

Standard Cleaning and Packaging (SC-10)

Specification SCS-00010 Revision C

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