



**Furan Field Adhesive Weld
Joint Assembly Instructions
for 1" to 12" Diameter Pipe and Fittings**

Read the following instructions completely before making an adhesive joint with Industrial Fiberglass Specialties' furan field weld adhesive. Pay special attention to the notes and cautions at the end of these instructions.

Procedure

- 1.0 Measure the desired length and scribe the pipe, preferably using a pipe fitter's wrap around. Cut the pipe using a standard hacksaw, circular saw with reinforced abrasive blades, or a saber saw with a fine-toothed metal cutting blade or carbide grit. Pipe up to 4" in diameter should be square to within 1/16". Larger pipe should be square to within 1/8". Use a disc grinder or file to correct squareness.
- 2.0 Shave the cut end of the pipe using the pipe shaver. Shaving can be done manually, but a power drive is recommended if several sections or fittings are to be assembled. Measure the shaved pipe using a Pi (diameter) tape to ensure the dimensions given below are obtained.

Pipe Size	Maximum O.D.	Minimum O.D.	"L" Length of Socket for Fittings	"L" Length of Socket for Flanges
1"	1.290"	1.275"	1.188"	1.188"
2"	2.344"	2.328"	1.937"	1.488"
3"	3.469"	3.454"	1.937"	1.650"
4"	4.458"	4.444"	1.937"	1.937"
6"	6.580"	6.565"	2.375"	2.375"
8"	8.580"	8.565"	2.625"	2.625"
10"	10.690"	10.675"	2.875"	2.875"
12"	12.690"	12.675"	3.125"	3.125"

The pipe should be shaved 1/2" longer than the "L" length shown above to ensure the outside adhesive bead bonds to the pipe.

- 3.0 All fittings and pipe sockets must be sanded with 40-60 grit sandpaper just before assembly. Sand enough to remove all surface gloss, any oxidation, and contaminants. Socket interior should have a dull, rough finish after sanding.



- 4.0 Match mark the two mating pieces for correct alignment. Do not touch mating surfaces with hands or allow mating surfaces to come in contact with other contaminants such as dirt, oil, grease, water, etc. Do not prepare joining surfaces more than 30 minutes prior to bonding. If surface remains sanded and un-bonded for much longer - re-sand before bonding.
- 5.0 Remove the sanding dust with a clean, dry cloth or brush. The prepared joint surface must remain free of dirt, grease, water or other foreign substances to provide a good joining area.

NOTE: Under humid conditions, the joining surface may be wiped with a solvent (methylene chloride) dampened cloth to assure a dry bonding surface. If this procedure is followed, it is important to allow adequate time for complete evaporation of solvent before beginning the joining process.

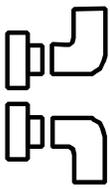
6.0 Adhesive Mixing:

- a. Each eight ounce (by weight) adhesive kit comes with pre-measured Part "A" adhesive in a can and pre-measured Part "B" liquid hardener in a plastic bottle.
- b. Pour the pre-measured (13.6 grams) of catalyst into the can of adhesive and **mix very thoroughly**. One to two minutes is adequate. Be certain **no** liquid remains at the bottom edges of the can.
- c. Once mixed, the working life of the catalyzed adhesive is approximately 15 to 25 minutes, depending upon the ambient temperature.
- d. Compensation for Temperature Variations:

Industrial Fiberglass Specialties furan adhesive is sensitive to temperature variations not only in curing time, but also in workability. In an atmosphere of 75 to 90 degrees F, Industrial Fiberglass adhesive should appear as a stiff, but workable paste. Although it is recommended that all fabrication work be done within this temperature range, various measures may be taken to effectively compensate for cooler or warmer atmospheres.

Cooler temperatures cause the individual components of the adhesive to stiffen. This causes extreme difficulty in mixing and "wetting" the surfaces to be bonded. Gentle warming of the individual cans (with a heat belt if no oven is available) will drop the viscosity sufficiently to permit proper mixing and application of the adhesive. Warm the paste to approximately 70 degrees F.

Avoid overheating the paste component, as this will cause the adhesive to drop excessively in viscosity and react more quickly, shortening its pot life. The paste should be thick enough to remain where it is spread without sagging. At higher temperatures, the pot life of an adhesive will shorten to five to ten minutes.



- 7.0 Apply a thin layer of adhesive, approximately 1/32" thick, to the surface of the socket including the pipe stop with the wood stirring stick provided with the kits. (Too much adhesive on the inside of the socket will result in a flow restriction inside the joint.) Work the adhesive into the surface of the socket thoroughly with a troweling action.
- 8.0 Apply a heavier layer of adhesive, approximately 1/16" thick, to the entire spigot surface and a thin layer of adhesive to the cut edge of the pipe. Thoroughly work the adhesive into the sanded surface of the spigot with a troweling action. Also coat the cut edge of the pipe with a thin layer to cover exposed fibers.
- 9.0 Without delay, insert pipe slowly into the socket, without rotating pipe or fittings until spigot rests firmly against the pipe stop. Do not disturb the assembled joints. One inch to four inch diameter pipe may be made up (inserted into the bell) using a wooden block placed over the pipe and by tapping lightly with hammer. Use of a winch (come-along) is recommended in the assembly of 6" through 12" Industrial Fiberglass pipe. Never use a metal hammer on Industrial Fiberglass pipe or fittings.
- 10.0 Excess adhesive should be wiped from the joint area, making a fillet, or bead, at the external joint of pipe wall and fittings. The entire sanded area of the spigot pipe end should be coated with adhesive at the fillet area.
- 11.0 Before moving the joint, the adhesive must be completely hard. To accelerate the cure so that the joint may be moved - after the joint has been made, a layer of Mylar should be wrapped around the wet adhesive and a heat blanket applied to the joint for 2 hours at 140° F, 2 hours at 160° F, and 2 hours at 180° F. If the operating temperature of the line is higher than 180° F, the joint should be cured for an additional two hours at the operating temperature.
- 12.0 Safety , Disposal & Handling
 - a. When adhesive becomes stiff, lumpy or increases in temperature, throw it away! **Use Only Fresh Adhesive Mix!** If excess catalyzed adhesive left in the mixing cup should start to "heat up" and smoke - the cup can be put in a bucket of water to cool off the exotherm.
 - b. Wear adequate eye and skin protection when mixing two part adhesive.
 - c. To dispose of unwanted, unmixed adhesive, mix both parts and dispose as a normal solid.