

# ORD Problem Solved!

## Parker Ethylene Propylene: E0962-90

Offers key properties to solve some of the industries more challenging sealing problems.



Parker's specialty EPDM compound E0962-90 exhibits key properties that can solve some of the industry's challenging sealing problems. If you're not familiar with this material, it's worth taking a closer look.

Compound E0962-90 was originally developed to withstand the 500F steam and hot water applications found in geothermal energy production wells. Compound E0962-90 has demonstrated performance equivalent or superior to that of a competitor's perfluoroelastomers that are hundreds of times more expensive.

The original application for this material, geothermal energy production, is relatively rare and still in its developmental infancy. However, E0962-90 is used in several other steam applications:

- Medical device sterilization equipment
- High pressure boilers
- Chemical plants/steam fittings & valves
- Scaled model steam locomotives
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This compound has several other interesting attributes, as well. Excellent resistance to high pressure gaseous and super critical carbon dioxide has allowed E0962-90 to fill a market niche in the chemical process industry. In addition, E0962-90 (2-015 size) makes an excellent replacement seal for paint ball gun CO<sub>2</sub> cartridges.

Today, Parker is the sole manufacturer of this type of high-performance EPDM polymer, which makes E0962-90 unique in the marketplace. No other seal manufacturer offers a material that has truly equivalent performance to E0962-90.

For more information on this or any of Parker's 200+ rubber compounds, contact one of our Territory Sales Managers or Applications Engineers.



## Application Success Story

### Application:

High pressure (2,500 psi) carbon dioxide compressor.

### Problem:

Various A-type fluorocarbon materials suffered explosive decompression (ED) failure after only a fraction of the intended service life.

### Parker Solution:

Parker recommended EPDM compound E0962-90.

Explosive decompression failure is related to both the overall "permeability" of a seal material and the seal material's chemical "affinity" for the media being sealed. While fluorocarbons offer outstanding overall resistance to permeation, they have a much greater chemical "affinity" for carbon dioxide than do EPDM's.

At high pressure, carbon dioxide is chemically similar to ketones: the family of solvents that includes acetone and MEK. Seal materials recommended for use in these chemicals have a low chemical "affinity" for carbon dioxide. All factors pointed to E0962-90 for this application.

### Outcome:

The customer is now exceeding their desired service life with a significant reduction in warranty costs.