

# Flaring

Angle and Goblet Flares

## Overview-

Flaring is a common tubing modification that helps improve accessibility to the inner diameter (ID) of the tube, facilitating the insertion of tools, fluids, stents, wires, optical fibers, or other instruments.

Zeus can perform multiple types of flares, including angle flares and goblet flares onto one or both ends of the tube. The type of flare performed is subject to the material from which the tube is constructed.



*Zeus can perform multiple types of flares, including angle flares and goblet flares.*

## APPLICATIONS

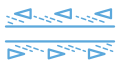
- Balloon protection
- Stent protection
- Loading sheaths
- Insertion tools

## CAPABILITIES AND SIZING

- Materials: PTFE, PEEK, PFA, FEP, ETFE, Nylons, Pebax<sup>®</sup>, and PE
- Tube IDs from 0.030" - 0.500" (0.762 mm - 12.700 mm)
- Tube Walls from 0.006" - 0.045" (0.152 mm - 1.143 mm)
- Flares up to 4x the tube OD

## KEY PROPERTIES

- Resin-dependent temperatures up to 500 °F (260 °C)
- Class VI approved resins available
- Chemical resistance
- Lubricity, optical clarity, and flexibility vary, depending on resin



COEFFICIENT OF FRICTION



CHEMICAL RESISTANCE

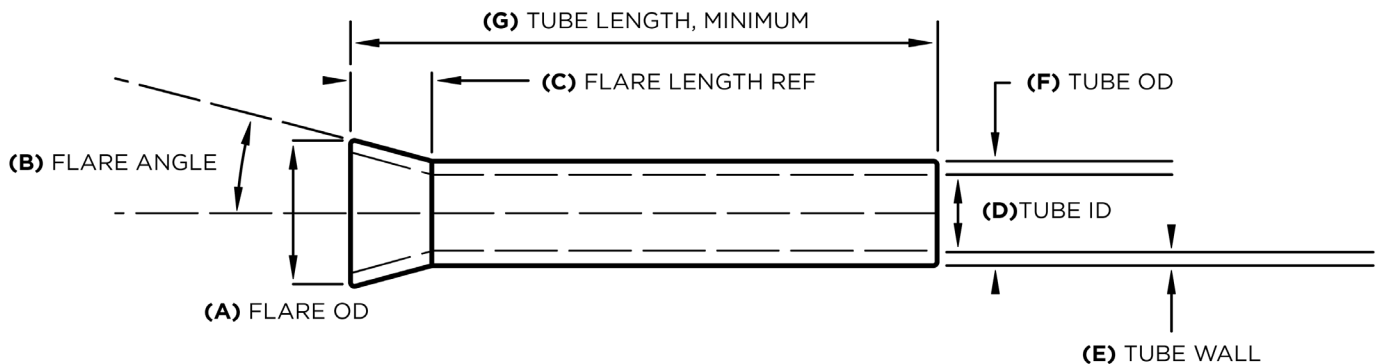


CONTINUOUS SERVICE TEMP



# Angle Flares

An angle flare is created when a tube is pushed outward at an angle to make the entrance of the tubing more easily accessible. Angle flares are produced based on customer specifications, and the table below is a general capability guide.



## ANGLE FLARE CAPABILITIES

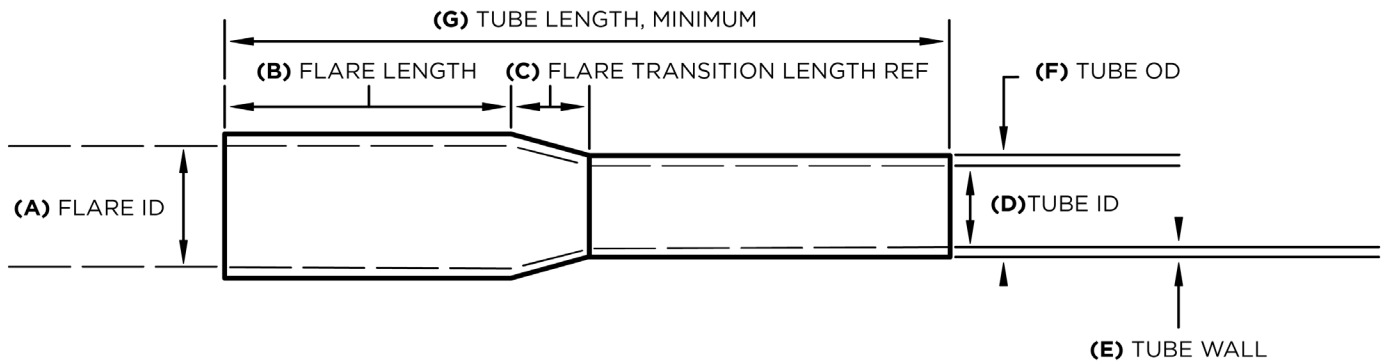
<b>Materials</b>	PTFE, PEEK, PFA, FEP, ETFE, Nylons, Pebax®, and PE
<b>A.</b>	<b>Flare Outer Diameter (OD):</b> 2x Tube OD, greater depending on wall thickness Maximum Flare OD 1.000" (25.400 mm)
<b>B.</b>	<b>Flare Angle:</b> 10° - 45°
<b>C.</b>	<b>Flare Length:</b> Reference measurement only
<b>D.</b>	<b>Tube ID:</b> 0.030" - 0.500" (0.762 mm - 12.700 mm)
<b>E.</b>	<b>Tube Wall Thickness:</b> 0.008" - 0.045" (0.203 mm - 1.143 mm )
<b>F.</b>	<b>Tube OD:</b> Tube OD is calculated based on Tube ID + 2x Tube Wall Thickness
<b>G.</b>	<b>Tube Length, Flare on One End:</b> Minimum 1.000" (Minimum 25.400 mm) Cut tolerance $\geq \pm 0.063"$ ( $\geq \pm 1.600$ mm) or secondary cut required <b>Tube Length, Flare on Both Ends:</b> Minimum 1.125" (Minimum 28.575 mm) Cut tolerance $\geq \pm 0.063"$ ( $\geq \pm 1.600$ mm) or secondary cut required

*Final measurements and tolerances are determined by material type and final design.*



# Goblet Flares

Goblet flares are created when a tube is pushed outward at an angle before creating a straight section that is larger in diameter. Multiple transitions can be made on a single tube. Goblet flares are produced based on customer specifications, and the table below is a general capability guide.



## GOBLET FLARE CAPABILITIES

<b>Materials</b>	PTFE, ETFE, and PEEK
<b>A.</b>	<b>Flare Inside Diameter (ID):</b> Up to 4x Tube ID, greater depending on Wall Thickness Maximum Flare ID 1.000" (25.400 mm)
<b>B.</b>	<b>Flare Length:</b> <12" (<304.8 mm), depending on flare diameter and Tube Wall Thickness
<b>C.</b>	<b>Flare Transition Length:</b> Reference measurement only
<b>D.</b>	<b>Tube ID:</b> 0.030" - 0.500" (0.762 mm - 12.700 mm)
<b>E.</b>	<b>Tube Wall Thickness:</b> 0.006" - 0.045" (0.152 mm - 1.143 mm)
<b>F.</b>	<b>Tube OD:</b> Tube OD is calculated based on Tube ID + 2x Tube Wall Thickness
<b>G.</b>	<b>Tube Length, Flare on One End:</b> Minimum 1.000" (Minimum 25.400 mm); Cut tolerance $\geq \pm 0.063"$ ( $\geq \pm 1.600$ mm) or secondary cut required <b>Tube Length, Flare on Both Ends:</b> Minimum 1.125" (Minimum 28.575 mm); Cut tolerance $\geq \pm 0.063"$ ( $\geq \pm 1.600$ mm) or secondary cut required

*Final measurements and tolerances are determined by material type and final design.*

