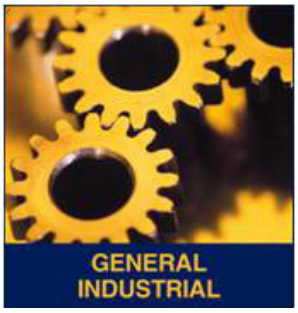
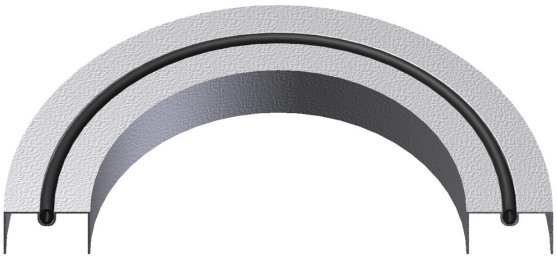
Problem Solved!

TECHSEAL INNOVATIONS - HOLLOW DIAMOND SEALS

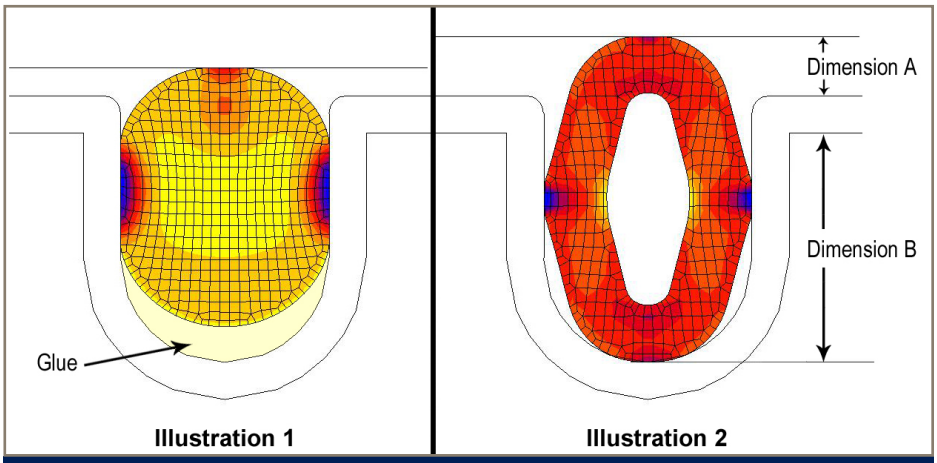


Application

A seal for metal caps on industrial filtration housings.



Cross section of a stamped groove
(Not drawn to scale)



FEATURED PRODUCT: Solid Seal versus Hollow Diamond Seal

Problem

A filter company was using stamped metal end caps that had a deep drawn seal groove. Variation in the size and the round shape of the groove made it difficult to retain the solid molded seal in place with I.D. stretch alone.

The customer began gluing the existing seal in place to ensure retention. The gluing proved to be a difficult, messy, and time consuming process that added significant cost to the final product. To meet this customer's requirements, TechSeal's design had to:

- Stay in groove without adhesive
- Control volume fill
- Achieve sealing across a wide variety of groove dimensions
- Ease both installation and component assembly

Parker Solution

TechSeal's Application Engineer designed a friction-fit hollow profile that achieved seal retention during transportation and assembly, completely eliminating the need for glue. As shown in Illustration 2, the unique diamond shape compensated for the variations in dimensions A and B of the stamped grooves. This hollow profile can achieve the optimal sealing ability without increasing the compressive force exerted on the hardware.

The seal was exposed to a variety of oil chemistries and high temperatures; therefore, Parker compound KA157, a HNBR elastomer, was selected for its excellent resistance to oil and temperature.

As a result of TechSeal's innovative hollow diamond seal, the customer was able to realize several significant improvements. Eliminating the gluing process reduced the process cost and increased installation efficiency while removing the potential chemical hazard associated with the glue.

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