Product Test Report

PTR-3587

Swagelok Company
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TITLE
Corrosion Test of Swagelok® Snoop® Liquid Leak Detector

PRODUCT TESTED
Snoop Liquid Leak Detector

PURPOSE
This product was tested under laboratory conditions to observe any evidence of corrosion due the application of Snoop as compared to deionized water on the following materials:

1. Copper, conforming to ASTM B152
2. Aluminum alloy 2024
3. Aluminum alloy 2024, anodized
4. Steel, cadmium plated

TEST CONDITIONS
Original test date: December 2015
MIL-PRF-25567E, *Performance Specification, Leak Detection Compound, Oxygen Systems,* is the US test standard equivalent to (JIS) Z-2329. MIL-PRF-25567E protocol was used for this test.

TEST METHOD
Surface corrosion: The corrosive property of Snoop was evaluated using the surface corrosion test from MIL-PRF-25567E. The surface corrosion test involved applying Snoop and water on the appropriate metal coupons. The coupons were then dried under an infrared reflector drying lamp. The reflector apparatus was adjusted so that the 250-watt drying lamp was 15 cm above the test panel. After drying, the coupons were removed and rinsed under a stream of deionized water and then re-dried. Degree of visible corrosion was noted by the unaided eye. The corrosion due to Snoop was compared to the corrosion due to deionized water.

Corrosion between the faying edges: Two cleaned test coupons for each metal were clamped together. Snoop (0.1 ml) was applied at the faying edge. The faying edge is the exposed area where the two metal coupons meet. After one minute, an additional 0.1 ml of Snoop was placed at the faying edge. The coupons were rinsed with cold deionized water and allowed to air dry for 2 hours at room temperature. The coupons were separated and inspected for evidence of corrosion at the faying edge.

TEST RESULTS

No visual corrosion was observed on the coupons for either the surface corrosion test or the faying edge test. The corrosive property of Snoop was the same as deionized water for surface corrosion and the same as air for the faying edge condition.

The corrosive behavior of Snoop on copper, aluminum, anodized aluminum and cadmium plated steel is similar to water and/or air. Snoop may be used safely on the previously mentioned materials. There was no attack from Snoop observed under any test condition specified in MIL-PRF-25567E.

Table 1.0 – Surface and Faying Edge Corrosion Testing

Material	Surface Corrosion	Faying Edge Corrosion
Copper, ASTM B152	Pass	Pass
Aluminum alloy 2024	Pass	Pass
Aluminum alloy 2024, anodized	Pass	Pass
Steel, cadmium plated	Pass	Pass

These tests were performed to consider a specific set of conditions and should not be considered valid outside those conditions. Swagelok Company makes no representation or warranties regarding these selected conditions or the results attained. Laboratory tests cannot duplicate the variety of actual operating conditions. Test results are not offered as statistically significant. See the product catalog for technical data.

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.

Referenced Documents

MIL-PRF-25567E *Performance Specification, Leak Detection Compound, Oxygen Systems,* Department of Defense, DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610

JIS Z 2329 *Methods Of Bubble Leak Testing*, Japanese Standards Association, www.jsa.or.jp/default_english.asp