

Swagelok Nuclear Capabilities

Engineered to Help You Perform

Swagelok understands the pressures you face. We can help you meet the immediate and long-term demands of the nuclear power industry. Safely. Reliably. Responsively. And with the knowledge that the products you choose are especially suited for your applications.

CONTINUE 

Our Quality & Reliability = Your Safety

Minimize risk by choosing Swagelok

We help you reduce workers' collective radiation doses and the cost impact of that exposure.

- Our dedication to quality and reliability leads to longer product life, reducing downtime
- Our products' ease of installation means you're up and running quicker
- Our focus on As Low As Reasonably Achievable or As Low As Reasonably Practicable (ALARA/ALARP) dose reduction protocols decreases workers' exposure times as well.

LEARN MORE ABOUT MINIMIZING RISK 

LEARN MORE ABOUT OUR CULTURE OF SAFETY AND INNOVATION 



Minimizing Risk

Risk can come in many forms – longer exposure of your workers to radiation, non-compliance with nuclear codes and standards, or discovering that the materials you're using aren't genuine.

Learn more about how Swagelok helps you minimize risk in your operations.

Dose
Reduction



Code
Compliance



CFSI



Culture of
Safety and
Innovation



Dose Reduction

The less your workers are exposed to radiation, the better. Swagelok products' ease of assembly and reliability, combined with our custom solutions reduce the amount of time workers spend assembling or making repairs in radioactive areas.

[LEARN MORE ABOUT EASE OF ASSEMBLY](#) ➤

[LEARN MORE ABOUT RELIABILITY](#) ➤

[LEARN MORE ABOUT CUSTOM SOLUTIONS](#) ➤



Dose Reduction Ease of Assembly

Swagelok products make connecting components easier with our unique tube fitting design and high-quality, repeatable orbital welding capabilities, helping workers get in and out fast.

SWAGELOK TUBE FITTINGS¹

83% **REDUCTION IN
EXPOSURE TIME**

Swagelok Tube Fitting Installation =
2 People
120 Minutes
240 Total Minutes

Manual Weld
(1 in. stainless steel socket weld) =
3 People
240 Minutes
720 Total Minutes

M200 ORBITAL WELD¹

77% **REDUCTION IN
EXPOSURE TIME**

M200 orbital weld =
3 people
55 minutes
165 total minutes

Manual weld
(1 in. stainless steel socket weld) =
3 people
240 minutes
720 total minutes



Dose Reduction Reliability

OVER 10,000 FITTINGS, AND NOT A SINGLE LEAK.

Not everyone can make such claims. Heat. Confined spaces. Gaseous environments. Chemical exposures. Steam hazards. Minimize your exposure to these risks and ensure material integrity by choosing Swagelok fittings over weld connections in your plant.

- Gas-tight seal
- Vibration resistance
- Reduction of leakage related to rapid thermal expansion or contraction

**IN A NUCLEAR PLANT
THERE CAN BE AS MANY AS**

22,000 **SWAGELOK
FITTINGS**

4,500 **SWAGELOK
VALVES**

250,000 **FEET OF
TUBING**



Dose Reduction Custom Solutions

Protect your onsite skilled workers from excessive exposure by working with Swagelok's Nuclear Services Group to develop ASME BPVC Section III, Class 1, 2, and 3 assemblies with proper documentation that provide turnkey assembly, rather than on-site connections. A custom assembly can reduce the number of on-site connections.

We can help:

- Speed the development of project specifications
- Minimize problem-solving time
- Reduce engineering costs by providing on-site engineering, technical support, and product compliance reviews.

LEARN MORE ABOUT EASE OF ASSEMBLY 

CUSTOM SOLUTIONS¹

75% **REDUCTION IN EXPOSURE TIME**
20 On-site tube fitting connections
5 On-site custom assembly connections



Swagelok

Swagelok

OPEN



Code Compliance

Many Swagelok components meet the nuclear industry codes and standards that you require, including:

- 10CFR50 Appendix B/10CFR21
- ASME Section III—N, NPT, NA
- ASME B16.34, B31.1, QME-1
- ASME NQA-1, ANSI N45.2 and daughter standards
- CSA Z299
- ISO 9001: 2008
- MSS-SP Documents for Valve Manufacturing & Testing
- HAF604 (China), CSA N285 (Canada), RCC-M (France)
- Inspecta (Europe)
- Vd TÜV, European Pressure Equipment Directive (PED)
- METI/KHK
- NUPIC Preferred Supplier List
- F4N Fit for Nuclear certification

Our work with NUPIC, EFCOG, and NIAC ensures our place on nuclear industry preferred supplier lists.



CFSI

Protection against counterfeit, fraudulent, and suspect items (CFSI)

Immediate and potential threats to the safety of your workers, plant performance, the public, and the environment can be the result of using counterfeit, fraudulent, or suspect items. Our culture of quality helps you guard against CFSI. In addition to our quality controls, Swagelok Associates receive annual training on CFSI detection, prevention, and control.

LEARN MORE ABOUT CFSI 




CFSI

Counterfeit Items are intentionally manufactured or altered to imitate a legitimate product.

Fraudulent Items are Intentionally misrepresented with intent to deceive the purchaser. Fraudulent items can have these characteristics:

- Incorrect identification
- Falsified certification information
- Used items sold as new

Suspect Items are those items suspected of being counterfeit or fraudulent.

LEARN MORE ABOUT CFSI 




Swagelok Helps You Avoid CFSI

- Fully traceable supply chain ensures you receive what you ordered, confirmed by product markings and documentation
- Proven quality, backed by our limited lifetime warranty

LEARN MORE ABOUT PROCUREMENT CONTROLS 

LEARN MORE ABOUT ACCEPTANCE OF ITEMS 

LEARN MORE ABOUT SUPPLIER APPROVAL 

LEARN MORE ABOUT RAW MATERIAL SELECTION 



CFSI Procurement Controls

Material bar stock is inspected to ensure compliance.

- Procurement from melting mill
- Engineering-approved specifications for all raw materials, services, and components
- Material Master defines all referenced specifications and drawings with revision level
- Swagelok supplies raw material to component suppliers



CFSI

Acceptance of Items

Swagelok checks for indicators of CFSI in the materials and parts we purchase.

- Altered manufacturer's name, logo, serial number, or date markings
- Items differing in configuration, dimensions, fit, finish, or color
- Missing, unusual, or altered markings on items or documentation
- Items from country different than that of supplier
- Item lacks traceability
- Items sold as new exhibit evidence of prior use
- Performance inconsistent with specifications, certifications, or test data



CFSI Supplier Approval

Swagelok conducts on-site audits of critical suppliers and sub-suppliers every three years.

- Ongoing audits of key performance factors
- Preferred supplier profile for quality, delivery performance, flexibility, and technical capabilities



CFSI Raw Material Selection

Swagelok evaluates all incoming raw material for quality.

- Selection of forgings and bar stock for pressure retaining items
- 100% ultrasonic examination
- Random sampling for independent lab testing
- ISO 17025 accredited lab
- 10CFR50 Appendix B quality program



Culture of Safety and Innovation

Culture of Safety

Swagelok has been dedicated to safety since our inception in 1947. Every associate owns safety, starting on the manufacturing floor.

Our employees are constantly looking for safety risks and are empowered to point out safety infractions to anyone, no matter their position.

Here's a look at our history:

- Late 1950s Launched Nupro® bellows valve for nuclear
- Late 1960s Began providing fittings to the nuclear industry
- 1981 Received ASME Quality System Certificates
- 2002 Received ASME N and NPT Certification
- 2011 Received ASME NA Certification

LEARN ABOUT CULTURE OF INNOVATION 



Culture of Safety and Innovation

Culture of Innovation

We maintain an environment where innovation is encouraged, from improving efficiency to enhancing human factors.

Continuous improvement: Lean and Six Sigma events continuously seek to optimize our processes for efficiency.

Training: We continually educate our workforce so that we can perform our duties in a reliable, safe manner.

Innovation: Our culture of innovation has led to advancements in ergonomic approaches to manufacturing that maximize human capital.



We're Nearby, No Matter Where You Are

Globally, more than 200 authorized Swagelok sales and service centers are fully staffed to suit your needs, from inventory management and on site warehousing to ensure product availability, to on site, in-depth technical assistance, to emergency deliveries and equipment sales and rentals.

Your local Swagelok representative works with you to provide you with the right level of Swagelok resources for an optimized solution to your unique needs.



● Countries where Swagelok has sold into the nuclear industry



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¹Because of stringent requirements in nuclear power plants, even a seemingly simple task like making a weld requires extended time and greater numbers of personnel to ensure proper setup and inspection. Swagelok helps minimize worker exposure with improved processes over those of traditional installations. Note that the times shown include all required setup and inspection times. Your actual installation times may vary, depending on your specific application.

