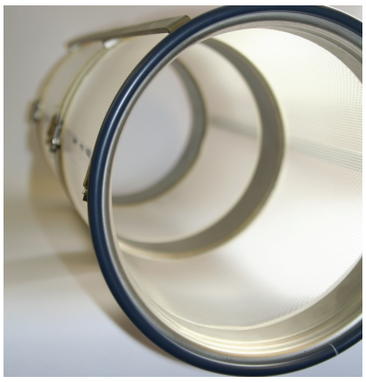
metectSil™

Metal Detectable Silicones









Silicone Engineering Ltd

METAL DETECTABLE SILICONES

metectSil™ is a metal detectable silicone that has been developed especially for the food, beverage, and pharmaceutical industries.

Introduction

Concerns with regard to by-products originating from actual processing equipment is a widespread concern for manufacturing industries particularly those associated with food, drink and pharmaceuticals. A particular concern expressed by several of our clients across the world, is the risk of rubber sealing particles from machinery used in the manufacturing process, contaminating production lines. Silicone Engineering have been in communication with two major retailers of food, both of whom have expressed a keen interest in metectSil™ and another product launched recently by our company - neutraSil™.

In response to the commercial problems of downtime and large quantities of waste being produced from such contamination, Silicone Engineering endeavoured to develop an elegant solution which has culminated in our new product - metectSil™. The benefit of metectSil™ is that in the event of eroding particles from a silicone seal entering the process line, such particles will be identified by an in-line metal detector. The production process can then be quickly stopped, contaminated products segregated and the process modified to overcome the problem. The commercial benefit for the manufacturer is that the risk of production downtime and probability of waste being produced will be greatly reduced due to the properties of metectSil™ enabling early detection of contamination.

Three types of metectSil™

We produce three version of solid **metectSil™: standard metectSil™ST, premium metectSil™XP and super metectSil™XS**. All three are tested to and comply with the requirements of the U.S. Food and Drug Administration (FDA) regulation 21CFR177.2600 for rubber articles in repeated contact with food, and EC1935/2004 on materials and articles intended to come into contact with food. metectSil™ performs admirably at temperatures ranging from -60˚C to 230˚C. It is within our capabilities to produce special formulations to endure even greater physical and environmental extremes if so desired by our clients.

Industrial testing

Our three forms of metectSil™ (ST, SP and XS) are typically used in seals and gaskets.

The positioning of our product is generally in the production and pre-production phases. It is often the case that a metal detection system is placed at the end of the production cycle, sometimes in tandem with a check weighing system.

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Testing of the three forms of metectSil™ was conducted using the MET30+ Universal metal detector manufactured by Lock Inspection Systems Ltd. Lock detectors are used extensively within the food processing industry. Tests were conducted using a 10mm long x 5mm wide x 3mm high piece of each type of metectSil™.

All three grades of metectSil™ were tested extensively. The results were outstanding and the test results are available upon request for your inspection.

Environmental and physical properties

metectSil™ is highly resistant to degradation from chemical and environmental factors and is suitable for use in a range of demanding environments.

We can additionally produce our metal detectable silicone in a sponge form as metectSil™SP, which is resistant to ozone, oxidation, ultraviolet light, corona discharges, cosmic radiation, ionising radiation and general weathering.

Benefits to your company

The operational benefit for a manufacturer using metectSil™ is that the risk of production downtime and probability of waste being produced will be greatly reduced due to the properties of metectSil™ enabling early detection of contamination.

The commercial benefits of using metectSil™ are numerous: an enhanced industrial reputation due to reduced downtime, reduced costs of quality, a reduced likelihood of customer complaints, ease of scheduling planned maintenance and insurance premiums have been shown to be lowered.

FDA

BSI
UKAS QUALITY MANAGEMENT 003

LOCK
INSPECTION SYSTEMS

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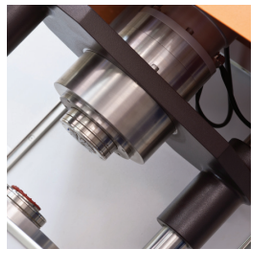

INDUSTRIAL CASE STUDY:
Food Production

Problem:
Our client is a manufacturer of a range of food coating and seasoning products and was looking to replace standard rubber seals on U-Sections of its food processing lines. The client initially contacted us having viewed our website to enquire about the metectSil™ range and was curious to know how it could benefit their operation.

Solution:
We arranged to visit the client's site and their chief engineer outlined to us their desired replacement options for the rubber seals. metectSil™ was determined to be best suited to the client's operation and would additionally offer the benefit of detection of contaminates from rubber seals used in food processing lines. We then produced prototypes of a new seal and tested them extensively on the client's processing lines and metal detection systems. The trials were a great success and the client quickly placed orders to replace the standard rubber U-Section with our new metectSil™ seals.

Since installation, our product has performed superbly. Our products have also given our client's operators added confidence in the durability and suitability of the seals used in their manufacturing processes.

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