

FDA METAL DETECTABLE/X-RAY DETECTABLE SEALS AND GASKETS.

O-RINGS, SANITARY GASKETS, X-RINGS, SQUARE RINGS

Our partnership with a compounding supplier affords us unique control over the detectability of the material and variety of compounds that we can offer as metal detectable. We can quickly and easily produce custom solutions that might require more or less detectability depending on your specific media. In addition, this control allows us to provide the highest mechanical properties available in the market. Compression Set, Tensile Strength, Elongation & Temperature Range are well within the same ASTM specifications of the base compound. All of our MD/XR Detectable materials conform to FDA CFR 21, Section 177.2600 — Rubber Articles Intended for Repeated Use.

- RR845 – Black FDA Metal Detect NBR70
- RR984 – Blue FDA Metal Detect NBR70
- RR893 – Red FDA Metal Detect NBR70
- RR851 – Black FDA Metal Detect FKM75
- RR873 – Blue FDA Metal Detect FKM75
- RR852 – Red FDA Metal Detect SIL70
- RR985 – Blue FDA Metal Detect SIL70
- RR853 – Black FDA Metal Detect EP70P
- RR999 – Blue FDA Metal Detect EP70P



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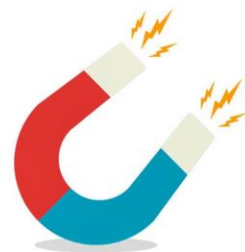
Sarasota, FL location

800-881-3399

Kennesaw, GA location

800-813-7120

www.rfcarlson.com



FDA Metal & X-Ray Detectable Seals & Gaskets

Recent failures in preventing contamination in food & pharmaceuticals have reinforced the benefits of cGMP and HACCP processes in the preparation, manufacture, and distribution of products. RF Carlson Co has a range of sealing materials conforming to FDA CFR21, Section 177.2600—Rubber Articles Intended for Repeated Use. These seals & gaskets provide excellent sealing performance and market-leading detectability in Metal and X-Ray detection processes. Available in a range of colors, these products are more reliably detectable and are stronger sealing solutions than competitive products.

Chart 1 – Comparison of Sealing Performance (measured by Compression Set) of RFC supplied compounds vs. Competition

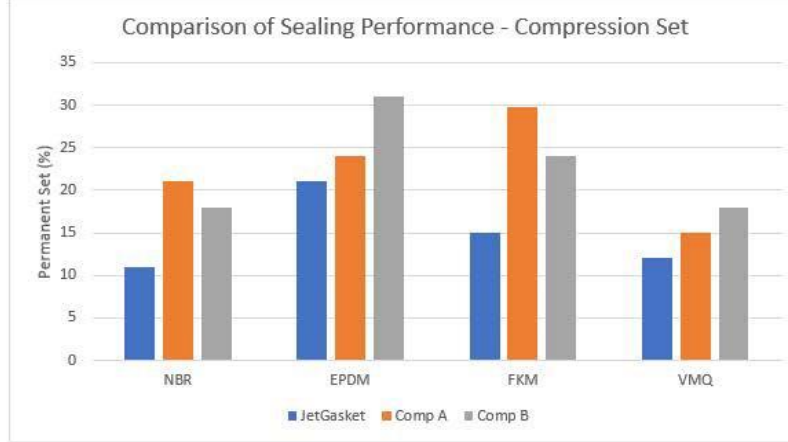
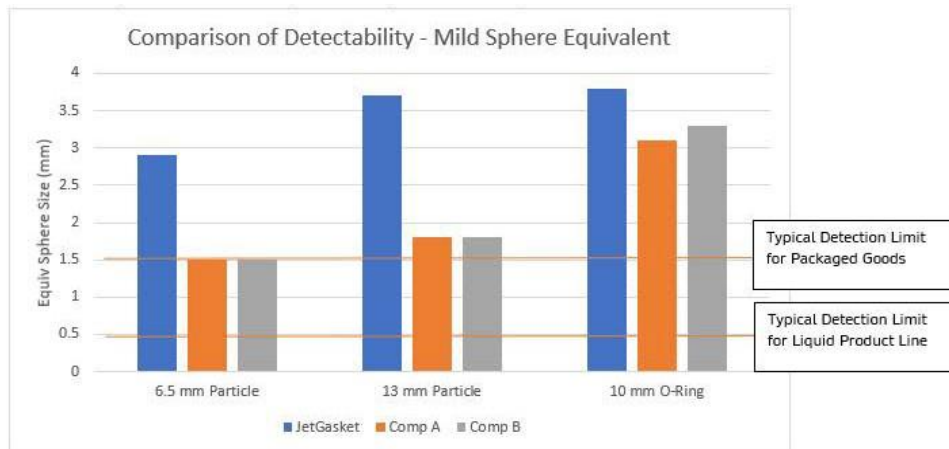


Chart 2 – Comparison of Detectability of RFC supplied compounds vs. competition



A Primer For Metal Detectable Seals

In selecting a detectable seal, customers are most often looking for something that is able to be detected by their equipment (metal or X-ray) if the product should degrade or wear—resulting in small pieces or particles being generated. The size of the particle able to be detected obviously depends a great deal on the type of metal detection equipment used, as well as the media (or food product) that the seal particle is dispersed within.

In general, dry powders and food products that are non-conductive are difficult to use metal sensing technologies — often due to the low phase angle of the food product through the detector. For this reason, many detection processes for dry powders would rely on optical identification of contamination — and may be a driver for blue colored seals (or other unique, non-food product colored seals).

For liquid-line products (many transported in the process through pipelines), food product phase angles near 90° through the detector enable reliable metal detection. Typically in these systems, the detectability sensitivity of a small seal particle (test standard particles of .25" (6.4mm) or .50" (13mm)) should have a Ferrous Equivalent (FE) or Mild Steel Sphere Size Equivalent of 0.5mm to 2.5mm. RF Carlson supplied products in even the smallest test particle size of .25" show FE in the range of 2.2 - 2.9mm (competitive products are in the range of 1.5-1.8mm).

For food packaging lines, detectability requirements for FE are in generally in the range of 1.5 – 4.0mm. Again RF Carlson products show FE in the range of 2.2 – 6.2mm, well in the range for reliable detectability, and greater than competitive products.

One of the important factors when selecting a metal detectable seal is not to forget the fact that it needs to seal! Fillers added to make particles metal or X-ray detectable, in general, have negative impacts on sealing performance. This is most notable in the reporting of compression set values. RF Carlson supplied compounds are designed and produced with a keen interest in low compression set—long lasting, high quality seals.