Rubber Fab

a Garlock Hygienic Technologies company

Case Study: Cannabis-Derived Products GYLON® Bio-Pro™ Gaskets

INDUSTRY

Cannabis-Derived Products

CUSTOMER

Global Equipment Manufacturer of Extraction Equipment Solutions

BACKGROUND

Ethanol has been used for centuries as an extraction method and an ingredient to produce perfumes, food colorings and flavorings, medicinal bases, and essential oils. The US Food and Drug Administration (FDA) has found production of consumer goods using food-grade ethanol to be safe for human use and consumption. It is the second most popular solvent behind water. It is also the least toxic of all alcohols, making it one of the most widely used solvents in consumer goods. Ethanol has also maintained its position in the cannabis industry as one of the most widely used solvents for extraction of cannabinoids.

CHALLENGE FACED

Customer has almost exclusively used FKM tri-clamp gaskets in all flanged connections throughout the extraction process. Upon further investigation they found that the extracted media was sticking to the gasket surfaces where it was difficult to remove during subsequent cleaning processes. Additionally, over the past decade, the development of Cold Ethanol Extraction has improved the selectivity of ethanol, optimizing extraction of cannabinoids.

This extraction method operates at -40°C, well below FKM temperature operational limits. At these temperatures the FKM gaskets were experiencing brittleness subjecting the system to contamination from gasket particulates breaking off in the flow.

OPERATING CONDITIONS

1. Temperature: (-40)°C to (+20)°C
2. Application: Tri-Clover connections
3. Media: pure ethanol, or denatured isopropyl and methanol
4. Pressure: ≤15psi
5. Size: Various

SOLUTION AND BENEFITS

GYLON® BIO-PRO™ Gaskets were the simple solution due to the inherent properties of GYLON'S® Restructured PTFE. The GYLON® BIO-PRO™ gasket does not allow the extract media to adhere to the gasket ensuring an effective complete cleaning process. Additionally, the cryogenic temperature functioning ability of GYLON® BIO-PRO™ allows recent advancements in cold ethanol extraction technologies to thrive in a growing industry without worries of system contamination. In summary, GYLON® BIO-PRO™ ensures long term operational integrity.

For more information, please visit: www.rubberfab.com