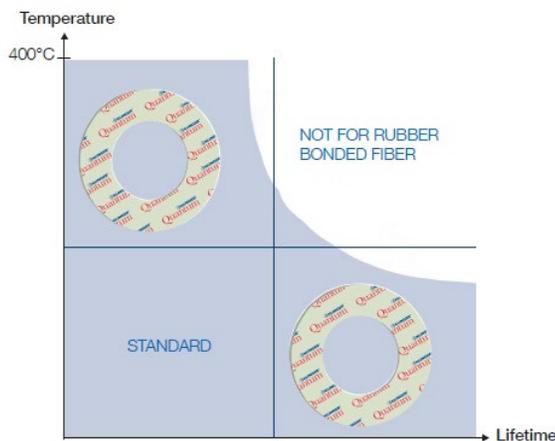


# TECHNICAL BULLETIN

## Do You Experience Problems with Hard or Brittle Gaskets?

High temperature and rubber bonded fiber reinforced gasket materials have always been a sealing challenge. We set new standards with KLINGER®Quantum.

Bending tests reveal that KLINGER®Quantum is eight times more flexible when compared to other materials with similar compounds. This means extended lifetime. KLINGER®Quantum can be used at temperatures higher than any other rubber bonded fiber reinforced gasket materials. Both stress and leakage tests have been successfully performed at 752°F (400°C). The secret is a patented curing process and HNBR binder.

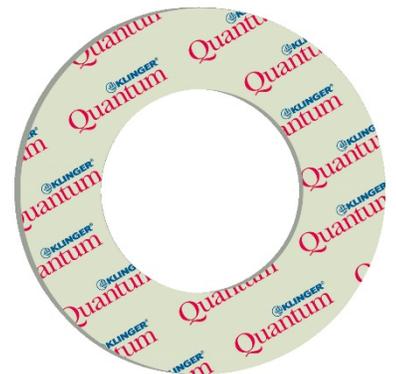


Fibrous rubber-bonded gaskets harden when exposed to heat - some more quickly than others. The effects of thermal cycling (especially in steam applications) can often lead to flanged assembly failures. A more flexible gasket with superior compressibility and recovery properties will withstand greater pressure and temperature fluctuations resulting in a more reliable joint.

A soft gasket for a hard job.

### KLINGER®Quantum

- » Produced using a unique patented curing process strengthening the HNBR rubber
- » Withstands higher temperatures than other rubber bonded fiber materials
- » Up to 8 times more flexible than other rubber bonded fiber materials
- » Withstands high surface pressure, but also seals at very low surface pressure
- » Has a long lifetime and low leakage rate
- » FDA compliant (when ordered unbranded) and Fire Safe Tested



## Flexibility at High Temperatures

The 3-point bending test is often used as an evaluation method for the flexibility of fiber-reinforced gasket materials. Special tests on conditioned specimens provide an indication of the brittleness and hence aging behavior of the elastomers used. Before the test, the specimens are first conditioned and subsequently tested. The results of the tests on these artificially aged test specimens provide information on the aging resistance of the different material concepts. Particularly in steam applications, pressure shocks frequently occur, which result in damage to the gasket material. A more flexible gasket that can overcome extensive expansion without fracture is a decisive factor in obtaining a more reliable gasket joint.

In this test, KLINGER®Quantum shows its uniqueness and outstanding position as compared to all other available fiber-reinforced gasket materials. The flexibility of KLINGER®Quantum at higher temperatures is several times higher than that of traditional fiber-reinforced gasket materials. All the negative aspects of flat gaskets such as embrittlement, crack formation and increased leakage can be reduced significantly with KLINGER®Quantum. The handling of the material is similar to that of the known fiber-reinforced materials and is therefore familiarly simple.

*The ability of a gasket to make and maintain a seal depends not only on the style and quality of the gasket material, but also on medium being sealed, the flange design, the amount of pressure applied to the gasket by the bolts and how the gasket is assembled onto the flanges and tightened. These factors are beyond the manufacturer's control.*

**KLINGER Thermoseal**

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