# **Technical Information:**

Date:	June 2006
Subject:	O-Rings
Topic :	Sizing and Terminology



Most of our metering pumps use o-rings as Liquid End / Valve sealing material.

The 2 standard materials we offer are Viton® and EPDM. This allows a wide range of chemical compatibility.

#### <u>Viton</u>

Viton – although there are a number of different types of Viton® available, for our purposes we mainly use Viton® B and for some pumps Viton® A. Viton® B has a slightly better chemical resistance than Viton® A.

Viton® A: (Vinylidene Fluoride and Hexafluoropropylene)

Viton® B: (Vinylidene, Hexafluoropropylene and Tetrafluoroethylene)

Viton® is sometimes referred to as FKM, FKM is the ASTM D1418 designation for the Fluoroelastomer category. This category covers most of the Viton® types. For our purposes they are the same thing.

We normally select Viton® for acids and avoid it for caustics. In Canada we do not find any problems with Sodium Hypochlorite, it has been used for many years successfully.

## <u>EPDM</u>

EPDM this is the name used for Ethylene Propylene Diene Monomer seals.

We normally select EPDM for caustics and avoid its use with oils or petroleum products.

For determination of what type to use, you can refer to the chemical compatability chart at the beginning of the product catalog.

## Sizing Of O-Rings

When referring to the size of an o-ring there are 2 dimensions. The first dimension is the inside diameter and the second dimension is the cross sectional diameter. We use mm as the units of measurement.

Example – O-Ring 9 x 2.5 A. Inside diameter = 9 mm A B. Cross sectional Diameter = 2.5 mm

## How to tell the difference between Viton ® and EPDM.

It is sometimes difficult to tell the difference between Viton® and EPDM if the o-rings get mixed.

The density of Viton® is approx. 1.85 g/cc The density of EPDM is approx. 0.86 g/cc

Viton® is slightly more that twice the weight of EPDM.

This is not the most practical way to determine the difference since most of the o-rings we use are small and you cant really tell the difference in weight by holding them.

There is a small tool that can be used that measures the "bounce "when an object is dropped on the o-ring, for o-rings the same size, there will be a larger bounce with EPDM than Viton®. This method has proved reliable in determining what the material is.

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