

WE 204 – Bearing Root Cause Failure Analysis

Recommended for

Service, maintenance, machine repair, or plant/facility engineering staff of an industrial plant, OEM facility, institution, public utility or commercial building which uses rolling bearings and related equipment. Managers and technicians at industrial plants and OEM facilities responsible for rolling bearing performance and reliability. Rotating equipment engineers, reliability engineers, millwrights, mechanics, and maintenance supervisors. Those interested in rolling bearing and rotating equipment performance.

Course objective

To provide inspection procedures and instructions for analyzing failed bearings (due to mounting errors, heat, vibration, etc.) and their components. Students will learn to determine the true root causes of bearing failures and its impact on service life. Furthermore key aspects of machine reliability are explored.

Course description

The Root Cause Bearing Failure Analysis course is taught to the new ISO Standard 15243. The course is complemented with audio-visually, lectures, hands-on training, and discussion of actual failures. Workshops include failure cause studies, visual damage assessment, failure mode detection and reporting. Participants will analyze actual bearings from various applications to assess the damage and apply the ISO methodology to determine the root cause failure mechanism.

Specific topics include:

Bearing function

- Learn how bearings support loads
- Bearing types and their use

Mounting damage

- Examples of improper installation procedures

Operating environment

- Bearing reaction to moisture, contamination, and other external influences

Maintenance

- Results of poor maintenance practices

Lubrication

- Effects of marginal and excessive lubrication
- Contamination and its effect

Vibration / Impact damages

- How to identify this type of damage
- Implement corrective actions to avoid damage

Bearing failures

- Application specific - pumps, gearboxes, motors, fans, extruders, compressors etc.
- See and inspect sample bearings that have failed - identify, and interpret actual bearing failures.

Course length

2 days