

# EP PFA Tube Fitting Flare and Assembly Instructions

For 1½" connections

## INSTRUCTIONS FOR EP PFA FLARE FITTINGS

The flaring process provides a permanent expansion (flare) of the tubing end, allowing insertion of the EP flare fitting body. Proper tube flaring and EP flare fitting assembly results in a secure tubing connection.

## TUBING PREPARATION

1. Cut the tubing end squarely (2.54 mm [0.100"] maximum squareness tolerance).
2. Insert the cut end of the tubing through the non-threaded end of the nut.

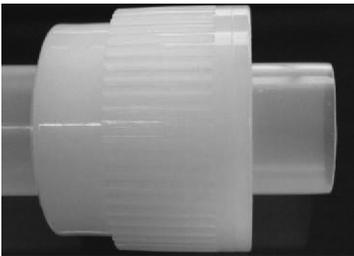


Figure 1.

**WARNING:** If you do not put the nut on the tube now you will not be able to put it on after you complete the flare.

## HEAT FLARING INSTRUCTIONS

1. Using a hot air gun, place the setting on "high." Hold the PFA tubing end flush with the heater edge and 12.7 mm to 19.05 mm (½" to ¾") above the heater and slowly rotate the tubing 360° for two minutes.



Figure 2.

2. The tubing should be heated from the cut edge to 31.75 mm (1¼") back from the cut edge.
3. If the tube is unable to be rotated, the hot air gun will need to be rotated around the tube to properly heat the tube.

**NOTE:** It is very important to fully rotate the tubing over the heat source or the heat source around the tubing so all surface areas receive an equal amount of heat. Uniform heating is essential to making a good flare.

4. Remove the PFA tubing from the heat source. Immediately push the flaring mandrel (part number EPF24MDL) into the tubing until the end of the tubing reaches the tube stop.

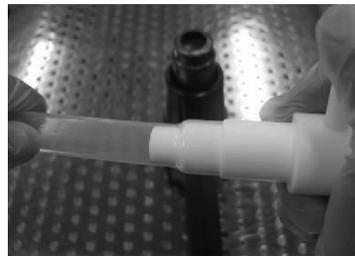


Figure 3.

**NOTE:** The center-line of the tubing should be aligned with the center-line of the flare mandrel in order to ensure a good flare.

5. Firmly hold the tubing onto the mandrel for at least two minutes.
6. Allow the flared tubing to continue to cool on the mandrel for a minimum of two minutes.

**NOTE:** The flare and flare mandrel assembly may be quenched in DI water in order to expedite the cooling process.

The flaring process is now complete and the mandrel may be removed from the tube.

## EP FLARE FITTING ASSEMBLY INSTRUCTIONS

1. Push the flared tubing end onto the EP flare fitting body until the end of the fitting body contacts the flare shoulder of the tube.
2. Tighten the nut onto the fitting body first by hand and then fully tighten using the EP flare fitting wrench (part number EPF24WR).
3. The fitting body should be secured using the mounting features or the wrench flats on the body prior to tightening the nut with the wrench.

When properly tightened, there should be a 2 mm gap (0.078") between the bottom of the nut and the shoulder on the fittings. The gap can be checked using Entegris part number 01-1009547.

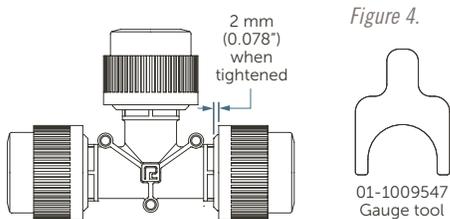


Figure 4.

## ROTATION INDICATOR CLIP INSTALLATION

1. Install smaller clip on to flats located on the EP flare fitting body.

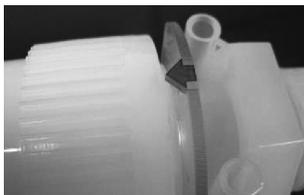


Figure 5.

2. Position large clip on the nut while aligning the red arrow with the red arrow on the body clip.

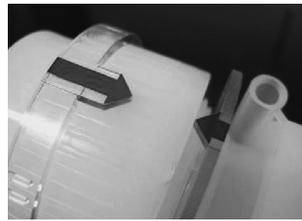


Figure 6.

3. Slide the large clip down the nut until the tips of the two red arrows are in contact with each other.

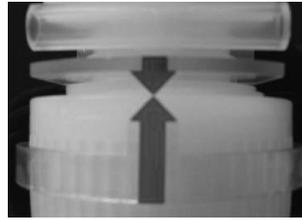


Figure 7.

4. The connection can now be monitored for nut movement. If the red arrows become unaligned there has been a change in the torque of the nut and the connection should be inspected and retightened if necessary.

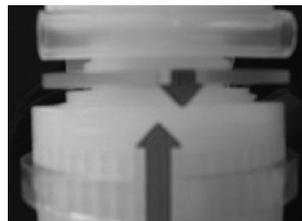


Figure 8.

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Corporate Headquarters  
129 Concord Road  
Billerica, MA 01821  
USA

Customer Service  
Tel +1 952 556 4181  
Fax +1 952 556 8022  
Toll Free 800 394 4083

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