

FEATURES OF THE SWAGELOK® TUBE FITTING:



> **RELIABLE TUBE GRIP**
> **GAS SEAL EVEN ON REASSEMBLY**
> **VIBRATION PROTECTION**

DESIGN

- Can be used on thick- and thin-walled tubing
- Supports the tube in ahead of the seal to resist vibration
- All of the components are made from the same material as the fitting body for thermal compatibility and corrosion resistance
- Swagelok® Tube Fittings have a residual spring condition so that temperature cycling will not cause leakage
- Tube wall is not weakened

PERFORMANCE

- Seal consistently for vacuum applications right up to burst point of the tubing
- Seal consistently at elevated temperatures up to the maximum tubing temperature rating
- Seal consistently during pressure changes and pulsations

ASSEMBLY

- Easy to assemble using any standard wrench – no torque wrench required
- Easy assembly without any lubricant
- No twisting of tubing during assembly – tubing remains without torque stress
- Simple assembly inspection with gap inspection gage
- Seals repeatedly after each reassembly – seal remains intact!

SERVICE

- Broad range of products in terms of size, materials, end connections, and designs available from local stock
- Swagelok® tube fittings are available on a variety of valves and hoses
- We support you through our our experienced specialists
- Swagelok® products come with a limited lifetime warranty

THE BIG 3 FACTORS WHEN EVALUATING **TUBE FITTING** PERFORMANCE:

1. RELIABLE TUBE GRIP



The hinging-colletting design of the Swagelok® tube fitting

The **Swagelok® Tube Fitting** hinging and colletting action provides more material of the back ferrule onto the tube adjacent to the tube grip. This extra material provides both direct axial support to the tube gripping function and colletting squeeze of the tube, unlike a bowing or bite-type ferrule.

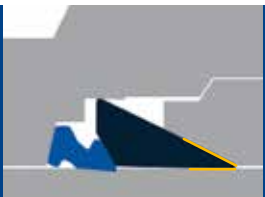
This action provides a more robust tube grip over a wide range of installations; and safely contains your fluid system without leakage even at maximum working pressure.



Bite Type systems with one cutting ring | two cutting rings

Bite Type systems generate a sharp indent and stress riser on the surface of the tube during installation. This sharp disruption or indent forms the tube grip.

2. GAS SEAL



Swagelok® Tube Fitting

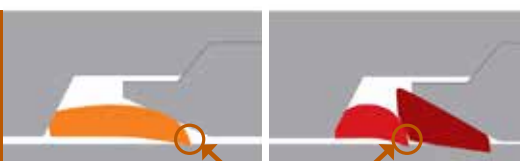
A gas seal is achieved by the burnishing or polishing that occurs between the front ferrule and the body of the **Swagelok® Tube Fitting** and the front ferrule and the tubing. This burnishing or polishing action accompanies concentrated zones of contact (shown in **yellow**).

3. VIBRATION PROTECTION



Swagelok® Tube Fitting

The hinging and colletting action of the **Swagelok® Tube Fitting** directs more material of the back ferrule in close contact with the tube adjacent to the tube grip. The **protected stress riser** reduces the damaging effects of system vibration.



Stress riser in bite-type fittings = little support and tube fracture

Bending, deflection, and vibration impart stresses on the tubing, which can become concentrated and amplified at the stress riser and cause **tube fractures**.

If there is vibration, pulsation, thermal shock, or side load exerted on the fitting, the minimal contact of the gripping ferrule offers little support behind the bite. This means in a dynamic system, the potential for either damage to the tube or pullout may exist.

