Swagelok Company
29500 Solon Road
Solon, Ohio 44139 U.S.A.

TITLE

Hydrostatic Pressure Test of Stainless Steel Swagelok® Medium-Pressure Tube Fittings with SAF 2507™ Super Duplex Stainless Steel Tubing

PRODUCT TESTED

The following stainless steel Swagelok medium-pressure tube fittings were tested with the identified SAF 2507 super duplex stainless steel tubing.

Ordering Number	Quantity Tested	SAF 2507 Tubing in.	Tubing Hardness Rc
SS-4FK0-1-4	6	1/4 × 0.049	32
SS-4FK0-C	6		
SS-6FK0-1-4	6	3/8 × 0.083	29
SS-6FK0-C	6		
SS-8FK0-1-4	6	1/2 × 0.095	25
SS-8FK0-C	6		
SS-12FK0-1-44M	16	3/4 × 0.134	34
SS-12FK0-C	16		

PURPOSE

The assemblies were tested to observe the tube grip performance of stainless steel Swagelok medium-pressure tube fittings with SAF 2507 super duplex stainless steel tubing under laboratory conditions.

TEST CONDITIONS

Original test date: March 2009

Each sample tested consisted of one tube length and two test fittings. The fittings were assembled according to the Swagelok medium-pressure tube fitting installation instructions. The test was conducted at room temperature.

TEST METHOD

The fittings were tested as follows:

1. Each sample was attached to a hydraulic test stand.
2. The tubing was restricted from burst by clamping blocks, thereby forcing a failure at the fitting-to-tubing engagement.
3. The pressure was gradually increased and the pressure was recorded when tube slip, material rupture, or leakage that prevented applying higher pressure occurred, whichever came first.
4. Results were compared to the working pressure of the fitting.

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TEST RESULTS

SAF 2507 Tubing in.	Samples Tested	Working Pressure (W.P.) psig (bar)	4 × Working Pressure psig (bar)	Samples Attaining 4 × W.P. Without Leakage or Tube Slip
1/4 × 0.049	6	15 000 (1034)	60 000 (4134)	6 / 6
3/8 × 0.083	6			6 / 6
1/2 × 0.095	6			6 / 6
3/4 × 0.134	16			16 / 16

The tests were conducted beyond the product's recommended operating parameters and do not modify the published product ratings.

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.

Swagelok—TM Swagelok Company
SAF 2507—TM Alleima

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