

To: General Distribution

Date: May 12, 2017

From: Dave Burgess and Matt Tones

Subject: Cloth Inserted Rubber as a Gasket May Weep

Cloth inserted rubber: Many specifications call for a cloth inserted (CI) rubber gasket instead of a homogeneous rubber. Most of our CI rubber materials are intended for diaphragm use in pumps and actuators, because rubber without a woven cloth insert would be prone to stretching or rupture. When used as a gasket, CI rubber can leak through the fabric. This is often called wicking or weeping.

When this happens these materials will usually leak a small amount of fluid regardless of the compressive load applied, meaning there is no torque we can recommend that will guarantee the gasket will remain leak free.

The leakage occurs because the fibers in the fabric are actually small bundles of smaller fibers, and the rubber is unable to fully penetrate between all of the individual strands.

CI Rubber is indeed more resistant to extrusion and crushing than homogeneous rubber, but if the joint must be leak free, then homogeneous rubber is probably a better choice. Garlock also offer a few other options that provide improved crush resistance over homogenous rubber gaskets. Garlock Style 9200 is a (70 durometer NBR with a special non-wicking NYLON fabric) or another possibility Style 3760 MULTI-SWELL. (Use 3760U for potable water)

Please consult with Garlock Application Engineering for the best alternative for the application.