



ELGETI
ENGINEERING

ONLINE BEARING SEMINARS

Spring 2023

- ❖ Basics of Bearing Technology
- ❖ Application Engineering
- ❖ Supplier Development
- ❖ Failure Analysis

Special Package Deals

Designer's Package

For those who design and develop machinery:

You will learn about **advanced bearing design** as well as gain the knowledge to **support purchasing** in sourcing appropriate bearings for a given application. This package combines the fundamentals from our Basics of Bearing Technology series with the most relevant chapters from Application Engineering and Supplier Development.

Included Sessions:

Basics of Bearing Technology:
Sessions 1 to 5 (complete)

Application Engineering:
Session 1 (advanced bearing design)

Supplier Development:
Sessions 1 to 2 (introduction, quality characteristics, technical specification)

Trader's Package

For those who buy and sell bearings:

You will gain a **greater understanding** of the product, the **customer's needs**, and the **most frequent failures** that confront bearing vendors.

This package combines the fundamentals from our Basics of Bearing Technology series with the most relevant sessions from Supplier Development and Failure Analysis.

Included Sessions:

Basics of Bearing Technology:
Sessions 1 to 5 (complete)

Supplier Development:
Sessions 1 to 2 (introduction, quality characteristics, technical specification)

Bearing Failure Analysis:
Sessions 1 to 2 (introduction, lubrication, faulty bearings)

Complete Package

Attend our **complete seminar program** to build a **broad and solid knowledge base**. This package comes in with a **special price for all the sessions!**

Included Sessions:

Basics of Bearing Technology:
Sessions 1 to 5 (complete)

Supplier Development:
Sessions 1 to 4 (complete)

Application Engineering:
Sessions 1 to 2 (complete)

Bearing Failure Analysis:
Sessions 1 to 4 (complete)

Basics of Bearing Technology

Session I (free):
February 28th, 2023

Introduction

- Bearing types
- Cages
- Bearing arrangements
- Interfaces (design requirements)

Session II:
March 07th, 2023

Properties I

- Tolerances (clearance, precision, etc.)
- Lubrication (grease and oil)
- Materials

Session III:
March 14th, 2023

Properties II

- Internal geometry (profiling, osculation)
- Life calculation acc. to ISO 281
- Sample inspection (including quick testing)

Session IV:
March 21st, 2023

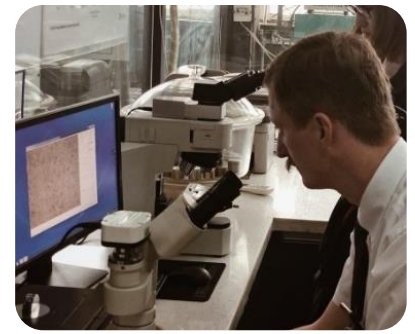
Bearing Installation and Sealing

- Best installation practices
- General sealing methods
- Sealing properties and requirements

Session V:
March 28th, 2023

Preventive Maintenance

- Oil sample analysis
- Regular inspection and endoscopy
- Condition monitoring by vibration measurement



Our sessions last 90min and are offered at two different times:

- 09:00 Central European Time / 16:00 China Standard Time (15:00 after Mar 26th)
- 17:00 Central European Time / 11:00 EST-EDT (12:00 EDT from Mar 12th to Mar 25th)

Application Engineering

Session I :

March 22nd, 2023

Advanced bearing calculation

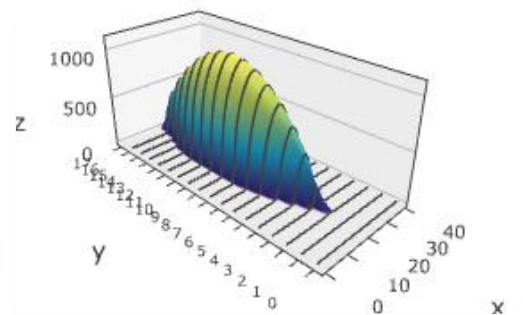
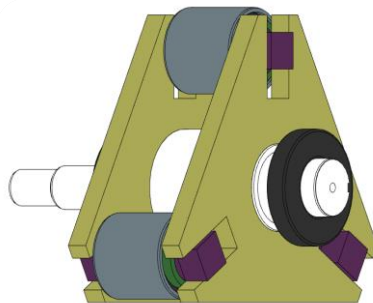
- General design recommendations
- Grease lubrication
- Example: electric motor with belt drive
- Example: helical gearbox considering local stresses

Session II:

March 29th, 2023

Accelerations on bearings

- Planetary gearboxes, eccentric rotors
- Cages exposed to vibrations
- Failure modes, design and testing methods



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Supplier Development

Session I (free):

May 09th, 2023

Introduction

- Motivation
- Definition of quality levels

Session II:

May 16th, 2023

Quality Specification

- Quality characteristics
- Technical description

Session III:

May 23rd, 2023

Production

- Approach during factory visits and audits
- Requirements for the documentation of production

Session IV:

May 30th, 2023

Quality Control

- Methods for sample inspection and incoming control
- Approach for initial approval
- Concepts for quality control



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Failure Analysis

Session I (free):
May 10th, 2023

Introduction

- Methods for inspection
- Examples of failures related to poor lubrication
- Premature failure due to contamination

Session II:
May 17th, 2023

Faulty Bearings

- Typical failure patterns of faulty bearings related to:
 - Crowning
 - Cracks
 - Poor material
 - Undercuts

Session III:
May 24th, 2023

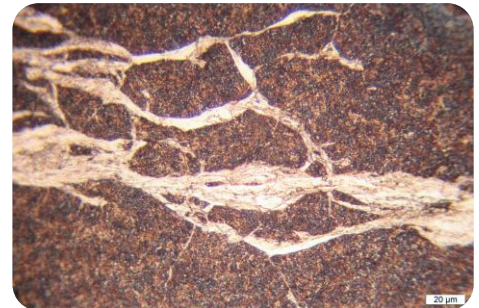
Electricity

- Electric erosion
- White etching cracks

Session IV:
May 31st, 2023

Additional causes for failure

- Premature failure due to faulty installation
- Improper fits
- Shape errors of surrounding parts
- Cage fracture



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