



What are some pros and cons of different seal materials?

by Mike Mortensen - Director of Engineering RBI-USA

The three main materials used for our bearing seals are Nitrile rubber, Polyacrylate, and Flouroelastomer. Nitrile rubber is the standard seal material used in our bearings. More demanding conditions may require the use of other seal materials. Table 1 shows some pros and cons of three common seal materials.

Table 1. Pros and Cons of Nitrile rubber, Polyacrylate, and Flouroelastomer.

Material	Typical Usage	Cost	Trade Names	Pros	Cons
Nitrile Rubber (NBR, Buna N)	General Purpose	Low	Nipol® Krynac® Breon®	<ul style="list-style-type: none">· Excellent abrasion resistance· Good rebound· Good tear resistance· Good to excellent non-polar solvent resistance· Good to excellent water resistance· Good to excellent oil resistance	<ul style="list-style-type: none">· Poor ozone, sunlight, and weather resistance· Poor flame resistance· Limited high temperature resistance
Polyacrylate (FKM, CFM)	Automotive and Transmission	Moderate	Hytemp® Cyanacryl® Thiacril®	<ul style="list-style-type: none">· Excellent fuel resistance· Excellent oil resistance· Excellent ozone, sunlight, and weather resistance· Good sulfur based lubrication resistance	<ul style="list-style-type: none">· Poor low temperature flexibility· Poor strength and abrasion resistance· Poor water resistance
Flouroelastomer (ACM)	Harsh and Demanding Conditions	High	Viton® Flourel® Technoflon®	<ul style="list-style-type: none">· Highly heat resistant· Good abrasion resistance· Good tear resistance· Excellent non-polar solvent resistance· Excellent oil resistance· Excellent ozone, sunlight and weather resistance	<ul style="list-style-type: none">· Poor low temperature resistance· Limited hot water resistance· If heated above 300°C, emits dangerous fumes

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CHICAGO IL
(800) 708-2128
(630) 295-5490 Fax

MONROVIA CA
(800) 358-7652
(626) 357-7426 Fax

TORONTO ON
(800) 724-2426
(905) 670-2062 Fax

CALGARY AB
(800) 724-2426
(403) 256-9140 Fax