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TECHNICAL STANDARDS & SAFETY AUTHORITY
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3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4

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, David H. Peace, 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 44139-3492 (Plant Address) (440) 248-4600 (Telephone No.) 440-519-7384 (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 B31.3 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 9001:2008 which has been verified by the following authority, The British Standards Institution.

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

ISO 9001:2008 Certificate, Catalog Information, Support Documents, Attachment C

(drawings, calculations, test reports, etc.)

Declared before me at Solon in the State of Ohio
the 7 day of September AD 2016.

Commissioner for Oaths:

LORI A. SARVER
(Printed name)
Lori A. Sarver
(Signature)



Lori A. Sarver
Resident Summit County
Notary Public, State of Ohio
My Commission Expires: 04/13/2020

[Signature]
(Signature of Declarer)

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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 C.

CRN: OC18853.5

Registered by: Leliana Constantinescu

Dated: October 17, 2016

NOTE: This registration expires on: October 17, 2026



scope of registration: See attached stamped attachment A and C

Attachment C. Scope of Registration for Swagelok SK Series Ball Valves (Category C)

Product Scope

This document represents the scope of Swagelok SK Series Ball Valves covered by this submission for CRN approval. The Swagelok SK Series Ball Valves were designed and evaluated in accordance with ASME B31.3 for unlisted components.

Summary Table

Product Description or Series	Main Pressure Bearing Component	Material	Port Connections and Sizes	Maximum Allowable Working Pressure (psig)		Design Code of Construction
				At 0 to 250°F	At 302°F	
4SK	Body	316 SS ASTM A479	Swagelok Tube Fitting: ¼ in., 3/8 in., 6 mm, 8 mm Female NPT: ¼ in. Female ISO: ¼ in. Male NPT: ¼ in. Male VCO Fitting: ¼ in. Female SAE/MS: ¼ in.	6000	3000	ASME B31.3 (Unlisted Components)

Product Illustration



Typical Product Characteristics:

Some of the product options listed below affect the pressure-temperature ratings shown in the Summary Table, but in all cases the ratings are less than those shown in the Summary Table. All of the following options are within the scope of this registration:

O-Ring Material Options: Low-temperature fluorocarbon FKM, Buna C, Ethylene Propylene, Kalrez, Silicone

Some of the product options listed below do not affect the pressure-temperature ratings shown in the Summary Table. All of the following options are within the scope of this registration:

PTFE-Coated Stainless Steel Ball
Directional and Oval Handles in Various Colors
Handle Locking Brackets
Latch Lock Handles
Pneumatic Actuators
Special Cleaning

Quality System

The Swagelok Company quality system complies with the requirements of BS EN ISO 9001:2008. The Swagelok Company maintains British Standards Institution Certificate of Registration Number FM 01729, which applies to all locations listed on the Certificate. The Swagelok SK Series Valves are manufactured at a Swagelok Company location in Solon, Ohio.

References

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

- Multipurpose Ball Valves, MS-02-345

Relevant Updates to the 2007 SK Series Valves CRN Application

Attachment C. Scope of Registration for Swagelok SK Series Ball Valves (Category C)

- 1.) A minimum temperature rating was added to scope.
- 2.) The product pressure rating is listed as 3000 psi at a maximum temperature of 302°F.
 - a. The 2007 Attachment C scope document did not provide the maximum pressure at the maximum temperature (302°F).
 - b. The 2007 Pressure Code Compliance summary listed a 6000 psi pressure rating at 302°F. This was consistent with the stress calculations and the burst tests.

The Pressure Code Compliance Summary

- 1.) 316 Stainless Steel annealed bar material is now a listed material in ASME B31.3 (Table A-1) and it is not de-rated at 300°F.
 - a. In 2007, 316 Stainless Steel annealed bar was an unlisted material for ASME B31.3. Pressure calculations were done based on material stresses from ASME B31.1. Per B31.1, 316 Stainless Steel annealed bar is de-rated at 302°F (from 20 ksi to 15.6 ksi).
 - b. In sum: The 2007 pressure calculations based on ASME B31.1 are more conservative than if calculated based on current values in ASME B31.3.

Product Test Report PTR-1330

- 1.) A temperature derating factor would not be applied for 316 Stainless Steel annealed bar material. Therefore, the actual burst pressures attained indicate an even greater product safety factor.

