

## OPTIMUM FLUID-SYSTEM SAFETY – BY DESIGN

To help you save substantial time, money, and worry as you attempt to get more done faster, more efficiently, and more profitably – especially as workers retire and resources dwindle – Swagelok Company, for more than 70 years, global leaders in premium-quality componentry and value-added strategic support services, advises:



**1) Never mix tube fittings from different manufacturers.** Bottom line: Not all products are made to the same exacting tolerances, so interchanging or intermixing brands can likely result in uneven performance, harmful emissions, costly leaks, increased maintenance labor, and even dangerous blowouts.

**2) Minimize opportunities for mistakes.** For starters, consider mounting detailed tags on your valuable equipment and hoses to inform workers what takes place within your system so that, when necessary, they can make safe adjustments. Also try color-coding handles, tubes, and pipes throughout your facility so your maintenance personnel know precisely which fluids and gases are involved and where. To prevent accidental actuation, add a lockout on your critical process valves.

**3) Choose the best components to match the job.** That is: Make certain you have a thorough understanding of your process conditions throughout your facility.

That way, you can most confidently select those product brands that will deliver not only superior performance for your applications – but maximum worker safety, too. We also highly suggest that you buy your parts from trusted partners via authorized channels.

**4) Remove complexity wherever possible.** One extremely effective way to dramatically improve maintenance efficiencies is to switch from threaded and/or welded piping runs to bendable tubing, greatly reducing potential leak points throughout your fluid system. Also count on suppliers who can consistently design and build instrumentation panels and enclosures, as well as simple assemblies – with all such fabrication work fully warranted.

**5) Carefully follow a manufacturer's installation instructions.** For example, if tube fittings are under-tightened, leakage and blowouts are likely to occur; if overtightened, the number of possible re-assemblies sharply decreases. Always make sure that your tubing

rests firmly on the shoulder of the fitting before tightening. And always check for tubing ovality, defects and scratches, as well as wall thickness extremes.

**6) Factor for machine vibration and motion in your system design.** Otherwise, you risk major damage to tubing and/or cause fittings to loosen and, thus, leak. Tube supports are an excellent guard against such a possibility during high-pressure applications. Hoses are your first choice when a flexible connection is required between moving and stationary equipment, a temporary connection or frequent disconnects involved, or when complete isolation is necessary from high-vibration machinery.

**7) Account for tubing hardness and material compatibility.** Always ensure that the metal tubing used is softer than the employed fittings. Pairing brass fittings with stainless steel tubing would yield a devastating result: The fittings would simply be too soft to effectively grip the tube, leading to major leakage and safety concerns.

## YOUR (NOW EVEN MORE) TRUSTED TECHNICAL RESOURCE

Swagelok Pittsburgh | Tri-State Area prides itself on our ability to help solve even your most extreme fluid-system challenges. Our Technical Sales Team includes **Gary Osman**, our Applications Engineer and a Swagelok Hose Advisor, who was recently certified by the International Fluid Power Society as a Fluid Power Specialist – with concentrations in Hydraulics and Pneumatics.

Gary, a Civil Engineering graduate of Penn State University, routinely answers your called-in or emailed technical questions, providing expert troubleshooting and/or product-selection advice to keep your fluid system performing safely and optimally. He's also available to visit your facility or project to determine first-hand how we can better enhance your worker productivity and efficiency.

In addition, Gary is your primary contact for our Custom Fabrication design and construction work, everything from simple assemblies to large, complex instrumentation panels.



## SWAGELOK ON DISPLAY



**Thanks to all who visited our booth – or attended our Hose Essentials or Tube-Bending Basics classes – during the recent Eastern Gas Compression Roundtable at the David L. Lawrence Convention Center in Pittsburgh. While there, we showcased our latest Swagelok product innovations and strategic support services, including Custom Fabrication, Technical Training, Tool Rentals, Energy Evaluations, and Hose Advisories....all capabilities ideally suited to significantly improve the safety and profitability of our local Midstream and Oil & Gas customers.**

**See you again there next year!**

# WORLD CLASS



So, how did Swagelok Pittsburgh | Tri-State Area's Strategic Services Specialist come to conduct our Swagelok Advanced Bending course for 15 Swagelok Malaysia-Indonesia Training and Fabrication associates...in Kuala Lumpur? One word: Collaboration, a critical Swagelok organizational behavior that makes each Swagelok Sales and Service Center your best choice to provide valuable local assistance and support around your fluid-system applications.

In this case, our **Mike Gagel** was asked by his Malaysian counterpart to visit for a week to demonstrate in person the key differences and advantages of the Swagelok tube-bending method versus those associated with a more common Measure-Bend practice.

All students, who also spent considerable time learning the intricacies of the Swagelok manual benchtop and electric benders from Mike, graduated fully confident on how to safely and precisely make custom and rolling offset and segmented bends, even difficult parallel tubing runs!



## THE ONE AND ONLY

Since 1947, the Swagelok Tube Fitting has proven unsurpassed for safe and reliable leak-tight performance, particularly in the most demanding fluid-handling applications and operating conditions. In fact, no other fitting maker can claim:

- more than **200** active fitting-related patents
- more than **40,000,000** tube fittings manufactured annually
- a proprietary two-ferrule design
- superior raw materials and metallurgical chemistry
- unrivaled manufacturing workforce, processes, and quality control standards
- a unique hinging-and-colleting action that grips, not bites, the tube
- an ultra-strong gas seal resulting from concentrated contact zones on the tube and body bevel
- exceptional bending, deflection, and vibration resistance due to ideal isolation of stress risers at the tube grip
- the most rigorous and continuous testing procedures in the global industry

Plus, our components are easy to install – no threading, flaring, soldering, brazing, or welding required...just your standard wrenches!



## SWAGELOK PITTSBURGH | TRI-STATE AREA ASSOCIATE PROFILE



### MEET MIKE KOSTER,

our Fabrication Center Manager. With some 40 years, including the past 18 with us, of applied practical Fabrication knowledge and experience, and fully certified in numerous Swagelok disciplines – Weld Examiner I, Activated Ball Valve Assembly, Relief Valve Setting, Fitting Installation, Tube Bending, Tube Coiling, and Orbital Welding – Mike brings an unprecedented and proven “build” expertise to our Custom Fabrication services. Residents of McCandless Township, he and Connie, his wife of 29 years, have four children and six grandsons, ages two through eight.

## CONTACT US

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