



## Product Test Report

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

**PTR-1206**  
Ver 06  
November 2022  
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### TITLE

Hydrostatic Pressure Test of Stainless Steel Swagelok® Medium-Pressure Tube Fittings

### PRODUCT TESTED

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

Ordering Number	Quantity Tested	Tubing	Tubing Hardness
<b>Fractional</b>			
SS-4FK0-1-4	50	1/4 × 0.095 in. annealed	Rb 80 to 85
SS-4FK0-C	30		
SS-4FK0-9	10		
SS-4FK0-3	10		
SS-4FK0-1-4	50	1/4 × 0.065 in. cold-drawn 1/8-hard	Rc 24 to 25
SS-4FK0-C	30		
SS-4FK0-9	10		
SS-4FK0-3	10		
SS-6FK0-1-4	44	3/8 × 0.134 in. annealed	Rb 84
SS-6FK0-C	24		
SS-6FK0-9	10		
SS-6FK0-3	10		
SS-6FK0-1-4	44	3/8 × 0.083 in. cold-drawn 1/8-hard	Rc 22
SS-6FK0-C	24		
SS-6FK0-9	10		
SS-6FK0-3	10		
SS-8FK0-1-4	43	1/2 × 0.188 in. annealed	Rb 89
SS-8FK0-C	23		
SS-8FK0-9	10		
SS-8FK0-3	10		
SS-8FK0-1-4	43	1/2 × 0.109 in. cold-drawn 1/8-hard	Rc 23
SS-8FK0-C	23		
SS-8FK0-9	10		
SS-8FK0-3	10		
SS-12FK0-1-44M	16	3/4 × 0.165 in. cold-drawn 1/8-hard	Rc 26
SS-12FK0-C	16		



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Ordering Number	Quantity Tested	Tubing	Tubing Hardness
<b>Metric</b>			
SS-6MFK0-1-4	12	6 x 2.2 mm annealed	Rb 85
SS-6MFK0-C	12		
SS-6MFK0-1-4	12	6 x 1.5 mm cold-drawn 1/8-hard	Rc 23
SS-6MFK0-C	12		
SS-10MFK0-1-44M	12	10 x 3.5 mm annealed	Rb 88
SS-10MFK0-C	12		
SS-10MFK0-1-44M	12	10 x 2.2 mm cold-drawn 1/8-hard	Rc 28
SS-10MFK0-C	12		
SS-12MFK0-1-44M	12	12 x 4.5 mm annealed	Rb 90
SS-12MFK0-C	12		
SS-12MFK0-1-44M	12	12 x 2.8 mm cold-drawn 1/8-hard	Rc 25
SS-12MFK0-C	12		

### PURPOSE

The assemblies were tested to observe the tube grip performance of stainless steel Swagelok medium-pressure tube fittings with heavy-wall annealed and cold-drawn 1/8-hard tubing under laboratory conditions.

### TEST CONDITIONS

Original test date: April 2006

Each sample tested consisted of one tube length and two test fittings. The fitting was assembled according to the Swagelok medium-pressure tube fitting installation instructions. Testing 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 pressure recorded when loss of tube grip, material rupture, or leakage that prevented applying higher pressure occurred, whichever came first.
4. Results were compared to the tubing working pressure.



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### TEST RESULTS

Tubing	Samples Tested	Working Pressure (WP) psig (bar)	4 x Working Pressure psig (bar)	Samples Attaining 4 x WP Without Leakage or Tube Slip
<b>Fractional</b>				
1/4 x 0.095 in. annealed	50	15 000 (1034)	60 000 (4134)	50 / 50
1/4 x 0.065 in. cold-drawn 1/8-hard	50			50 / 50
3/8 x 0.134 in. annealed	44			44 / 44
3/8 x 0.083 in. cold-drawn 1/8-hard	44			44 / 44
1/2 x 0.188 in. annealed	43			43 / 43
1/2 x 0.109 in. cold-drawn 1/8-hard	43			43 / 43
3/4 x 0.165 in. cold-drawn 1/8-hard	16			16 / 16
<b>Metric</b>				
6 x 2.2 mm annealed	12	15 000 (1034)	60 000 (4134)	12 / 12
6 x 1.5 mm cold-drawn 1/8-hard	12			12 / 12
10 x 3.5 mm annealed	12			12 / 12
10 x 2.2 mm cold-drawn 1/8-hard	12			12 / 12
12 x 4.5 mm annealed	12			12 / 12
12 x 2.8 mm cold-drawn 1/8-hard	12			12 / 12

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



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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