
To: General Distribution Date: February 17,2011
From: Dave Burgess cc:
Subject: Max Stress for Style 660 (vegetable fiber and cork) and 681 (vegetable fiber)

Recommended max stress is 5000 psi. For low pressure applications, a stress range of 1000 to 2000 psi is acceptable. For gas applications, please contact APPLICATION ENGINEERING; Min stress in gases is approx. 3000 psi.

Background: We are sometimes asked for max stress on these products but we have limited experience, since these styles are not typically recommended for raised face flanges. Crush strength is rarely an issue with these materials, since the typical assemblies where these are used, such as bearing assemblies, access covers, etc., do not create high compressive loads on the gaskets. However, we are asked for this information occasionally so we ran some tests

Compression tests were done on the test stand we call the "AST". Since this material has a water soluble binder, we tested the materials both dry and after conditioning at 90% RH (relative humidity) overnight

Considering the samples at 90% RH to be worst-case, the **samples survived (without visible damage) at 7000 psi stress.** Samples crushed somewhere above 10,000 psi.

Dry samples handled 20,000 psi w/o splits, though that is 3 times the load we would want these to see. Flanges were RF smooth.

Data is found as follows:

TR 10241-243: 20 ksi load. Both dry and 90% RH

TR 10285-287: 5000 psi, 90% RH

TR 10290-292: 7000 psi, 90% RH