



Swagelok® Tubing System Training Program (2 days)

Meet JIP33 requirements for the oil and gas industry

Swagelok has developed Joint Industry Program (JIP) 33 training for oil and gas companies to achieve compliance with S-716 Small Bore Tubing & Fittings specification.

About JIP33

Recent oil and gas industry trends have demonstrated substantial budget and schedule overruns. The oil and gas community within the World Economic Forum (WEF) has implemented a Capital Project Complexity (CPC) initiative seeking to reduce upstream project costs via industrywide standardization.

Developed by the International Oil & Gas Producers Association (IOGP) with support from the WEF, JIP33 "Standardization of Equipment Specifications for Procurement" aims to improve industry-level standardization and deliver step-change benefits to the oil and gas sector.

About S-716

The recently published S-716 Small Bore Tubing & Fittings specification prepared under JIP33 provides the requirements for the design, material selection, installation, inspection, testing, and marking of tubing sizes up to 2" in offshore and onshore environments.

To be compliant with JIP33, S-716 operators and support companies in the oil and gas sector must ensure their tubing systems are installed by personnel who have been certified by the fitting manufacturer's approved product training program or equivalent industry training program including hands-on assembly.

Training Overview

The Swagelok® Tubing System Training Program is a globally standardized two-day workshop designed to address the JIP33 S-716 requirement and give your team thorough instruction on industry best practices for ensuring high-integrity tubing systems.

This hands-on training is ideal for installers, engineers, designers, QC/QA inspectors, and others responsible for designing, installing, maintaining, and/or inspecting tubing systems.



Prevent Common Problems

- Leaking tube fittings and threaded connections
- Under- and overtightened fittings
- Short ferruling
- Tube blowout/fracture/end flow restriction
- Improper tube prep and poor tubing layout/support
- Fluid system fouling/contamination
- Thread galling and crossed threads
- Surface finish damage
- Vibration damage
- Bend defects and bend radius interference



Syllabus

Course content will cover:

Safe installation practice of conventional Swagelok® fittings and FK fittings, including:

- Proper assembly and reassembly
- Use of a multihead hydraulic swaging unit (MHSU)
- Use of a preswaging tool
- Use of a depth-marking tool
- Proper installation of plugs, caps, port connectors, and tube adapters
- Use of a gap inspection gauge

Use of dissimilar metals and engineered combinations

Care and handling of tubing, including:

- Proper selection
- Safety factors
- Cutting and deburring
- Elevated temperatures
- Seal surface inspection
- Safe working pressure
- Layout best practice and use of supports
- Mitigating the effects of vibration

Introduction to straight and tapered threads, including:

- Proper fitting selection
- Proper installation of threaded fittings
- Proper use of lubricants and sealants

O-rings and gaskets

Safe operation of fluid systems and leak-free performance

Conducting a gas leak test to verify seal integrity

- Proper use of Snoop® liquid leak detector

Hands-on instruction in the “measure-bend” tube bending method, including:

- Calculation of gain/adjustment
- Changes in plane and direction
- Offset bends
- Reverse bends
- Springback
- Troubleshooting bends

Tube fitting inspection essentials

- Review of failure modes and how to identify and prevent them

Class Format

The training follows a pattern of explanation, demonstration, drills, and validation. Each attendee will confirm what they have learned through a written exam and practical inspection.

All attendees receive a Swagelok® Tube Fitter’s Manual, Installer’s Guide, HTB manual, caliper, and gap inspection gauge for 1/4-inch, 3/8-inch, and 1/2-inch tube fitting sizes.

Program Details

Global Part Number: SWAGE-TSTP-OG

Pricing: Determined by your local authorized Swagelok sales and service center (SSC) or authorized agent.

Instructor: Program is facilitated by a Swagelok-certified instructor trained in the content and delivery of this specific course.

Attendee Tracking: Attendees who meet course requirements are tracked globally where verification of credentials may be obtained.

Scheduling: Contact your local authorized Swagelok SSC or authorized agent.

About Swagelok

For 75 years, Swagelok has helped customers achieve their goals for fluid system safety, reliability, and efficiency in demanding industrial environments. Regularly stocked products are available throughout the world, and technical experts are on hand to collaborate on specially designed solutions, on-site evaluations, training, and more. Leverage our global expertise to address the pressures you face with 20 manufacturing centers and 200+ sales and service centers across more than 70 countries.

Our Advantage

Swagelok works directly with oil and gas majors to meet S-716 training requirements and provides technical consultation to IOGP spec teams responsible for writing the JIP33 standards. Our experts know precisely what it takes to meet tubing and fitting regulatory compliance in oil and gas applications.

Put our practical knowledge to use in the classroom so that your team can use their skills to solve challenges in the field.

Contact your local SSC for more information.