



CAN YOU REUSE A ZOOK GRAPHITE RUPTURE DISK?

Not if...

- ... the pressure sensing membrane was broken due to overpressure.
- ... the disk or its components (liner, coating, vacuum support, insulation, etc.) was damaged during installation, service or removal.
- ... the disk material experienced degradation due to chemical attack or abrasion.
- ... the disk was exposed to temperatures over the limit of the material.
- ... using Two-Way or Zensor[®] style disks, gaskets are integral in these styles.

Assuming the above conditions are met: Typically it is possible to remount or reinstall a standard ZOOK graphite rupture disk once it was removed from a flange. Because ZOOK Graphite rupture disks do not utilize special holders and do not require a metal-to-metal bite seal, as with metallic disks, reinstallation is possible. The gaskets must be replaced and caution must be exercised not to damage the disk in any way.

MECHANICAL INTEGRITY TESTING

Various methods of non-destructive testing (NDT) can be utilized to verify the disks' mechanical integrity prior to re-installation, methods include:

- Pressure testing to 90% of the low side of the burst tolerance for static applications, consult ZOOK for determination of whether your application is static or cyclical.
- Pressure testing to 80% of the low side of the burst tolerance for cyclical applications.
- Bubble leak test at 60% of burst rating.
- Customer can choose to destructively test the disk to determine effect, if any, the process may have on disk performance. ZOOK can provide this service. See **SERVICE LIFE**.

CAUTION !

- If there is any question whether a disk is suitable to reuse, consult the factory.
- Factors such as prolonged exposure to process media, effects of pressure and or temperature exposure may impact the disk's performance and its service life. See **SERVICE LIFE**.
- Follow the instructions contained in the installation guide supplied with each disk.

FOR PROLONGED APPLICATION LIFE ZOOK RECOMMENDS THE FOLLOWING PRODUCT ENHANCEMENTS

ARMOR

Armor is recommended for re-using graphite rupture disk. Armor consists of a steel (carbon or stainless) ring surrounding the graphite disk. Armor aids in installation by blocking extraneous structural stresses as well as uneven flange bolting stresses from reaching the pressure sensitive membrane of the disk.

GASKETS

Proper gasket dimensions are critical to disk performance, use only gaskets that are sized to dimensions specified in the installation guide. Gaskets can be supplied attached to each disk, thereby providing your installer the correct gasket material and proper dimensions required for all ZOOK graphite rupture risks.

SERVICE LIFE

As a general rule, we recommend that the rupture disk be replaced yearly provided that there is no material degradation due to chemical attack, corrosion, or abrasion. It is possible to use the rupture disk beyond this period as long as you have the experience that the disk will perform within your acceptable burst tolerance.

In an initial application, we suggest that you inspect the rupture disk at 6 months and replace the disk after 1 year. You can burst the "old" disk or ZOOK can burst it for you to determine its performance after a year in service. The result of the burst test will dictate the frequency of change-out for your rupture disk for a particular application or service.

WARNINGS

The information contained in this document pertains exclusively to ZOOK graphite rupture disks and cannot be applied to any similar product produced by other manufacturers. ZOOK graphite rupture disks possess unique qualities and characteristics that offer long application life and superior resistance to cycling (fatigue) and corrosion. Our manufacturing process utilizes synthetic graphite impregnated with a particular resin utilizing a proprietary process; therefore, it is not a safe assumption that different brands of graphite rupture disks are equal and interchangeable. It is the responsibility of the end user to fully understand their process and determine the disk needed to properly protect the system.

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