantity on each side of the plate.



Polyurethane Foam Mixing Instructions

Materials Included:

- 1 Container of Isocyanate (Part "A")
- 1 Container of Resin (Part "B")
- 2 Measuring Cups (8 oz or 32 oz) for Measuring Each Foam Component Separately
- Wooden Stir Sticks
- Disposable Foam Mixing Pails.

1. Determine Foam Requirement:

Locate proper carrier pipe and jacket size combination in the Foam Table on page FKII 14.102. **The quantity listed is the total of both the "A" and "B" components.** Measure one-half the listed amount of Part "A" using the "A" measuring beaker, and one-half the listed amount of Part "B" into the "B" measuring cup.

2. Mix and Pour Foam:

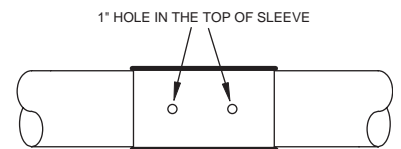
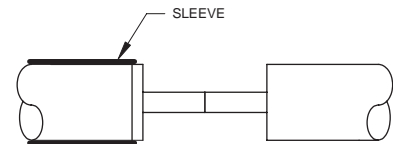
Pour Part "A" (iso) into the mixing pail first. Using wooden stir stick, mix vigorously as Part "B" (resin) is added. Stir for 20 to 25 seconds and immediately pour material through the hole in fitting cover or sleeve. (Be prepared for a quicker reaction time on warm days.)

3. Allow to Cream:

Allow four to five minutes foam reaction time before continuing. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered.

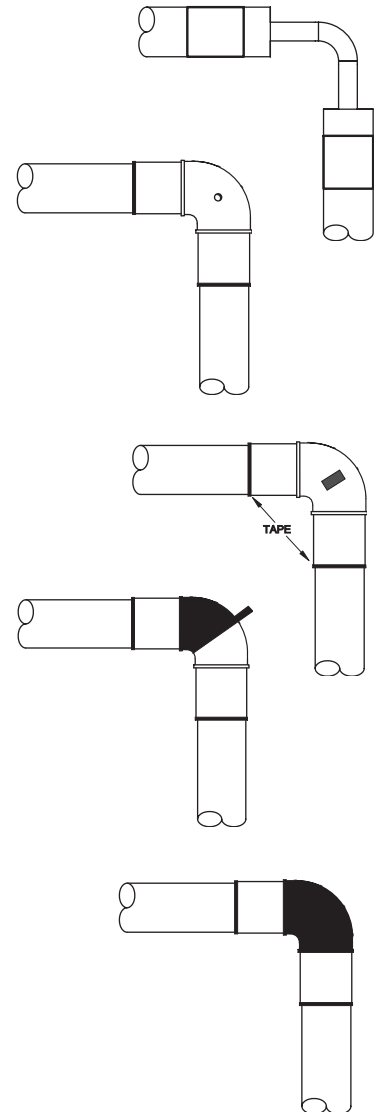
Straight Run Joint Kit

1. Slide a pre-cut sleeve of jacket material onto one end of the pipe. Make the field weld and pressure test as specified for your project.
2. After testing, slide the sleeve over the joint so that there is an equal overlap at each end. Use duct tape to seal each end of the sleeve.
3. Drill two one-inch diameter holes in the top of the sleeve.
4. Follow foam mixing instructions precisely using correct quantity (see Foam & Tape Table on the last page) and pour immediately into one of the holes in the sleeve.
5. Allow 4 to 5 minutes reaction time for foam to completely fill the void. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered. Trim excess foam from the joint with knife. Remove duct tape used to temporarily seal seams.
6. Wrap heat shrink tape around each end of the sleeve and over the foam pour holes. Tape the three inch overlap of heat shrink tape into place with duct tape.
7. Using a soft, billowy flame, heat the tape evenly in a smooth brushing motion. Use a gloved hand to smooth any wrinkles from the tape while heating. The tape mastic layer will melt and should be evident on both sides of tape after it has cooled. Do not scorch or melt adjacent jacket material. Inspect the wrapping closely and press close any lips or buckles while the material is still hot.



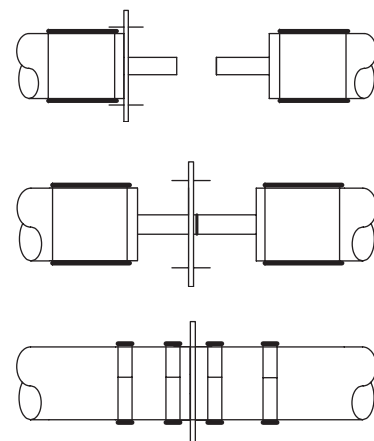
Field Insulation of Fittings

1. Remove five inches of insulation and jacketing from each pipe section end and slide sleeve extenders over each end of pipe adjacent to the fitting. Weld and test fitting as specified for your project.
2. Slide sleeve extenders into position over pipe stubs leaving 2" of overlap on the adjacent jacket.
3. Install correct fitting cover (see Foam & Tape Table on FKII 14.102) and tape in place using strapping tape. Secure all seams with duct tape. Cut a one inch "C" shaped flap opening in fitting cover with sharp knife, leaving the flap in place.
4. Follow foam mixing instructions precisely using correct quantity (see Foam Table on FKII 14.102) and pour immediately into opening in cover.
5. Allow 4 to 5 minutes reaction time for foam to completely fill the void. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered. Trim excess foam from joint with knife and seal flap in the opening with a piece of duct tape.
6. Wrap a piece of heat shrink tape around each end of the sleeve extender. Secure the three inch overlap of heat shrink tape into place with a small piece of duct tape.
7. Overwrap fitting cover completely, making sure the sealing tape is half lapped over the previous layer. Pull heat shrink tape tightly around fitting cover. Begin and end the wrapping with one full wrap around the jacket at least two inches before any seam to be sealed.
8. Using a soft billowy flame, heat the tape evenly in a smooth brushing motion. Use a gloved hand to smooth any wrinkles from the tape while heating to encourage the mastic backing to flow. The tape mastic layer will melt and should be evident on both sides of tape after it has cooled. Do not scorch or melt jacket material. Inspect the wrapping closely and press close any lips or buckles while the material is still hot.



Field Insulated Anchor Insulation Kit

1. Before welding field joint, slide a 9" sleeve over each jacket end and slide the anchor plate onto one pipe. Make a field weld and pressure test as specified for your project.
2. Slide anchor plate to 1/2" from field weld and fillet weld both sides of anchor plate to carrier pipe.
3. Slide sleeves into position inside anchor rings and insulate both sides of anchor plate using the Straight Run Joint Kit instructions. Use half the foam quantity on each side of the plate.



Polyurethane Foam Mixing Instructions

Materials Included:

- 1 Container of Isocyanate (Part "A")
- 1 Container of Resin (Part "B")
- 2 Measuring Cups (8 oz or 32 oz) for Measuring Each Foam Component Separately
- Wooden Stir Sticks
- Disposable Foam Mixing Pails.

1. Determine Foam Requirement:

Locate proper carrier pipe and jacket size combination in the Foam Table on page FKII 14.102. **The quantity listed is the total of both the "A" and "B" components.** Measure one-half the listed amount of Part "A" using the "A" measuring beaker, and one-half the listed amount of Part "B" into the "B" measuring cup.

2. Mix and Pour Foam:

Pour Part "A" (iso) into the mixing pail first. Using wooden stir stick, mix vigorously as Part "B" (resin) is added. Stir for 20 to 25 seconds and immediately pour material through the hole in fitting cover or sleeve. (Be prepared for a quicker reaction time on warm days.)

3. Allow to Cream:

Allow four to five minutes foam reaction time before continuing. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered.

Straight Run Joint Kit

1. Slide a pre-cut sleeve of jacket material onto one end of the pipe. Make the field weld and pressure test as specified for your project.
2. After testing, slide the sleeve over the joint so that there is an equal overlap at each end. Use duct tape to seal each end of the sleeve.
3. Drill (2) one-inch diameter holes in the top of the sleeve.
4. Follow foam mixing instructions precisely using correct quantity (see Foam & Tape Table on FKII 14.102) and pour immediately into one of the holes in the sleeve.
5. Allowing 4 to 5 minutes reaction time for foam to completely fill the void. If the total foam quantity is over 64 oz., perform multiple pours until the total volume is delivered. Trim excess foam from the joint with knife. Remove duct tape used to temporarily seal seams.
6. Remove the release paper from the back of the heat shrink sleeve and loosely wrap the shrink sleeve around the joint area, overlapping at the top and with one inch droop at the bottom of the sleeve. Remove the release film from the closure patch, warm the patch, then place the heat shrink patch over the sleeve seam area and hold in place.
7. Using a soft billowy flame, heat the patch with a smooth brushing motion until it becomes soft and shiny. Remove heat and press the patch to the sleeve with a gloved hand to form a bond.
8. Heat the rest of the heat shrink sleeve into place, starting at the bottom center of the sleeve and work up and out towards the ends. The mastic should be visible on both sides after the sleeve has cooled.

