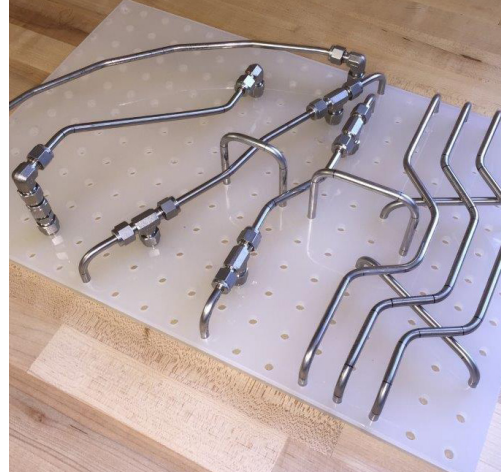


## Waste not. Want not.

Learn how to safely **and** properly bend tubing – to substantially reduce those large scrap piles that rob your overall profitability.



## Swagelok Pittsburgh | Tri-State Area offers Two Levels of Expert Tube Bending Training:



- Our one-day ***Tube Fitting Installation and Tube Bending Safety Essentials*** class includes a two-hour introductory segment that demonstrates how to assemble a tube fitting. Balance of day is then devoted to student mastering the use of a hand tube bender to make bends of 45°, 90°, 180°, and offsets. Time is also spent learning how to select, handle, prepare, cut, and debur tubing.
- Our four-day ***Advanced Tube Bending*** course is unparalleled for its width and breadth of timely content and hands-on activity. Students will learn how to:



- ...apply a traditional Measure-Mark-Bend Method
- ...apply Swagelok's unique Bending Method for ultimate accuracy
- ...calculate bend offset lengths
- ...calculate the minimum amount of tubing needed for back-to-back bends
- ...calculate the minimum distance needed between bends
- ...maintain spacing when making parallel tubing runs
- ...make tube runs without a drawing or template
- ...calculate and make rolling offset bends
- ...use hand and benchtop tube benders
- ...identify and avoid bend defects
- ...identify and address the potential variables encountered when bending
- ...make offset, rolling offset, parallel, complex, and segmented bends
- ...and so much more!



### Meet your instructor:

**MIKE GAGEL,**

*a 20-year Swagelok Company veteran,  
our Strategic Services Specialist, and  
certified tube-bending master.*

## WE SUPPLY...

**ALL** training materials for **ALL** classes; students simply need to show up at designated time and place.

We can come to your facility or project location to conduct instruction **OR** visit our leading-edge Training Center in Pittsburgh.

(It's not a prerequisite to first complete our ***Essentials*** course before enrolling in our ***Advanced Bending*** class.)



### EXTRA BENDING SUPPORT

We can also perform large-diameter, complex tube bending for you in our Fabrication Center **OR** we can come to your project site or facility to provide expert tube-bending technical assistance and guidance.



### From just a few recent graduates:

“Not only will I now save time and money when making bends, my work will look more professional.”

“The instructor took tube bending to another level.”

“Now I truly have the confidence to do any bending job given to me in our shop.”

**To stop creating waste and start improving personal and site efficiency and productivity, contact:**

**[rudy.frank@swagelok.com](mailto:rudy.frank@swagelok.com)**



WE CAN HELP YOU SAVE TIME, MONEY, AND WORRY:



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