

Developing Your Team's Skills

To operate industrial plants both safely and efficiently, you need highly skilled, well-trained and knowledgeable personnel.

With the introduction of new technology, production processes, the need for increased plant availability, and the global awareness of manufacturing processes being sustainable, it is important to ensure that these skills are kept up-to-date.

AESSEAL's online training portal, ADVANCE™, provides specialist training courses that are specifically designed to help you and your staff develop their knowledge and understanding of mechanical seals, centrifugal pumps and bearings.



By completing these courses, you would be better equipped to:

- Increase mean time between failure / mean time between repair
- Maximize rotating equipment reliability
- Reduce maintenance costs
- Improve site efficiency

Level 1 - Introduction to Mechanical Seals

Level 1 is broken into 6 modules with short tests at the end of each module. By completing Level 1 you will gain an understanding of the following:

- Introduction to AESSEAL[®] and the AES Engineering Group Companies
- The history of mechanical seals
- Mechanical Packing: how its made, how it works, installation, operation, service and maintenance
- What pumps do and how they work, the differences between positive displacement and centrifugal pumps
- What is a Mechanical Seal and how do they work, understanding seal terminology
- The different types of mechanical seal and configurations
- Understanding component and cartridge seals
- Basic Principles of Dry Gas Lift Seals and the differences between wet face and dry gas seals
- Bearing Isolators, Lip Seals and Labyrinth Seal Basics
- Introduction to elementary environmental controls
 - What are 'buffer' and 'barrier' systems
- Choosing the correct materials, Understanding the basics of:
 - Elastomers materials and selection
 - Face materials and selection principles

Level 2 - The Principles of Mechanical Seal Design

Level 2 is broken into 5 modules with short tests at the end of each module. By completing Level 2 you will gain an understanding of the following:

- Seal Face Materials: how they have developed, how they are manufactured and a comparison of their properties, selecting the correct face combination
- Elastomer Material: the different Material options, their properties and usage
- Set screw materials
- Seal face design; the difference between shrunk fit and monolithic faces, face rotation and drive mechanism design
- Understanding hydraulic balance
- Bellows seals design basics, methods of manufacture and the benefits of welded v rolled design
- Difficulties when sealing hot water; Improving vapour / pressure margins, suitable API plans
- Removing heat from dual seals; Seal Auxiliary Systems;
 - Principles of thermosyphon, installation and operation
 - Principles of Forced Circulation, installation and operation, Plan 54 and Plan 55
- Understanding mechanical seal component failure and causes
- Basics of Seal Failure Analysis



Training provided by AESSEAL[®] gave me the required amount of knowledge which enabled me to analyse faults and select the appropriate mechanical seal. The trainer was able to support on specific plant issues giving suggestions on how we could operate in a more reliable manner.

Mechanical Engineer, Cargill



If you have any questions or want to know more information please contact us:

Tel: 01709 369966 Email: training@aes seal.co.uk

aes seal.com