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PSI Teflon* Back-Up Rings

Function of Teflon Back-up Rings

Teflon back-up rings are designed to prevent extrusion in rubber O-Ring sealing systems. Rubber O-Rings generally serve as effective seals for dynamic and static applications in hydraulic and pneumatic systems equipment. One big drawback of such O-Rings is their tendency to extrude into the clearance of mating surfaces when subjected to increasing pressures and temperatures. Elevated temperatures (160°F and higher) impose a severe burden on the physical and mechanical properties of rubber O-Rings which further increases their tendency to extrude.

The combination of high pressures and high temperatures is a common occurrence in present day fluid systems. Moreover, the trend is toward still higher pressures and longer resident times at elevated temperatures. This places more emphasis on the role of the back-up ring in preventing O-Ring extrusion.

Standard Configurations

There are three basic types of Teflon back-up rings in use: single turn (scarf cut), multi-turn (spiral cut) and solid (uncut) configurations.

A new series of Single Turn Cut Back-up Rings designates as M8791/1 has been added to this catalog. The M8791/1 configuration was developed to provide improved fit in the O Ring Glands designed to MIL P5514 REV. C,D,E, and MIL G5514. The M8791 /1 Series Back-up Rings have superseded MS28774 Back-up Rings for new design.

Extended Sizes

In addition to the military standards, PSI supplies three series of extended dash-size standards which provide back-up rings for all O-Rings in the Aerospace Standard AS-568A Uniform Numbering System. These configurations have proven very useful to fluid systems designers because of the added flexibility in size selection. Because extended sizes usually are available directly from factory or distributor stocks, industrial users are assured of the same quality and service that applies to the most sophisticated aerospace applications.

Filled Back-Up Rings

For applications where sealing systems are subjected to severe duty cycles, or where pressures exceed 3,000 psi and temperatures are above 275°F, filled Teflon back-up rings are very useful.

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Information Provided by Tetrafluor, Inc.