



Product Test Report

Swagelok Hose Services Company
29900 Solon Industrial Parkway
Solon, Ohio 44139 U.S.A.

PTR-5016

Ver 01
August 2023
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TITLE

Burst Testing of Swagelok® PB Series Hose Assemblies

PRODUCT TESTED

Testing consisted of 12 in. length PB assemblies with 316 stainless steel Swagelok end connections.

Series	Quantity Tested
PB4	84
PB6	83
PB8	110
PB12	82
PB16	75

PURPOSE

These tests were performed to observe the burst performance of Swagelok PB hose assemblies under laboratory test conditions.

TEST CONDITIONS

Original test date: January 2019

Test media: nitrogen

Test temperatures: -40°F (-40°C), 70°F (20°C), 100°F (37°C), 150°F (65°C), and 200°F (93°C)

TEST METHOD

1. All assemblies were built with standard components.
2. The hose assemblies were proof tested at 1.5 x working pressure before burst testing was conducted.
3. The test assemblies were pressurized at the specified temperature by increasing pressure at a ramp rate of 1000 psig per minute (69 bar per minute) until sample failure.
4. Test results were compared to the minimum required burst pressure of 4 x working pressure.



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TEST RESULTS

The burst test results are presented below. Passing the burst test required that a sample not rupture at or below 4 × working pressure. Some leakage was permitted at retaining joints, such as O-rings, gaskets, etc. as long as the system pressure was maintained.

Series	Burst Test at Temperature –40°F (–40°C)		
	4 × Working Pressure psig (bar)	Samples Tested	Samples Passed
PB4	1400 (96.4)	19	19
PB6	1200 (82.6)	19	19
PB8	1200 (82.6)	26	26
PB12	1200 (82.6)	19	19
PB16	1200 (82.6) ^①	19	19

① PB16 hose is rated from –20 to 200°F (–28 to 93°C)

Series	Burst Test at Temperature 70°F (20°C)		
	4 × Working Pressure psig (bar)	Samples Tested	Samples Passed
PB4	1400 (96.4)	19	19
PB6	1200 (82.6)	19	19
PB8	1200 (82.6)	29	29
PB12	1200 (82.6)	19	19
PB16	1200 (82.6)	19	19

Series	Burst Test at Temperature 100°F (37°C)		
	4 × Working Pressure psig (bar)	Samples Tested	Samples Passed
PB4	1260 (86.8)	12	12
PB6	1080 (74.4)	12	12
PB8	1080 (74.4)	15	15
PB12	1080 (74.4)	12	12
PB16	1080 (74.4)	12	12



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Series	Burst Test at Temperature 150°F (65°C)		
	4 × Working Pressure psig (bar)	Samples Tested	Samples Passed
PB4	840 (57.8)	12	12
PB6	720 (49.6)	12	12
PB8	720 (49.6)	15	15
PB12	720 (49.6)	12	12
PB16	720 (49.6)	12	12

Series	Burst Test at Temperature 200°F (93°C)		
	4 × Working Pressure psig (bar)	Samples Tested	Samples Passed
PB4	400 (27.5)	22	22
PB6	320 (22.0)	21	21
PB8	320 (22.0)	25	25
PB12	320 (22.0)	20	20
PB16	320 (22.0)	13	13

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

This test was 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. 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