

TECHNICAL STANDARDS & SAFETY AUTHORITY  
345 CARLINGVIEW DRIVE  
TORONTO ON M9W 6N9

**Date:** June 30, 2021  
**Account #:** 35231  
**Journal #:** 78197

**Attn:** TSSA

**Re:** Application for Design Registration

The design, as detailed in your, 0A23291.5 - SWAGELOK COMPANY, for a Fitting is accepted for registration as follows:

**Registered To:** SWAGELOK COMPANY                      **CRN:** 0A23291.51

**Drawing #:** Attachments A AND B

This design was registered based on a technical review performed by the province of initial registration in accordance with the Association of Chief Inspectors policy on reciprocal recognition of design review.

**Reviewer's Notes:**

As required by CSA B51 4.2.1, this registration expires on 01-Jun-2031. This CRN is valid until the expiry date as long as the Manufacturer maintains a valid quality control program verified by an acceptable third-party agency until that date. Should the certification of the quality control program lapse before the expiry date, this registration shall become void. Any additional conditions of registration stated in TSSA CRN# 0A23291.5 registration shall apply to BC registration.

Contact me if you have any questions. The invoice for registration will be forwarded under separate cover.

Janina Mihailescu

janina.mihailescu@technicalsaftybc.ca  
Design Administration

**cc:**



Technical Standards and Safety Authority  
345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
www.tssa.org

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

Swagelok

### STATUTORY DECLARATION Registration of Fittings

I, Joel Feldman, Vice President of Engineering  
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of Swagelok Company  
(Name of Manufacturer)

Located at 29500 Solon Road, Solon, Ohio 44139 USA (440) 248-4600 (440) 349-5970  
(Plant Address) (Telephone No.) (Fax No.)

do solemnly declare that the fittings listed hereunder, which are subject to the *Technical Standards and Safety Act*, Boilers and Pressure Vessels Regulation, comply with all of the requirements of ASME B31.1 for unlisted components, and ASME B31.3 for unlisted components  
(Title of recognized North American Standard)  
which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of ISO 9001:2015 which has been verified by the following authority, BSI

The items covered by this declaration, for which I seek registration, are category A. Fitting type fittings. In support of this application, the following information and/or test data are attached as follows:

ISO 9001:2015 Certificate, Attachment A, Attachment B, Catalog Information and other Support Documents  
(drawings, calculations, test reports, etc.)

Declared before me at \_\_\_\_\_ in the \_\_\_\_\_ of \_\_\_\_\_  
the \_\_\_\_\_ day of \_\_\_\_\_ AD 20\_\_\_\_\_.

Commissioner for Oaths:

**Unable to get a notary signature or seal due to COVID-19 situation**  
(Printed name)

(Signature)

DocuSigned by:

4/2/2021 | 8:11 AM EDT

C87CBBFFD3F14B7  
(Signature of Declarer)

#### FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the *Technical Standards and Safety Act*, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category A.

CRN: 0A23291.5

Registered by: LILIANA CONSTANTINESCU

Dated: JUNE 1, 2021

NOTE: This registration expires on: JUNE 1, 2031



This Document has been digitally signed. The stamp size has been optimized for 11 x 17 documents

Technical Standards and Safety Authority  
Boilers and Pressure Vessels Safety Program

REGISTERED

C.R.N.: 0A23291.5

Signed: ll

Date: June 1, 2021.



## Attachment B. Scope of Registration for Swagelok Alloy 825 (ASTM B425 UNS N08825) Tube Fittings (Category A)

This document presents the scope of Swagelok Nickel-Chromium Alloy 825 Tube Fittings covered by this submission for CRN approval. These fittings have been evaluated in accordance with ASME B31.1-2020 and ASME B31.3-2018 for unlisted components.

The fittings rating is based on the lower rating between the type of end connections.

### Summary Table

Product Description or Series	Material (Standard)	Port Connections and Sizes	Maximum Allowable Working Pressure			Design Code of Construction
			Up to 100°F (psig)	At maximum temperature per ASME B31.3 (psig)	At maximum temperature per ASME B31.1 (psig)	
Gaugeable Tube Fittings and Adapter Fittings	Alloy 825, UNS N08825 (ASTM B425) For straight fittings, hardware	Tube Fitting 1/4 - 1/2 inch, 6 - 12mm	See Table below	See Table below	See Table below	Unlisted Component in ASME B31.1 & B31.1
	Alloy 825, UNS N08825 (ASTM B564) For shaped fittings	NPT, Male 1/16 - 1 inch	11 600 - 6100	11 449 – 6021* at 800°F (426°C)	8468 - 4453* at 800°F (426°C)	ASME B1.20.1 is listed in ASME B31.1 & B31.3
		NPT, Female 1/16 - 1 inch	7800 - 5100	7699 - 5034* at 800°F (426°C)	5694 - 3723* at 800°F (426°C)	

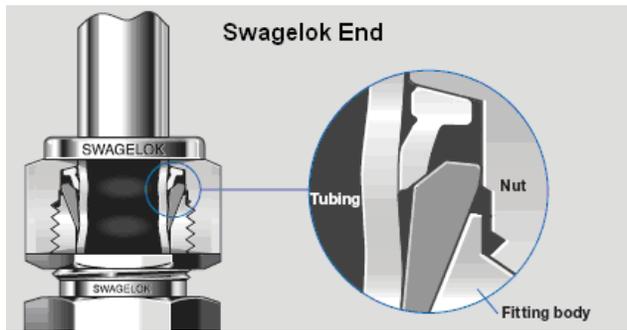
*\*\*Rating for fitting material (may be limited by thread sealant)*

### Alloy 825 Swagelok Tube Fitting Pressure Rating Tables

Swagelok End Connection Size	Maximum Allowable Working Pressure		
	Up to 100°F	At maximum temp. 800°F (426°C) per ASME B31.3	At maximum temp. 800°F (426°C) per ASME B31.1
1/4 inch	11600 psig	11 449 psig	8468 psig
3/8 inch	8200 psig	8093 psig	5986 psig
1/2 inch	5900 psig	5823 psig	4307 psig
6 mm	660 bar	651 bar	482 bar
10 mm	480 bar	474 bar	350 bar
12 mm	480 bar	474 bar	350 bar

## Product Description

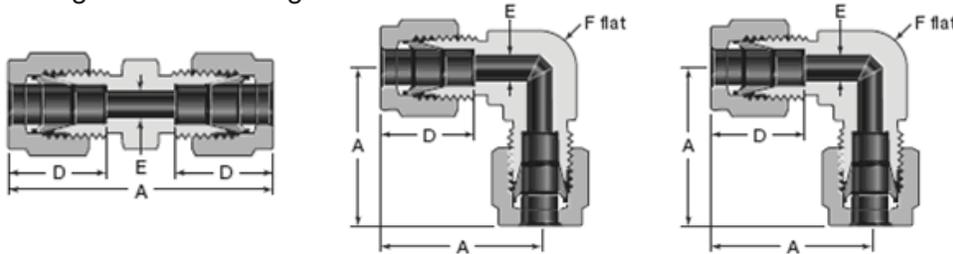
Swagelok Fittings are furnished in a variety of configurations and shapes (straight, elbow, or tee). Swagelok Fittings consist of at least one Swagelok End – a two-ferrule mechanical-grip design. The Swagelok end is a proprietary design, and the assembly consists of Swagelok body, nut, front and back ferrule (see detail). The table above, as well as the “Configurations” section, covers a variety of other end connections.



## Configurations

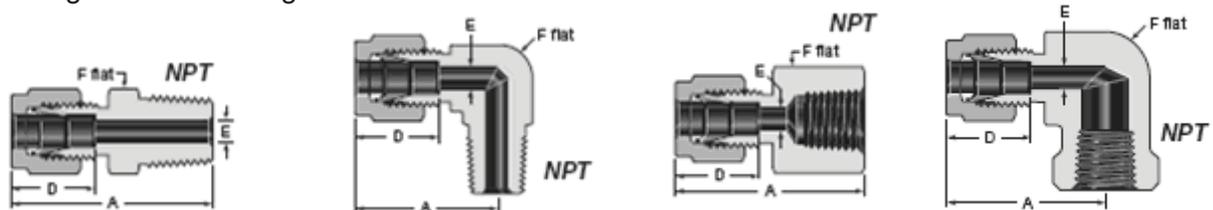
### 1. Unions (Straight, Elbow, Tee)

Swagelok Tube Fitting End Connections



### 2. Male and Female Connectors / Adapters (Straight, Elbow, Tee)

Swagelok Tube Fitting End Connection to an NPT End Connection



**Swagelok to NPT Male Connectors**

**Swagelok to NPT Female Connectors**

(For dimensions see catalog.)



### **Product Options:**

The product options listed below affect pressure and/or temperature ratings shown in the above Summary Table, but in all cases the ratings are less than, or equal to, those shown in the table.

1. Bored-Through Fittings.
2. Sealant for tapered pipe threads (NPT):
  - a. Curable resin with PTFE
  - b. PTFE tape

Additional options that do not affect pressure and/or temperature ratings may be made available within the scope of this approval. Examples of these would include the following:

1. Special marking
2. Special cleaning
3. Wire drills
4. Bulkhead Configurations
5. Snubbers/frits and orifice plates
6. Equivalent metric or fractional hex sizes

All the above options, those that affect pressure and/or temperature ratings and those that do not, are within the scope of this approval.

### **Quality System**

The Swagelok Company quality system complies with the requirements of ISO 9001:2015. The Swagelok Company maintains BSI Certificate of Registration Number FM 01729, which applies to all locations listed on the Certificate.

### **References**

The product catalog does not represent the full scope of the registration but rather details some of the most common options.

- Gaugeable Tube Fittings and Adapter Fittings MS-01-140, Rev AE
- Swagelok Tubing Data Sheet MS-01-107, Rev T

## Attachment A. Swagelok Manufacturing Locations

This document lists the Swagelok locations where end item or component level manufacturing activities take place.

Swagelok Company 29500 Solon Road Solon, Ohio 44139 USA	Swagelok Company (Falon 1) 348 Bishop Road Highland Heights, Ohio 44143 USA
Swagelok Company (Highland) 318 Bishop Road Highland Heights, Ohio 44143 USA	Swagelok Company (Falon 2) 358 Bishop Road Highland Heights, Ohio 44143 USA
Swagelok Company (OFC) 29495 F.A. Lennon Drive Solon, Ohio 44139 USA	Swagelok Company (HPF) 6050 Cochran Road Solon, Ohio 44139 USA
Swagelok Company (Atlantic) 26651 Curtiss Wright Parkway Willoughby Hills, Ohio 44092 USA	Swagelok Company (Snow Metal) 6060 Cochran Road Solon, Ohio 44139 USA
Swagelok Company (Micro) 26653 Curtiss Wright Parkway Willoughby Hills, Ohio 44092 USA	Swagelok Company (Alfred) 29500 Ambina Drive Solon, Ohio 44139
Swagelok Hose Services Company (SHSC) 29900 Solon Industrial Parkway Solon, Ohio 44139	Swagelok Company (Strongsville) 15400 Foltz Road Strongsville, Ohio 44119
Swagelok (China) Fluid System Technologies Ltd. Changshu Export Process Zone Changshu Economic Development Zone Changshu, Jiangshu 215513 China	Swagelok Limited Ballafletcher Road Tromode IM4 4RA Isle of Man