



## Product Test Report

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

**PTR-1434**  
Ver 03  
December 2022  
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### TITLE

Hydrostatic Pressure Test of Alloy 625 Swagelok® Tube Fittings with Alloy 625 Tubing

### PRODUCT TESTED

The following alloy 625 Swagelok tube fittings were tested.

Ordering Number	Form	Tubing Size	Tubing Hardness Rb
<b>Fractional, in.</b>			
625-400-1-4	Bar stock	1/4 × 0.065	97
625-400-C	Bar stock		
625-600-1-4	Bar stock	3/8 × 0.065	90
625-600-C	Bar stock		
625-810-1-4	Bar stock	1/2 × 0.065	88
625-810-9	Forging		
<b>Metric, mm</b>			
625-6M0-1-4	Bar stock	6 × 1.2	96
625-6M0-C	Bar stock		
625-10M0-1-4	Bar stock	10 × 1.5	94
625-10M0-C	Bar stock		
625-12M0-1-4	Bar stock	12 × 1.8	89
625-12M0-9	Forging		

### PURPOSE

The assemblies were tested to observe the tube grip performance of alloy 625 Swagelok tube fittings with alloy 625 tubing under hydrostatic pressure in laboratory conditions.

### TEST CONDITIONS

Original test date: July 2007

Each sample tested consisted of one tube length and two test fittings. The fittings were assembled according to the Swagelok 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. Pressure was gradually increased and the pressure was 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

#### Fractional

Tubing Size in.	Samples Tested	Working Pressure (WP) psig (bar)	4 × Working Pressure psig (bar)	Samples Attaining 4 × WP
1/4 × 0.065	22	14 600 (1005)	58 400 (4023)	22 / 22
3/8 × 0.065	22	9400 (647)	37 600 (2590)	22 / 22
1/2 × 0.065	22	6800 (468)	27 200 (1874)	22 / 22

#### Metric

Tubing Size mm	Samples Tested	Working Pressure (WP) bar (psig)	4 × Working Pressure bar (psig)	Samples Attaining 4 × WP
6 × 1.2	22	750 (10 885)	3000 (43 541)	22 / 22
10 × 1.5	22	550 (7982)	2200 (31 930)	22 / 22
12 × 1.8	16	550 (7982)	2200 (31 930)	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