



## Product Test Report

Swagelok Company  
29500 Solon Rd.  
Solon, Ohio 44139

**PTR-1270**  
Rev. A  
October 2006  
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### TITLE

Hydrostatic Pressure Test of Stainless Steel 1/4 in. Male NPT Threaded End Connections on Swagelok® Medium-Pressure Tube Fittings in Excess of Rated Pressure

### PRODUCT TESTED

The following stainless steel 1/4 in. male NPT threaded ends on Swagelok medium-pressure tube fitting male connectors were tested.

Ordering Number	Form	NPT Male Pipe Size in.	Tube OD in.
SS-4FK0-1-4	Bar stock	1/4	1/4
SS-6FK0-1-4	Bar stock	1/4	3/8
SS-8FK0-1-4	Bar stock	1/4	1/2

### PURPOSE

The Swagelok medium-pressure tube fittings were tested to observe the hydrostatic pressure performance of the 1/4 in. male NPT threaded end connection to a female NPT threaded bar stock end connections under laboratory conditions.

### TEST CONDITIONS

Each sample tested consisted of a test fitting with a Swagelok 1/4 in. male NPT thread and a Swagelok 1/4 in. female NPT thread. The male NPT end connection was assembled to the female NPT end connection of a high-pressure male thread to female pipe connector (Ordering Number: SS-44M-7-4). Both fittings were made of 316 stainless steel strain hardened bar stock. The 1/4 in. male NPT thread was wrapped with Swagelok PTFE tape followed by an application of SWAK® anaerobic pipe thread sealant.

- Test fluid: hydraulic oil
- Temperature: room temperature

### TEST METHOD

The fittings were tested as follows:

1. Each sample was attached to a hydraulic test stand.
2. The pressure was recorded when material rupture or leakage which prevented applying higher pressure occurred, whichever came first.



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### TEST RESULTS

Ordering Number	Samples Tested	Pressure Attained Without Leakage or Rupture psig (bar)	Factor in Excess of Rated Working Pressure
SS-4FK0-1-4	100	> 60 000 (4134)	6 ×
SS-6FK0-1-4	88	> 60 000 (4134)	6 ×
SS-8FK0-1-4	86	> 60 000 (4134)	7.5 ×

None of the 1/4 in. male NPT threaded end connections on the Swagelok medium-pressure tube fittings leaked or ruptured below 60 000 psig (4134 bar) when assembled with a Swagelok 1/4 in. female NPT threaded bar stock end connection, under laboratory conditions.

The product passed testing at conditions noted with 90 % reliability and 90 % confidence.

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

These tests do not simulate any specific application and are not a guarantee of performance in actual service. Swagelok Company makes no representation or warranties regarding these selected conditions or the results attained there from. Laboratory tests cannot duplicate the variety of actual operating conditions. 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.