



TSSA
345 CARLINGVIEW DRIVE
Toronto ON, M9W 6N9

Dear Joanna Karpinski
Re: Reciprocal CRN Registration in Manitoba

Your application indicates that a CRN has been received in another Canadian Jurisdiction, and therefore your CRN has been registered in Manitoba as follows:

File Number: 74-R147
CRN: 0A21661.54
Scope: As per scope of registration
Manufacturer: SWAGELOK COMPANY

Please find attached invoice for registration.

As indicated by the Regulatory Reconciliation and Cooperation Table and the Reconciliation Agreement for the Canadian Registration Number (CRN) for Pressure Equipment, a CRN issued in any Canadian Jurisdiction will be accepted for use in Manitoba.

In accordance with Steam and Pressure Plants Regulation and CSA B51, it is the manufacturer's responsibility to file a Manufacturers Data Report, including partial data reports, with our office, prior to shipping pressure equipment to Manitoba.

Please contact me directly via email at Cheryl.Lashek@gov.mb.ca for any questions or concerns.

Cheryl Lashek, P.Eng
Director, ITSM
Inspection and Technical Services
Office of the Fire Commissioner
508 - 401 York Avenue, Winnipeg Manitoba R3C 0P8
T (204) 945-3507 | F (204) 948-2309



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 Solon in the state of Ohio
 the 18th day of July AD 2019.

Commissioner for Oaths:

Brenda Hammel
(Printed name)
Brenda Hammel
(Signature)

Joel C. Feldman
(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

Boilers and Pressure Vessels Safety Program

REGISTERED

C.R.N.: 0A21661.5

Signed: [Signature]

Date: August 2, 2019

CRN: 0A21661.5

Registered by: [Signature]

Dated: August 2, 2019

NOTE: This registration expires on: August 2, 2029

*Information provided in this application is releasable under the Freedom of Information and Privacy Protection Act and may be disclosed upon request.

For scope of registration see attached documents A and B.

Attachment B. Scope of Registration for Swagelok Carbon Steel Tube Fittings (Category A)

This document represents the scope of Swagelok Carbon Steel Tube Fittings covered by this submission for CRN approval. These Swagelok Tube Fittings have been evaluated in accordance with ASME B31.1-2016 for unlisted components and ASME B31.3-2016 for unlisted components.

Summary Table

| Product Description or Series | Body Material (Standard) | Port Connections and Sizes | Maximum Allowable Working Pressure | | Design Code of Construction | |
|--|--|---|------------------------------------|--|--|---|
| | | | Up to 100°F | At maximum temperature 375°F (190°C) | | |
| Gaugeable Tube Fittings and Adapter Fittings | Straight fittings: 11L37 Carbon Steel (ASTM A108) or 12L14 Carbon Steel (ASTM A108) Shaped fittings: 1137 Carbon Steel Forging (ASTM A181) or 1035 Carbon Steel Forging (ASTM A105) | Swagelok End Connection 1/8 - 2 inch (Fractional) 6mm - 38mm (Metric) | See Table on Page 2 | See Table on Page 2 | ASME B31.3 (Unlisted Components) ASME B31.1 (Unlisted Components) | |
| | | NPT Male 1/16 - 2 inch | ASME B31.3 | 11000 - 3900 psig | 9570 - 3390 psig | Based on ASME B1.20.1 listed in Table 326.1 of B31.3 and Table 126.1 of B31.1 |
| | | | ASME B31.1 | 8250 - 2920 psig | 7180 - 2540 psig | |
| | | NPT Female 1/16 - 2 inch | ASME B31.3 | 6700 - 3900 psig | 5830 - 3390 psig | |
| | | | ASME B31.1 | 5020 - 2920 psig | 4370 - 2540 psig | |
| | | ISO/BSP (parallel) PR Male 1/8 - 1 inch | | 4568 - 2320 psig* | 4568 - 2320 psig @150° (65°C) | ASME B31.3 (Unlisted Components) ASME B31.1 (Unlisted Components) |
| | | ISO/BSP (parallel) RS Male 1/8-1 inch | | 5800-4700 psig with FKM bonded gasket* | 5800-4700 psig with FKM bonded gasket* | |
| | | ISO/BSP (parallel) RG Female 1/4 - 1/2 inch | | 4036 psig with copper gasket* | 4036 psig with copper gasket* | |
| | | ISO-7 (tapered)(RT) Male 1/8 - 2 inch | ASME B31.3 | 11000 - 3900 psig | 9570 - 3390 psig | |
| | | | ASME B31.1 | 8250 - 2920 psig | 7180 - 2540 psig | |
| | | ISO-7 (tapered)(RT) Female 1/8-2 inch | ASME B31.3 | 6700 - 3900 psig | 5830 - 3390 psig | |
| | | | ASME B31.1 | 5020 - 2920 psig | 4370 - 2540 psig | |
| | | UN / UNF(SAE) Stud (ST) 1/8 - 2 inch | | 4568 - 1813 psig* | 4568 - 1813 psig | |
| | | UN / UNF (SAE) Pos. (ST) Male 1/4 - 2 inch | | 4568 - 1450 psig* | 4568 - 1450 psig | |
| | | Unified (UNJ) (AN) Male Straight 1/8 - 1 inch | | 5000 - 3000 psig | 5000 - 3000 psig | |
| | | Unified (UNJ) (AN) Male Shape 1/8 - 1 inch | | 5000 - 3000 psig | 5000 - 3000 psig | |
| | | Unified (UNJ) (AN) Female w/ Swivel Nut 1/4 - 1 inch | | 4500 - 2500 psig | 3900 - 2200 psig | |

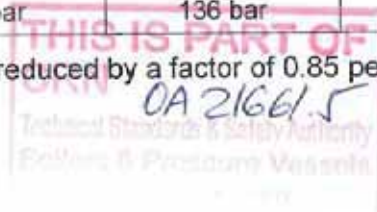
*Pressure rating is gasket-dependent.



Carbon Steel Swagelok Tube Fitting Pressure Rating Table

| Swagelok End Connection Size | Maximum Allowable Working Pressure per ASTM B31.3 | | Maximum Allowable Working Pressure per ASTM B31.1 (1) | |
|------------------------------|---|--------------------------------------|---|--------------------------------------|
| | Up to 100°F | At maximum temperature 375°F (190°C) | Up to 100°F | At maximum temperature 375°F (190°C) |
| 1/8 inch | 10 200 psig | 8 874 psig | 8 670 psig | 7 543 psig |
| 3/16 inch | 5 100 psig | 4 437 psig | 4 335 psig | 3 771 psig |
| 1/4 inch | 4 800 psig | 4 176 psig | 4 080 psig | 3 550 psig |
| 5/16 inch | 5 500 psig | 4 785 psig | 4 675 psig | 4 067 psig |
| 3/8 inch | 4 500 psig | 3 915 psig | 3 825 psig | 3 328 psig |
| 1/2 inch | 5 900 psig | 5 133 psig | 5 015 psig | 4 363 psig |
| 5/8 inch | 5 300 psig | 4 611 psig | 4 505 psig | 3 919 psig |
| 3/4 inch | 4 300 psig | 3 741 psig | 3 665 psig | 3 180 psig |
| 7/8 inch | 3 700 psig | 3 219 psig | 3 145 psig | 2 736 psig |
| 1 inch | 2 700 psig | 2 349 psig | 2 295 psig | 1 997 psig |
| 1 1/4 inch | 3 200 psig | 2 784 psig | 2 720 psig | 2 366 psig |
| 1 1/2 inch | 3 300 psig | 2 871 psig | 2 805 psig | 2 440 psig |
| 2 inch | 3 000 psig | 2 610 psig | 2 550 psig | 2 218 psig |
| 6 mm | 370 bar | 322 bar | 315 bar | 274 bar |
| 8 mm | 330 bar | 287 bar | 281 bar | 244 bar |
| 10 mm | 330 bar | 287 bar | 281 bar | 244 bar |
| 12 mm | 420 bar | 365 bar | 357 bar | 311 bar |
| 14 mm | 350 bar | 305 bar | 298 bar | 259 bar |
| 15 mm | 330 bar | 287 bar | 281 bar | 244 bar |
| 16 mm | 350 bar | 305 bar | 298 bar | 259 bar |
| 18 mm | 270 bar | 235 bar | 230 bar | 200 bar |
| 20 mm | 270 bar | 235 bar | 230 bar | 200 bar |
| 22 mm | 240 bar | 209 bar | 204 bar | 178 bar |
| 25 mm | 180 bar | 157 bar | 153 bar | 133 bar |
| 28 mm | 160 bar | 139 bar | 136 bar | 118 bar |
| 30 mm | 150 bar | 130 bar | 127 bar | 110 bar |
| 32 mm | 160 bar | 139 bar | 136 bar | 118 bar |
| 38 mm | 160 bar | 139 bar | 136 bar | 118 bar |

Note (1): Working pressures for ASME B31.1 are reduced by a factor of 0.85 per the Swagelok Tubing Data publication MS-01-107.



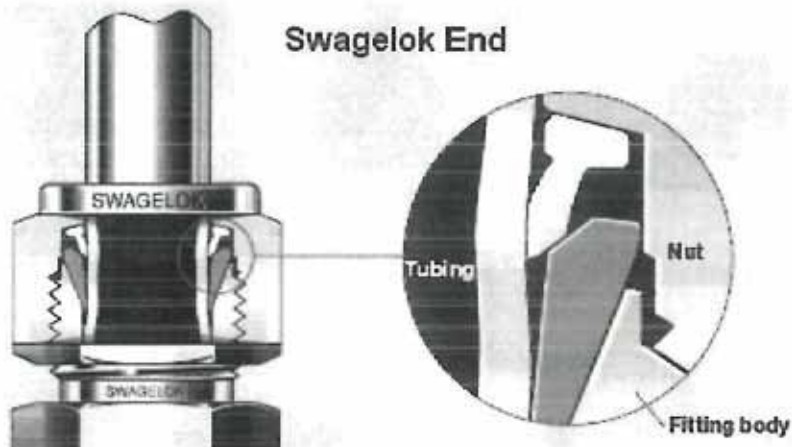
Swagelok

Canadian Registration Number Submittal #S-TUBEFIT-2019
Category A: Swagelok Carbon Steel Tube Fittings

Date: June 18, 2019
Page 3 of 6

Product Description

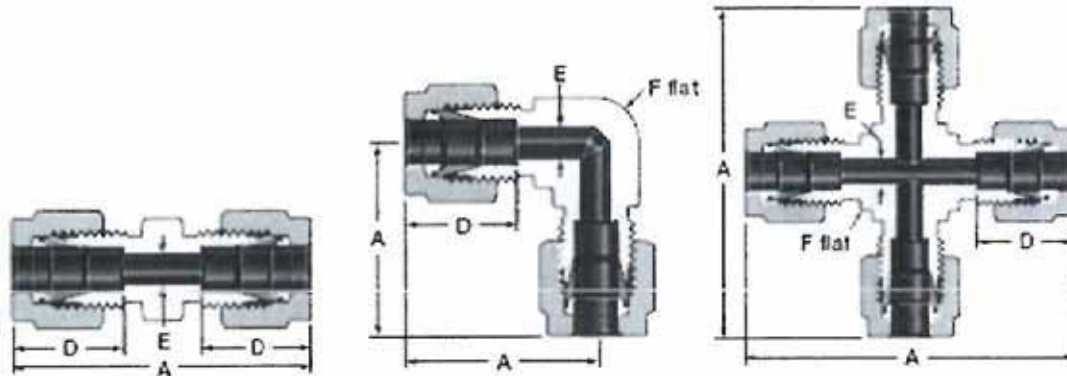
Swagelok Fittings are furnished in a variety of configurations and shapes (straight, elbow, tee or cross). Swagelok Fittings consist of at least one Swagelok End – a two-ferrule mechanical-grip design. The Swagelok end is a proprietary design, and the assembly consists of Swagelok body, nut, front and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



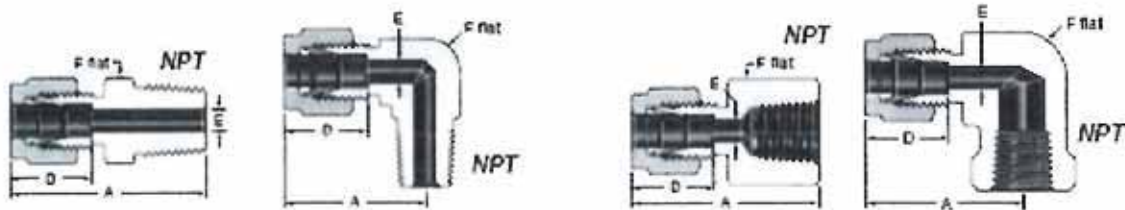
THIS IS PART OF
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Technical Standards & Safety Authority
Pipes & Pressure Vessels
Safety Program

Configurations

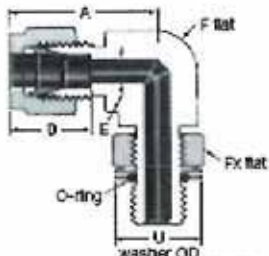
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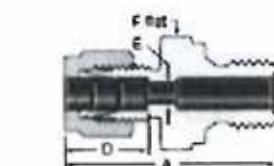
2. Male and Female connectors / adapters.



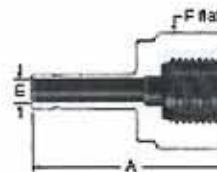
NPT Male Connectors



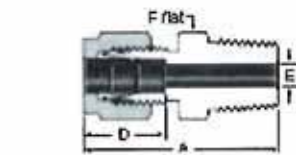
Positionable, ISO/BSP Parallel Thread (PR)



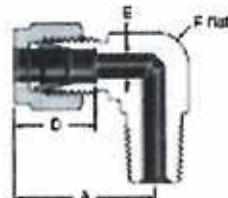
ISO/BSP Parallel Thread (RS)



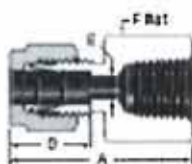
ISO/BSP Parallel Thread (RG, Gauge)



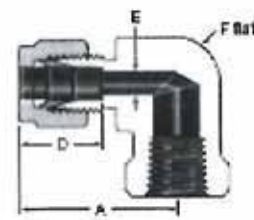
ISO/BSP Tapered Thread (RT)



ISO/BSP Tapered Thread (RT)



ISO/BSP Tapered Female Thread (RT)



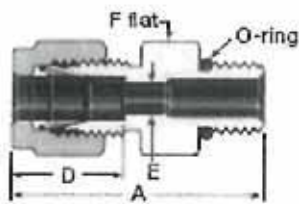
ISO/BSP Tapered Female Thread (RT)

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 Technical Standards & Safety Authority
 Rollers & Pressure Vessels
 Safety Program

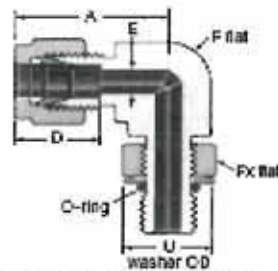
Swagelok

Canadian Registration Number Submittal #S-TUBEFIT-2019
Category A: Swagelok Carbon Steel Tube Fittings

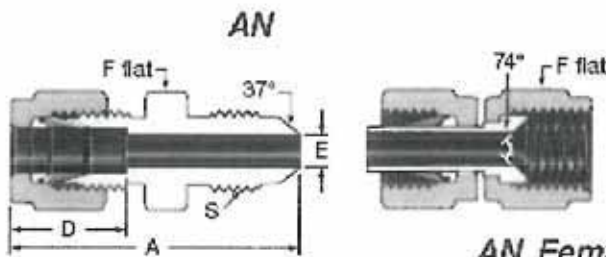
Date: June 18, 2019
Page 5 of 6



SAE/MS Straight Thread Stud (ST)

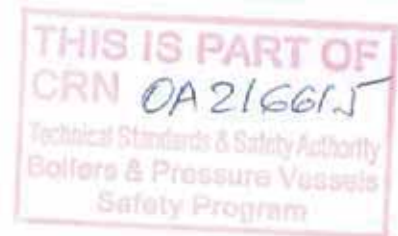


Positionable, SAE/MS Straight Thread (ST)



AN Female

(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 those shown in the table.

1. Swagelok Bored-Trough Fittings.
2. RS gaskets:
 - a. Bonded metal-and-elastomer
 - b. Non-bonded stainless steel
 - c. Copper
3. RG gaskets:
 - a. Copper
 - b. Nickel
 - c. PTFE
4. The tapered pipe threads (NPT and ISO-7) sealants.
 - 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

Other options, not shown above, with pressure/temperature ratings equal to or less than shown in the Summary Table or do not affect pressure/temperature ratings, 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 Y
- Swagelok Tubing Data Sheet MS-01-107, Rev N



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 Company A.G. (European Technology Center) St. GallerstraBe 84 Lachen, Switzerland 8853 Switzerland |
| Swagelok Limited Ballafletcher Road Tromode IM4 4RA Isle of Man | |

