Standard Cleaning and Packaging (SC-10)
Specification SCS-00010 Revision B

Scope
Swagelok® Specification SC-10 defines the cleaning, lubrication, assembly, and packaging requirements for standard Swagelok products and describes the practices used to meet these requirements.
SC-10 covers basic industrial procedures. The system designer and user should review this specification to determine whether it meets the user’s cleaning needs.

Specification Requirements
Internal wetted surfaces shall be cleaned to remove loose particles larger than 1/32 in. × 1/16 in. and visible cutting oils that typically remain on products and components following industrial manufacturing processes to ASME NQA-1 Subpart 2.1 cleanliness class B.
Products that are aqueously cleaned use a final rinse water quality meeting the classification of “fresh water” per ASME NQA-1 Subpart 2.1 table 304.1. The water quality meet limits of:
- pH at 25°C (77°F) 6.5 to 8.5
- Chloride less than 250 ppm
- Fluoride less than 2 ppm
- Sulfate less than 250 ppm
- Total dissolved solids Less than 500 ppm
Assembled products shall be lubricated as required by product specifications.
Finished products shall be packaged and boxed for protection during shipment and storage. Packages shall be marked for identification.

Cleaning Practice
Components are cleaned to remove oil, grease, and loose particles. Carbon steel components are protected from atmospheric corrosion by plating, a conversion coating, or a light oil film. Brass components may be bright dipped to inhibit tarnish of exterior surfaces. Aluminum components may be anodized.
Cleaned components are packaged to protect them from damage during storage.

Lubrication, Assembly, and Testing Practice
Lubricants and coatings are applied to threads, mating surfaces, O-rings, and seals, in accordance with individual product specifications, to prevent galling, reduce friction, and ensure proper sealing. Lubricants and coatings are hydrocarbon or halocarbon-based compounds or silicones and may contain inorganic additives or leachable halogens.
Products are assembled from cleaned components in a clean, well-lighted area.
Unless otherwise required, production tests are performed by internally pressurizing with clean, dry air, nitrogen, or helium as required by product specifications. Liquid leak detectors are applied to exterior surfaces and dried after testing is complete.

Packaging Practice
Finished products are packaged to protect them from contamination and damage during shipping and storage.
Standard quantities of products are packed in cardboard boxes with suitable protective material.
Boxes are identified with the part number, quantity, and traceability information.
Products are packaged in accordance with ASME NQA-1 Subpart 2.2 Level B, except that certain container marking requirements are not met in all instances due to the size and configuration of Swagelok products and packaging.
Products typically do not require protection from water vapor, salt air, dust, dirt, or condensation.
Openings may be sealed by caps, plugs, bags, or the box used to protect the product.
Threads and weld ends are protected from damage.

Referenced Document
ASME NQA-1 Quality Assurance Requirements for Nuclear Facility Applications
**Introduction**

Since 1947, Swagelok has designed, developed, and manufactured high-quality, general-purpose and specialty fluid system products to meet the evolving needs of global industries. Our focus is on understanding our customers’ needs, finding timely solutions, and adding value with our products and services.

We are pleased to provide this global edition of the book-bound *Swagelok Product Catalog*, which compiles more than 100 separate product catalogs, technical bulletins, and reference documents into one convenient, easy-to-use volume. Each product catalog is up to date at the time of printing, with its revision number shown on the last page of the individual catalog. Subsequent revisions will supersede the printed version and will be posted on the Swagelok website and in the Swagelok electronic Desktop Technical Reference (eDTR) tool.

For more information, visit your Swagelok website or contact your authorized Swagelok sales and service representative.

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**Warranty Information**

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.

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**Safe Product Selection**

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

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**Caution: Do not mix or interchange parts with those of other manufacturers.**