

ORD Problem Solved!

Success Story



Application:

Sealed medical luer connection for a cardiac catheter

Problem:

Competitor's silicone O-ring generated too much friction in a hand-operated rotating connection and was easy to tear during installation. Since the device is turned by hand by the cardiac surgeon, friction affects the physician's ability to properly guide the catheter during use.

In addition, the assembled device is sterilized with ethylene oxide, and the silicone O-rings were degrading during this process, resulting in a high rate of leaking assemblies in the customer's production line.

Because the O-ring is visible to the doctor and patient, any alternative O-ring material must also be rust-colored. Any visible difference in the connection would hamper the customer's marketing efforts.

Parker's Value Added Service:

Parker developed a custom rust-colored, 60 durometer, USP class VI EPDM material specifically for the application.

Outcome:

In addition to having good resistance to ethylene oxide sterilization, EPDM has mechanical strength that far exceeds that of silicone. The custom compound developed for this application is roughly 10 times more resistant to tearing and has noticeably lower friction in the application without sacrificing compression set, fluid compatibility, or service life in the application.

In switching to this custom compound, the customer nearly eliminated production line test failures due to seal leakage and significantly reduced the number of complaints regarding difficulty in rotating the device during use.

Custom Materials

Most high end, high volume medical applications require custom materials to fit specific needs. Especially crucial are those applications that make direct contact with injectable drugs. Parker understands these custom needs and is able to work with medical industry manufacturers to find a sealing solution that will work best in their specific application/product line.

Possible applications:

- Sealed luer connections
- Rotating adapters
- Manifolds
- Stoplocks
- Valves
- IV
- Contrast media
- High pressure tubing