

Technical Data Sheet

Sealon Adhesive PTFE Gasket Tape is a versatile, easy to use sealing tape that lets you make your own gaskets in an instant. It's made from expanded PTFE which makes it very easy to shape and allows it to compress with only light bolt loads.

Sealon is an alternative to many cut-to-size gaskets. It's supplied on a roll with a peel-off adhesive backing on one side to make placing it on the flange face easy. This also allows Sealon to be easily installed on vertical flanges and those with irregular faces.



Since it is made from pure, expanded PTFE; Sealon has a of excellent sealing characteristics. These include outstanding resistance to temperature (-232°C to +315°C), excellent chemical resistance and very good sealing performance at low bolt loads.

Sealon Adhesive PTFE Gasket Tape is available in a variety of different size rolls to suit different sizes of flange. Once you've selected the size you need, installation is simple. Just position Sealon around the flange and overlap the two ends outwards past a bolt hole.

Applications

- Making instant, formed in place, gaskets for a wide range of flanges.
- Sealing gas, potable water and food grade applications.
- High and low temperature gaskets.
- Sealing applications which require a high chemical resistance.
- Making emergency gaskets during shutdowns or unplanned maintenance.

Size Guide for Various Flange Sizes

Standard Flange Sizes		Custom / Non-Standard Flanges	
Nominal Pipe Size ANSI B16.5	Suggested Size of Sealon	Sealing Width	Suggested Size of Sealon
15NB, 20NB	3mm	3mm to 7mm	3mm
25NB, 32NB, 40NB	5mm	8mm to 10mm	5mm
50NB – 90NB	7mm	11mm to 17mm	7mm
100NB – 150NB	10mm	19mm to 25mm	10mm
200NB – 400NB	14mm	28mm to 37mm	14mm
450NB – 500NB	17mm	40mm to 50mm	17mm
600NB – 900NB	20mm	51mm to 63mm	20mm
900NB – 1500NB	25mm	64mm to 125mm	25mm
Over 1500NB	50mm	Over 125mm	50mm

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Technical Details

Colour	White
Temperature Range	-232°C - +315°C
Pressure Range	Full Vacuum to 3,000 PSI
Chemical Compatibility	Fully Compatible through 0-14pH (except elemental Fluorine & Molten Alkali Metals)
Specific Gravity	0.7 – 0.8 as supplied compressed to 2 – 2.1 when installed
Modulus of Elasticity	50,000 PSI at 73°F
Matrix Tensile Strength	≤6800 PSI
Coefficient of Friction	0.2
Surface Free Energy	18.5 dynes / cm ²
Oxygen Index	94.5%
Thermal Conductivity	0.2 BTU/hr-ft @ 0°C
Heat of Combustion	1434 ± 100 cal/g
Specific Heat	0.23 BTU/lb. -°F
Auto Ignition Temperature	504°C ± 38°C
Ignition Temperature	Pa = 75 bar 145°C = 12k Pe = Approx. 105 bar in condensed oxygen.
Dissociation Pressure	5 x 10 ⁻¹⁸ mm Hg at 27°C: 5 x 10 ⁻¹² mm Hg at 100°C.
Toxicity	Non-Toxic

PTFE is degraded by high energy radiation; however, there are examples of exposure to 17 megarads of gamma radiation on steel flanges with no loss of seal.

Oxygen Service Limits: Sealon Must Be Ordered Without Adhesive Strip if being considered for oxygen service. Oxygen index of 94.5%. PTFE will burn in 100% oxygen atmosphere when an ignition source is provided.

Food Grade Applications: Meets FDA 21CFR 177.1550 requirements.

DIN 3535 Gas Permeability

Results of Gas Permeability Test (DIN 3535 Part 4 Sec. 4.7)

Sealon Sealing Ring Size: 5mm x 70mm Diameter

Temperature: 23°C (±2°C)

Nitrogen Gas

Clamping Pressure: 30N/mm² (4,350 PSIG)

Internal Pressure	Gas Permeability (ml/min.)
16 bar (232 psig)	0.04 (range 0.02-0.05)
25 bar (363 psig)	0.04 (range 0.03-0.05)
40 bar (580 psig)	0.06 (range 0.04-0.07)

This standard provides a means of measuring leakage of a gas through a gasket. This test is designed to compare the leakage rates of different products. The apparatus used is considerably more versatile than that used in ASTM F37. The sample gasket size can be varied, much higher internal pressures can be used. Normally measurements are made at room temperature.

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DIN 52913 Torque Retention*Results of Torque Retention Test (DIN 52913)*

Sealon Sealing Ring Size: 5mm x 65mm Diameter
Temperature: 23°C to 150°C and 200°C Clamping
Pressure: 30N/mm² (4,350 PSIG) Test Period: 16
Hours

Temperature	Times Tested	Torque Retention	Decrease %
150°C	16 Times, Continuously	2751 psi (range 2465-2929)	37.3% (32.6%-43.3%)
200°C	12 Times, Continuously	2717 psi (range 2465-2915)	37.6% (33.0%-43.4%)

This test equipment is designed to determine the torque retention capabilities of gasket products, when subjected to the compression load and operating temperatures as defined by the test procedures.

The test consists of applying a predetermined load on the test gasket via a tension screw, then heating the gasket/flange assembly to the desired temperature (there is no internal pressure). The standard test period is either sixteen (16) hours or one hundred (100) hours. At the end of the required time period, the compression load which is left acting on the test gasket, is measured.

This allows one to calculate the torque retention capabilities of various gasketing products. This test differs from the "Hot Compression Test" in that the gasket load is not constant, but is a function of the torque retention capability of the product tested.

Compressibility

(Refer to Chart 4 for more information)

Mass change after storage in synthetic gas condensate and subsequent drying out.

Testing Conditions	Original Samples	Compressed Samples
7 days at 23°C Soaking in Iso-octane / Toluol (70/30)	62	1.3
Drying out, 14 days at 40°C	-0.1	-0.1
7 days at 23°C Soaking in Iso-octane / Toluol / Methanol (50/30/20)	64	1.2
Drying out, 14 days at 40°C	-0.1	0.0

Approvals

FDA

Sealon meets the following FDA requirements:

PTFE: FDA 21 CFR177.1550

Adhesive: FDA 21 CFR175.105

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DVGW*German Federation of Gas & Water Technology*

According to DVGW No. G 88e 050, Sealon is suitable for the gas supply at internal pressure up to 16 bar (232 psig) in the temperature range from -10°C to 50°C.

BAM*German Institute for Material Research and Testing*

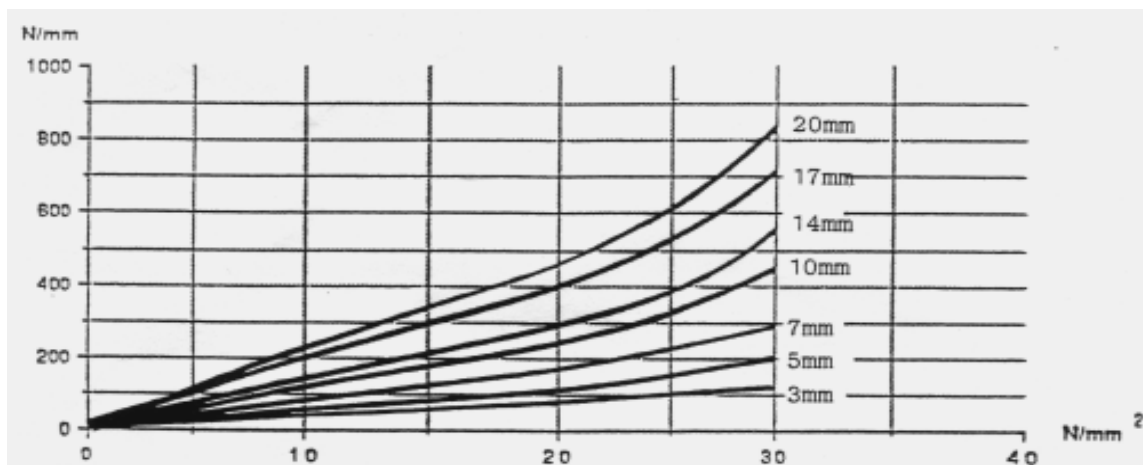
According to BAM No. 13621/87 4-4625, there are no reflections against the usage of Sealon for the oxygen supply, sealing the flanges made of copper, copper alloy or steel at internal pressure up to 40 bar (580 psig) in the temperature up to 60°C.

TUV*Technical Supervisory Federation of Bavaria, Germany, Materials and Structural Engineering Division, Quality Monitoring.*

According to TÜV No. 191604, MP3/7381, the characters of the sealing values are as per Chart 1 & Chart 2.

Chart 1

Linear clamping force required for obtaining the correspondent clamping pressure.



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Chart 2

Linear clamping force required for obtaining the correspondent internal pressure of gaseous nitrogen at a permissible leakage rate of 0.00001 gram / (second x meter).

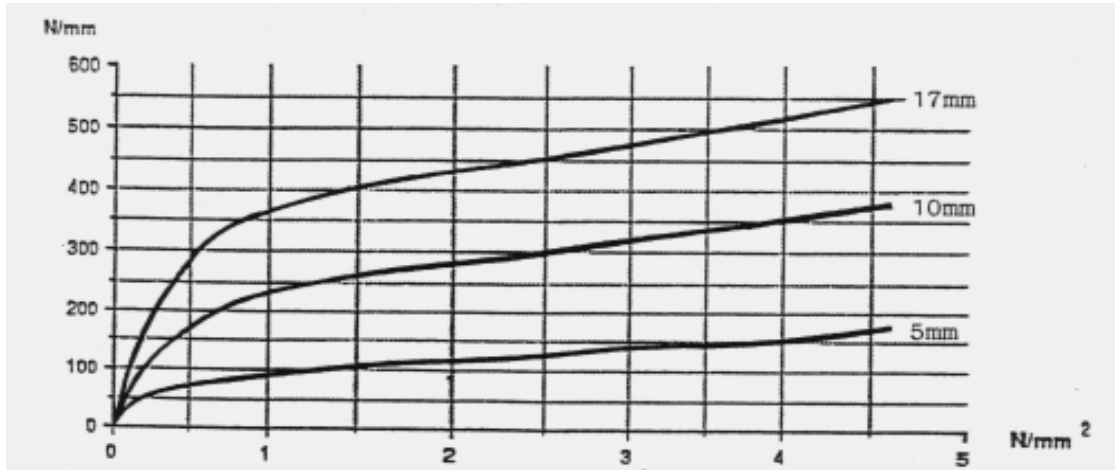


Chart 3

Gasket width in relation to clamping pressure.

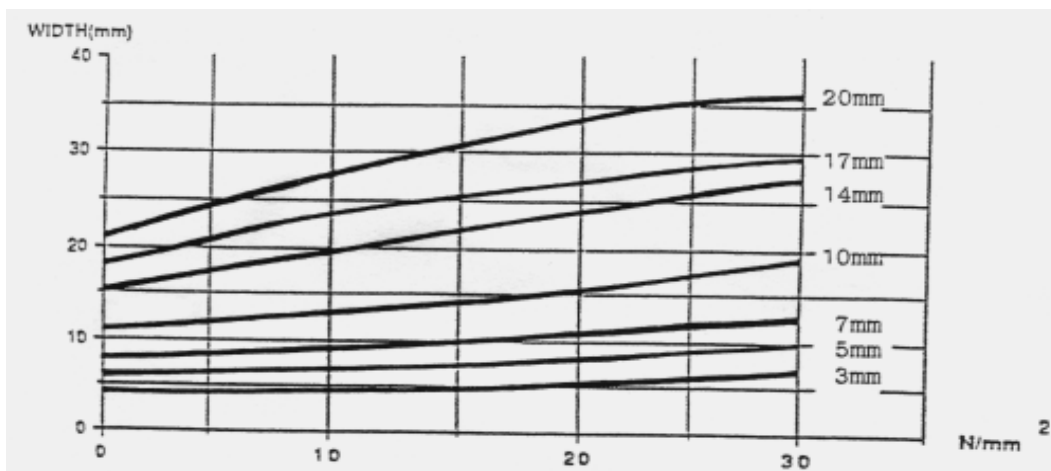
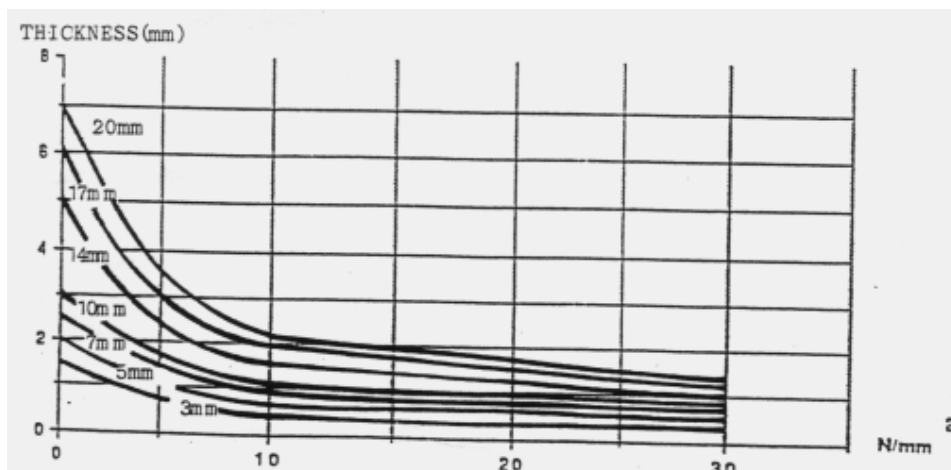


Chart 4

Gasket thickness in relation to clamping pressure.



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Available Sizes

Sealon Adhesive PTFE Gasket Tape is available in the following standard sizes from Swift Supplies Australia. Custom sizes and orders can also be arranged. For these, please do not hesitate to contact us.

Tape Width	Roll Length	Approx. Thickness (Uncompressed)
3mm	30 Metres	1.5mm
5mm	20 Metres	2mm
7mm	15 Metres	2.5mm
10mm	8 Metres	3mm
14mm	5 Metres	5mm
17mm	5 Metres	6mm
20mm	5 Metres	7mm
25mm	5 Metres	10mm