A Guide to Metal Detectable Food Safe Rubber Materials

White Paper

September 2016
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Executive Summary

J-Flex has created a white paper “A Guide to Metal Detectable Food Safe Rubber Materials” to provide those within food production; with legislative health and safety responsibilities a clear insight into what can be done to eliminate elastomeric contamination.

Whatever your specialised rubber requirements J-Flex can help you based on 30 years' experience in sealing solutions.
Elastomeric Contamination

The Problem .............

............... Appears to be quite clear according to these dramatic headlines hitting the news this year.

Thousands of “chilled yoghurt products recalled by supermarkets as they possibly contain pieces of rubber”
- U.K. Food Standards

PRODUCT RECALL
“a leading brand of chocolate products recalled that may contain pieces of rubber”
U.K. Food Standards Agency

BUT THERE IS NO NEED FOR THESE PROBLEMS
The Problem - without Sensational Headlines

Elastomeric Contamination

Thousands of gaskets, seals, ‘O’ rings, bellows and sections are used daily in food, drink and pharmaceutical production world-wide. Due to the general low conductivity of traditional rubber based materials, these can very often be missed by even the strongest detection systems.

Increasing legislation demands that food, drinks and pharmaceutical manufacturers keep foreign material (contamination) out of their product to ensure consumer safety. Measures must be in place to detect pollution and contaminated products before they are distributed in the food chain.

Component parts used in process equipment can become damaged either by incorrect installation; excessive wear; aggressive chemical cleaning or completely accidental means, so small fragments can finish up in the ingredients mixture.
The Solution

So defining the above problem Metal Detectable and X-Ray Visible rubber and plastic are increasing in use in the food and drinks industries. Metallic ferrite powder is mixed into and bound in the molecular structure of a rubber compound. This is then processed like all other compounds by calendering, extrusion and moulding and of course post curing.

So if a piece of a lid seal gasket broke off in food processing, the food product is scanned as it leaves the production process. Therefore the piece of rubber contaminating the bread or bag of potato chips would be identified by either x-ray or metal detection.

This way you don’t end up with any ‘O-rings in your potato chips.

Currently all J-Flex Metal Detectable/X-Ray Visible Rubber Products are qualified by independent testing to FDA Title 21 CFR 177.2600 regarding extraction and migration levels for products in repeated contact with food. In addition the metallic ferrite powder is approved on the FDA White list.
Features of J-Flex Metal Detectable / X-Ray Visible Rubber Materials

- Minimal downtime due to quick detection of contamination
- Wide range of FDA Compliant Rubber materials.
- Mainly “food industry” Blue for quick and easy identification.
- Phthalate Free Materials.
- Fragments of J-Flex Metal Detectable / X-Ray Visible materials less than 1mm in size can be identified on in-line detection equipment.

J-Flex Metal Detectable / X-Ray Visible Products Available:

’O’ Rings (standard & non-standard); Gaskets; Sheetings; Extruded Profile; Cords; Bespoke Mouldings; Balls; Bellows; Sealants; , Milk Coupling Seals DIN 11851; Tri-Clover Seals; Seals; Strips; Curtains; Joints; Sight Glass Seals; Bag Filler Seals; Discharge Filler Seals; Sleeves; Bevel Seal Gaskets.

If you have a component that presents a contamination risk then contact us immediately and eliminate that risk.

**Custom made solutions - made to your drawings; sizes & samples whatever suits you**
Material Range

A wide range of Natural & Synthetic Rubber materials are available including:

- Silicone Rubber Sheet grade
- Silicone Sponge
- Silicone Moulding & Extrusion grade
- Nitrile (Buna N)
- E.P.D.M.
- Viton® / FKM
- Natural Rubber
- Polyurethane
- Polyacetal (POM C) / Polyethylene

Normally supplied in “food industry” Blue colour - but also bespoke colours Green; Red; Yellow etc.

...Now Available
About J-Flex

Established in 1984, and with over 30 years in the industry, J-Flex offers expertise in specialised sheet rubber products. Our mission is to help customers by providing the right sheet product, at the right time, in perfect condition.

We pride ourselves in good, old-fashioned customer service. Our customers are looking for product availability, reliability and a quick and efficient response to their requests. We deliver every time.

We are already helping over 1,500 customers and we export to over 50 countries.

We are accredited to BS:EN:ISO 9001:2008 and are Registered Licensees under the DuPont Genuine Viton® Licensing Scheme. We also ensure where appropriate our products are tested and approved by the relevant authorities, and we will provide certification upon request.

J-Flex is a member of the UK Gasket and Sealing Association, the European Seals & Gaskets Association (EUSGA) as well a semi® member.

THINK SPECIAL - THINK J-FLEX!
Why use J-Flex?

- Expertise to help you find the best solution for you
- Exceptional customer service
- On-going and continuous product development and product improvement
- Continuous process and quality improvements as standard
- 100 years Management experience in rubber production
- ISO 9001 and Trade & Industry Approvals
- Wide range of well-maintained production equipment
- Quick production & first off sampling
- Work from your CAD files
- Good material range – natural & synthetic polymers
- Acknowledged market leader in customer service
- Stringent inspection in accordance with industry A.Q.L. levels
- Full dimension & material conformity
- Delivery by agreement – never late
- Assembly/kitting to your specific requirements

The J-Flex Facts

- Established 30+ years
- 50+ countries exported to worldwide
- Over 550 tons of silicone sheets supplied in 2015
- 75+ tonnes of Viton/FKM sheet supplied in 2015
- 200+ years combined experience
- 7+ demanding industries catered for

We supply over 1,300 customers and export to over 50 countries.

If you need help developing your specification, J-Flex is here to provide guidance. For more information and to place orders please contact us directly on +44 1777 712 400 or email lance@j-flex.co.uk or michelle@j-flex.co.uk and we will be in touch.
About The Author

John Kirk set up J-Flex in 1984 and is the Managing Director of the company. As an industry veteran, with over 45 years' experience in the rubber industry, John relishes the opportunity to help customers with solutions to their industrial rubber engineering challenges.

Travelling worldwide on a regular basis, John is able to tap into his extensive network of contacts to drive the J-Flex business forward to the benefit of customers. With a strong customer focus, John is also keen to develop new products to meet customer requirements.

John is eager to ensure the rubber industry as a whole meets the quality standard customers expect which is one of the reasons for writing this White Paper.