



1. Incorrect Operation

Our global experience across all brands of mechanical seals shows that 60% of all seal failures are caused by incorrect operation and/or process upsets. For example, mid-life failures may occur because the seal barrier or buffer liquid has become contaminated or because of incorrect pressure control.

- Do you know whether your critical seals are operated correctly?
- What measures do you have in place to ensure they are?
- To what extent do you monitor how your seals perform?

2. Incorrect Installation

NASH analysis confirms that 75% of all early life seal failures are caused by incorrect installation of the mechanical seal, support system and/or the rotating equipment. Examples include excessive shaft misalignment or a cut or gouged o-ring that can cause high leakage from start up.

- Are you aware of all the factors that need to be considered when installing a mechanical seal?
- What measures have you taken to ensure your seals and systems are installed correctly?

3. Incorrect Technical Specification

Our records show that 20% of all mechanical seals that NASH repairs do not perform as required and often fail prematurely because the technical specification is not best suited for the application. For example, metal parts may suffer crevice corrosion, seal faces may wear excessively or elastomers may degrade due to chemical attack.

- Can your mechanical seal performance be improved significantly by a simple design modification?
- Have you considered upgrading your existing seal materials?

4. Stricter Environmental Legislation

A mechanical seal may be performing as well as it always has, but stricter legislation may require a significant reduction in allowable emissions.

- Do you know if all your mechanical seals meet current environmental legislation?
- Are you considering how to avoid costly seal replacement(s)?
- What simple, low-cost modifications could you make to your existing seal(s) to bring them into compliance?

5. Calculation of Total Life Cycle Costs

The cost of any mechanical seal goes well beyond its initial purchase price. The total life cycle cost of all mechanical seals should be considered. This cost will include the initial purchase price of all installed seals on both operational and standby equipment as well as all spare seal units. In addition there is the significant cost of lost production following a seal failure and change out plus the cost of seal repair. An increase in reliability, with a corresponding reduced frequency of repair, together with a reduced cost of repair can provide a significant reduction in cost per seal installed.

- To what extent do you monitor mean time between failure (MTBF) on your site?
- Is a significant proportion of your maintenance budget spent on one or a small number of bad actors?
- What scope is there for you to reduce your seal repair costs?

To discuss any of these factors and for further support contact

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