



**MILWAUKEE VALVE**  
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**TECHNICAL BULLETIN**  
Butterfly Valve Liner for Unleaded  
Gasoline

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This technical bulletin discusses the issues related to compatibility of Buna-n material with unleaded gasoline.

**Overview.**

Commercially available Buna-n (Nitrile) butterfly liner is not recommended (approx 30% swelling\*) with unleaded regular, mid-grade and premium gasoline. The recommended liner is Viton® liner.

**Details.**

Nitrile rubber also known as Buna N is a copolymer of butadiene and acrylonitrile (ACN). The name Buna N is derived from Butadiene and Natrium. The "N" stands for acrylonitrile.

The acrylonitrile segment imparts hardness, tensile strength, and abrasion resistance, as well as fuel and oil resistance.

Commercially produced Buna-n liners contain less than 12% of Buna, 18% to 40% of ACN and the rest is carbon black, and other fillers.

Because of the double bonds present in the polybutadiene portion, nitrile compounds do not have good resistance to ozone, sunlight, or weathering. They should not be stored near ozone-generating electric motors or equipment

**Nitrile performs well in:**

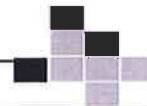
- Dilute acids
- Ethylene glycol
- Petroleum oils and fuels (Crude/non aromatic)
- Silicone oils and greases
- Water (below 180° F)

**Nitrile does not perform well in:**

- Aromatic hydrocarbons (benzene, toluene, xylene)
- Automotive brake fluid
- Halogen derivatives (carbon tetrachloride, trichloroethylene)
- Ketones (MEK, acetone)
- Phosphate ester hydraulic fluids (Skydrol®, Pydraul®)
- Strong acids

\* Swelling more than 10% adversely affect the performance of butterfly valve because of its interference seat design nature.

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This bulletin is intended to provide our customers with the latest information regarding our valve products and services. The information is based on our experience as a supplier, and on the best data available at the time of publication. All users of this information are reminded that ultimate responsibility for the final selection of valve configuration, materials, and options remains the end user's. Milwaukee Valve Company does not warranty valves for specific applications. In all cases, our standard warranty applies. This information is subject to change without notice; for updated information and/or additional support, contact Milwaukee Valve Co, engineering at 414-744- 5240, or via email at [engineer@milwaukeevalve.com](mailto:engineer@milwaukeevalve.com).