

# Rubber Fab

a Garlock Hygienic Technologies company

## Case Study: Peanut Butter Processing Plant Detectomer® Tuf-Steel® Gaskets



### INDUSTRY

Food Processing - Peanut Butter

### CUSTOMER

A leading food processor and market leader for peanut butter products, with multiple facilities located across the USA.

### BACKGROUND

This large manufacturer had failed to detect contamination events within their process, and as a result had encountered two product recalls in recent years – both caused by rubber particles and fragments getting into the process. In order to protect their well-known brand name, and avoid further significant recall costs, they began using elastomeric Detectomer® gaskets to help detect and any contamination. These new gaskets were specified by the customer themselves and were installed on all hygienic tri-clamp connections, with metal detectors installed at critical control points throughout the process.

### CHALLENGES FACED

For a number of reasons, peanut butter is difficult to process efficiently on an industrial scale. High viscosity demands higher process pressures; the abrasiveness of the nuts causes significant wear and tear on process equipment and soft parts; added to which is the aggressive nature of peanut and vegetable oils – both of which can attack some natural rubbers and cause gaskets to degrade. Finally, due to the high density and wet nature of the peanut butter, contamination (even from metallic particles) is not always easy to identify using metal detection alone. As a result the customer failed to observe any significant changes in process reliability and quality control, and decided to consult Rubber Fab directly for advice on further improvements.

### OPERATING CONDITIONS

1. Size: 1" to 2" Tri-Clamp (ASME-BPE)
2. Temperature: Max Temp. Approx. 170°F (77°C)
3. Application: All hygienic process pipe/vessel connections
4. Media (process) : Peanut Butter
5. Media (cleaning) : Hot oil (194°F / 90°C), then IPA (ambient)
6. Pressure: 130PSI (9 bar)

### SOLUTION AND BENEFITS

Following a detailed review with the customers' Engineering team, it became clear that the main issues related to incorrect gasket material selection and process detection techniques. The first recommendation was to install X-ray detection equipment, which would improve their ability to detect all contaminants (including those within the packaged product). Secondly, Rubber Fab suggested the use of Detectomer® Tuf-Steel® gaskets, which are made using a blend of PTFE and 316L Stainless Steel. These gaskets are fully compatible with all process ingredients and cleaning agents; are physically robust and resilient to abrasive media; provide strong signals in both metal detection and X-ray inspection systems; and remain fully compliant to all industry regulations and standards.

Since the new X-ray inspection equipment was installed and Detectomer® Tuf-Steel® gaskets were adopted throughout the process, the customer has not found any further gasket degradation and has avoided any further product recalls.

For more information, please visit: [www.rubberfab.com](http://www.rubberfab.com)