

JORLON DIAPHRAGM



UNPARALLELED PERFORMANCE
UNPARALLELED RELIABILITY



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WHAT IS JORLON?

Jorlon is structurally modified pure PTFE. It is manufactured by a proprietary technique where PTFE layers are combined and formed in a unique process to reduce the creep and cold flow associated with con with conventionally form solid or laminated PTFE or Teflon.

A table of physical properties and compliance facts is available below.

Jorlon is featured in all of Steriflow's valve product lines:

- Mark 978 Control Valves
- JSHM Manual Metering Valves
- Mark 96 Pressure Regulating Valves
- Mark 95 Back Pressure Regulating Valves
- Mark 96A, 96AA, 95A, 95AA Air Loaded Regulators
- J Series Clean Gas Pressure and Back Pressure Regulating Valves

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|-------------------------------------|---|--------------------|
| Color | | Clear, translucent |
| Composition | | PTFE |
| Temperature | Maximum | 500°F |
| Creep relaxation (ASTM F38) | % | 35 |
| Specific Gravity (D792) | | 2.19 |
| Compressibility (ASTM F36) | % Range | 20 - 25 |
| Recovery (ASTM F36) | Min % | 50 |
| Tensile Strength (ASTM D1708) | | |
| X Direction | psi (N/mm ²) | 5000 (35) |
| Y Direction | psi (N/mm ²) | 5100 (36) |
| Ultimate Elongation (ASTM D1708) | | |
| X Direction | % | 500 |
| Y Direction | % | 520 |
| Gas Permeability (ASTM D1434V) | CC/M ² /24 hrs | 10,000 |
| Flammability | | Will not burn |
| Industry Approvals / Certifications | FDA CFR 21 177.1550, USP <88> Class VI USP <87> ADI Free | |



Lifetime Warranty

Jorlon is warranted for a lifetime of use on our Mark 95, Mark 96, Mark 96AA, Mark 95AA regulators, Mark 978 Series control valves, J Series regulators and the JSHM metering valves.

Product Applications

Jorlon has been specified in biopharm applications including WFI, clean steam (up to 100 psig), buffers, acids, cryogenic liquids, clean utility gas, biological intermediates and final process fluids.

Shelf Life

Jorlon™ has an indefinite shelf life based on ideal storage conditions:

- 1.) Store flat in a cool, dry area.
- 2.) Do not fold or bend.
- 3.) If exposed to greases, oils, or solvents in liquid or vapor form, clean thoroughly before installing.
- 4.) Store away from incidental exposure to all types of radiation.
- 5.) Following extended storage, carefully inspect the material for damage.
- 6.) If in doubt concerning any of the above provisions, consult us.

Cycle Testing

Jorlon has been tested on a variety of Steriflow control valves on 45 psig (3 bar) continuous steam service to over 12 million full stroke cycles. One of those valves was further tested with an additional 100 steam and vacuum cycles without failure.

Lab Testing

Lab tests comparing Jorlon to 316L diaphragms have shown continued life after exceeding the SST failure cycle count by more than 100 times.

Jorlon Material

Jorlon has been used by Steriflow for over 15 years. To date, not one valve has been returned due to diaphragm failure when operating within its use parameters. Jorlon has been nitrogen pressure tested to over 1200 psi without failure.

Customer Use

Since its inception, thousands of Steriflow valves with Jorlon diaphragms have been installed in systems which have been validated by the FDA.

JORLON WARRANTY

Steriflow, a division of Jordan Valve, warrants the Jorlon diaphragm for use on all of its control valves and gas regulators as defined:

- J-Series Gas Regulators: Models JSRLF, LSRLFLP, JSR, JSRLP, JSRH, JSRHF, JSB
- Mark 96 and Mark 95 manual and air loaded clean utility and process PRVs and BPRVs
- Mark 978 Series control valves and JSHM manual control/metering valves

All are warranted for a lifetime¹ of use on all Clean Utility, WFI and gas² applications at the operating pressure, temperatures and conditions as specified in each model's data sheet.

1. A lifetime of use is defined as the period during which the warranted diaphragm resides in the original valve and original installation. If the warranted valve is ever replaced or moved to a different installation, or is not used for a period of more than one year (not counting original installation, commissioning, qualification and/or validation period), the original diaphragm warranty is void.
2. Jorlon is an FDA (21CFR177, 1550) and USP <88> Class VI, USP <87>, ADI/TSE free compliant PTFE material with excellent corrosion resistance. However, because of the wide variety of specialty gases available today, Steriflow warrants its use on the most commonly used pharmaceutical gases such as Nitrogen, Oxygen, Carbon Dioxide, and Argon. It is not warranted without Steriflow Engineering's written approval on any other gas. Contact Steriflow for details. The diaphragm warranty is void on these other gas applications without our express, written approval.

Remedy

If the original Jorlon diaphragm fails on any of the valves listed above at any time within the limitations stated above, Steriflow will replace that diaphragm at no charge. This includes all certifications of compliance to FDA and USP Class VI and any UPS Next Day expedited freight charges for the replacement diaphragm and associated documentation.

Exclusions

- This warranty and associated remedy does not cover diaphragms that were damaged due to customer mishandling, misapplication or neglect.
- Steriflow reserves the right to inspect a failed diaphragm before the application of remedy, to determine cause of failure.
- Steriflow does not make provisions to cover any other costs incurred as a result of diaphragm failure including (but not limited to) any labor, capital, operating costs, or lost profits due to a diaphragm failure.

This particular remedy is an addendum to the Steriflow, a division of Jordan Valve, or Richards Industries' standard commercial warranty, and terms and conditions. No other remedies apply.