Swagelok

Swagelok Pittsburgh | Tri-State Area

e-FLASH

High Honors

Our multiple **Swagelok Customer Training Programs** are globally renowned for depth, timeliness, and interactivity.

Some remarks from recent students...

...who, upon graduation, shared more – not just about what they learned... but how they plan to apply it:

"I took the one-day Installation & Tube Bending class...and left hoping my company would soon send me to the week-long Advanced Bending course."

"The best thing was that I could ask questions – and get honest, comprehensive answers"

"If you're an electrician or work in a machine shop, there's SO much you could learn from any Swagelok Essentials class"

"I'm now 100% committed to the Swagelok Bonding Method"

"I knew zip about Bending...but departed knowing exactly how to build compact fluid assemblies using tubing exclusively"

WHY SWAGELOK TRAINING?

- We offer an unparalleled array of pertinent and timely course titles
- We can bring our training directly to your site or project location
- All our classes include a full money-back guarantee
- All graduates receive a genuine Swagelok Certificate of Completion, plus several valuable take-home items
- We supply all class materials – students just need to show up
- Our classes count toward Continuing Education credits

EXPERTISE *Meet your instructor:*

MIKE GAGEL, *a 30+-year Swagelok Company veteran, our Strategic Services Specialist, and certified tube-bending master*

"The key thing I learned: How to lay out what I planned to do...with all my marks...before I actually made a bend!"

"Within 15 minutes of listening to the instructor, I realized everything I had been doing for years, I had been doing incorrectly!"

"Our teacher really got into unique bends and how to approach them... which made for an informative class – and one that taught us how to THINK before we cut"

Tube Fitting Installation & Tube Bending Safety Essentials

In our comprehensive, all-day class –
available at your facility/jobsite or at our leading-edge Training Center in Pittsburgh –
students will learn how to safely and properly:

- **assemble a Swagelok tube fitting**
- **select, handle, prepare, cut, and debur tubing**
- **make tube bends of 45°, 90°, 180°, plus offsets**
- **use a hand tube bender**

Hose Essentials

Length: half-day

For engineers, installers, and technicians who want to master hose fundamentals for effective safety, system optimization, and a reduced total cost of ownership

Upon graduation, you'll be able to:

- Define common hose terminology
- Discuss hose selection variables
- Evaluate hose per application
- List common hose application issues/remedies
- Understand best practices for hose inspections
- Determine ideal length required for installation
- Determine/Set Up a hose maintenance schedule
- Understand proper routing and end connections

Valve Basics

Length: half-day

For engineers, installers, and technicians who want to master knowledge of all critical valve-related topics/elements, including selection per application, safety, installation, and maintenance

Upon graduation, you'll be able to:

- Identify differences in valve types, functions, construction, and operation
- Read a flow curve and P/T table
- Choose the "right" valve for your particular applications
- Safely and properly install, repair/replace, and maintain/troubleshoot valves
- Define leakage and control it
- Understand why valves fail
- Understand actuation, ratings, packings
- Know when filters should be added
- Select valves with the correct materials of construction for your system
- Understand all key factors influencing valve service life

Advanced Tube Bending

Training that Meets Your Schedule:
Select a 2.5-day, 3-day, OR 3.5-day learning event

BENDING METHODS

The Measure-Mark-Bend

The traditional basic way you've employed or heard about.

The Swagelok Master Technique

For superior accuracy and aesthetics. You'll learn how to precisely mark all the locations of all bends in a tubing run – to determine the overall length of tubing required – prior to actually making any bends.
Best of all: This process works for all bend angles.

Types of bends we demonstrate, immediately followed by YOUR hands-on exercises:

- **Offsets** – Learn how to change the centerline of a tubing run.
- **Custom Offsets** – Figure out a bend angle less than 22.5° to enable you to make an offset bend.
- **Off-Plane** – For those times when bends must be rolled to a particular angle. See how to mark the tube before positioning it in the hand bender – to drastically reduce mistakes/waste.
- **Rolling Offset** – Know what to do if your tubing run is offset in the horizontal plane AND, at the same time, in the vertical plane? We can help you solve such a seemingly difficult challenge!
- **Segmented** – Have any idea how to bend a 1" tube around a 6' tank? See how to calculate equal leg lengths so you can ultimately make a 90° bend using four 22.5° bends. Yes, that certainly sounds complicated; we'll show you why it's not.

"A truly challenging course that not only teaches you how to do something, but also focuses on the thought process to do something correctly the first time"

"If you're a maintenance tech, the Installation & Bending course is an absolute necessity"

"A 5-star instructor who delivered content I can use immediately to reduce scrap, waste, and cost"

Get ready for 2027!

Make sure your workers and assets stay safe...your fluid systems fully operational...and your profitability exceeds expectations.

THE SWAGELOK ADVANTAGE

Put our team alongside yours

We are **YOUR** proven and trusted partner **READY** and **BUILT** to fully support you!

Rudy Frank,
Director – Strategic Services & Marketing
Call or Text: 412.439.1706
or Email: rudy.frank@swagelok.com

WE DELIVER DIFFERENCE-MAKING SOLUTIONS:

Products | Strategic Support Services | Application Know-How

The Brand. The Inventory. The Expertise.

WE'RE YOUR SWAGELOK FLUID-SYSTEM SOLUTIONS PROVIDER

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Swagelok Pittsburgh | Tri-State Area
30 Meade Avenue, Pittsburgh, PA 15202
412-761-3212

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