



DESIGN-FLOW® High Density Polyethylene Pipe Butt Fusion Procedure

PE3408 / PE3608 / PE4710 Butt Fusion Procedure for Pipe & Fittings

1. Clean inside and outside of each pipe end with a clean cloth.
2. Place pipe and/or butt fitting ends into the proper alignment device. Square (face) end of each pipe to be fused.
3. Check alignments of pipe ends and adjust. Check for voids and gaps. Check heater plate for proper surface temperature of 400° F- 425° F , and clean heater surface with a clean cotton cloth. *
4. Insert heater plate between aligned ends and bring ends firmly in contact with plate, but **DO NOT APPLY PRESSURE** while achieving melt pattern. Watch for proper melt.

Approximate Melt Bead Width **

Pipe OD Range (inches)	Nominal Melt Bead Width (inches) **
>1 to <3	1/16 to 1/8
>3 to <8	1/8 to 3/16
>8 to <12	3/16 to 5/16
>12 to <24	5/16 to 7/16
>24 to <36	7/16
>36 to <54	9/16

** As measured from the heater plate face

5. Remove heater plate after achieving proper melt bead.
6. Bring melted ends together rapidly. **DO NOT SLAM**. Apply enough pressure to form a uniform, double rollback bead around entire circumference of the joint.
7. Allow the butt fusion joint to cool properly (until comfortable to the touch) while maintaining pressure.

REMEMBER:

- Install proper inserts in fusion machine for the pipe, tubing or fittings being joined. A quality butt fusion joint has a double bead rolled back to the body of the pipe.
- Butt fusion temperature of 400° F- 425° F should be used to insure melt bead is of sufficient size.
- Recommended interfacial pressure is 75-psi+/- 5 psi. (PPI Report TR-33 cites 60 psi - 90 psi range.)

Caution: Insufficient melt bead may result in a cold fusion joint. Heater plates should be checked with a pyrometer for correct surface temperature (400° F- 425° F). Butt fusion joints are stronger when the melt beads remain intact. Additional testing should be performed to insure that the fusion is adequate for the application.

* Avoid fabric materials that melt and stick to heater plates.