



2KG TRAINING

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## MECHANICAL SEALS

**Presenter:** Pieta Engels

### ABOUT THE PRESENTER: PIETA ENGELS



Pieta Engels joined Sasol Secunda in 1985 and started his career as a Fitter Trainee, and qualified as an artisan in 1987. Pieta completed his studies with Anglo American Central Training Unit and Technikon Witwatersrand which was accredited by De Montfort University, to obtain a TDD (Training and Development Diploma) in 1994. Pieta also obtained a TMD (Training Management Diploma) in 1996 from the same institution.

Pieta spent the following 3 years in developing and presenting of training material for artisans in the mechanical and rotating equipment trade, which is fully aligned with NQF/SAQA requirements. After his contribution to the training and development of mechanical artisans and technicians he was appointed as a Rotating Equipment Reliability Practitioner. His contribution towards the development of a reliability management system ensures successful tracking of failures on rotating equipment and mechanical seals. Pieta was also one of the developers and finders of the current Sasol MTBF tracking and database for rotating equipment, where he facilitates and takes part in failure analysis and failure root cause analysis for rotating equipment.

In 2001 Pieta was appointed as a Reliability Representative for a mechanical seal company that was chosen by Sasol as a 5 year alliance partner to improve reliability on mechanical seals. Pieta joined AESSEAL as a Reliability Specialist in 2008, and practices his mechanical seal and rotating equipment reliability improvement practices and skills to assist the AESSEAL Africa and Saudi Arabia groups. Pieta is involved in an on-going project for AESSEAL to upgrade and convert API 610 selected component mechanical seals, to full cartridge seals. He is currently based in Secunda and newly appointed to be involved with Renewable Energy Projects and sales in the Northern Cape.

**Number of days:** 2

**CPD Points:** 2

### Live Virtual Classroom

2KG Training Live Virtual Courses offer participants the same instructors, training systems, course materials, personal support, and face-to-face engagement with instructors and other participants that they would expect to find in a conventional classroom.

The Advanced Pumps Live Virtual Course brings participants together in a virtual classroom, where they receive training from an expert via a live video link. Participants are interconnected via audio and video, enabling them to interact both with the instructor and with their classmates. Learners can speak to their instructor at any time to ask questions, request assistance, and instructors can provide hands-on support.

### Who Should Attend?

This course is aimed at anyone who is responsible for or involved with the specification, handling or reliability of mechanical seals and systems. In particular Maintenance Engineers and Technicians, Service Engineers, Operations staff, Artisans, Managers and Reliability Engineers will benefit from the course content.

### About the Course

This course provides an introduction to sealing technology, more specifically mechanical seals and covers terminology, different types of seals, how they should be used and some typical applications. It provides an insight into design and features of different seal arrangements systems and how these can be combined to provide increased reliability of rotating equipment. There is also extensive dialogue on the causes of failure, failure analysis and failure avoidance.

## AFTER THE COURSE

Attendees will significantly improve their knowledge on the correct application of mechanical seals and systems. At the end of the course attendees should be familiar with all aspects of mechanical seal and system selection and operation. Understanding of how seals work will lead to attendees obtaining improved seal reliability through trouble shooting mechanical seal failures thus leading to longer and safer operation of rotating equipment.

## MAIN TOPICS

### Introduction to Sealing Technology

- Basic sealing theory
- Static seals
- Dynamic seals
- Face seals
- Seal terminology
- Seal standards
- Seal types

### Seal Selection

- Materials of construction
- Seal design characteristics
- Seal face technology
- Environmental Controls
- Tandem seals
- Double seals
- Alarms and health monitoring
- Containment seals
- Mixer seal and other specialist seal types

### Mechanical Seal Systems

- Flush plans
- Quench considerations
- Closed circuit barrier/ buffer fluid systems
- Open circuit barrier/ buffer fluid systems
- Barrier and buffer fluids

### Dry Gas Seals

- Pump dry gas seal issues
- Pump double dry gas seals
- Pump containment dry gas seals
- Pump DGS systems
- Compressor dry gas seals
- Compressor DGS systems

### Mechanical Seal Reliability

- Simple calculations to check your seal or system
- Seal failure analysis
- Why do seals fail
- Seal failure modes
- Failure analysis
- Troubleshooting seal failures
- Getting the most from your seals



Registration Form

Number of days: 2

CPD Points: 2

How to register for the course:

- 1. Complete this registration form and fax it to Phindi Mbedzi: Tel: 011 325 0686 Fax: 011 325 0488 Email: Phindi@2kg.co.za
2. Acknowledgement will be emailed to you.
3. Final confirmation and details will be faxed or emailed to you approximately 7 days before the commencement of the seminar.

Cancellation Policy:

By signing and returning the registration form, the authorizing signatory on behalf of the stated company is subject to the following terms and conditions.

- All cancellations must be received in writing
Any cancellations received less than 3 working days before the date of the event, the full fee will be payable and no refunds or credit notes will be given.
If a registered delegate does not cancel and fails to attend the Workshop, this will be treated as a cancellation and no refund or credit note will be issued.

Delegate information:

Title: Surname: Name:
Full Company name: Job Title:
Postal Address (to which invoice must be sent):

Code: VAT number:
Tel: fax:
Cell: Email:

Contact/ Accounts information:

Title: Surname: Name:
Tel: fax:
Cell: Email:

Please tick the course that you would like to attend:

Currently Unavailable a Date to be Advised
Live Virtual Classroom
R6 000.00 (excl VAT)

Currently Unavailable a Date to be Advised
CedarWoods of Sandton
R7 500.00 (excl VAT)

I have read and agreed to all the conditions of registration as stipulated in this brochure.

Signature

Date

For more info and to register contact Phindi Mbedzi on tel: 011 325 0686 or cell: 071 125 6188 and email: phindi@2kg.co.za or visit www.2kg.co.za