

# PRINCIPLES OF BEARINGS AND LUBRICATION

*The Bearings and Lubrication Principles course gives you the knowledge and techniques to significantly reduce operating and energy costs and extend the life of your rotating equipment.*

Learn the different bearing systems, including their function, load tolerance and lifespan. Discover how to anticipate maintenance requirements, reduce unnecessary system downtime and correct the situation quickly and effectively.

This course will help anyone who has to specify, purchase, install, maintain or repair bearing based systems.

## CLASS FORMAT:

Classroom

## STANDARD CLASS SIZE:

NTT recommends a class of not more than 35 participants to obtain the best results.

## NTT PROVIDES:

- 2-days (16 contact hours) of on-site instruction
- Textbooks
- Classroom consumables
- Completion certificates
- Shipping and instructor travel logistics

## CLIENT PROVIDES:

- Classroom of 500 square feet or greater
- Projection screen, white board and/or flip charts



## COURSE AGENDA

### POWER-TRANSMISSION PHYSICS

- Basic concepts
- The relationship between power, speed and torque
- Calculate the linear velocity of a rotating component
- Calculate speed ratio
- Efficiency and service factors

### BEARINGS

- Types and terms
- Installation and maintenance of bearings
- Troubleshoot bearing failures
- Select bearings
- Shaft and housing fits
- Bearing materials of construction
- Types and installation of precision ball bearings
- Tapered roller bearings

### LUBRICATION

- Select the right lubricant
- The right lubrication method and amount
- Terminology
- Properties
- Test procedures
- Flash and fire points
- Bearing operating environment
- Method to apply fluid lubricants

### COUPLINGS AND ALIGNMENT

- Selecting a coupling
- Energy savings
- Shaft centerlines
- Shaft alignment process and its importance
- Different types of soft foot
- Shaft versus coupling alignment
- Different types of flexible couplings
- Coupling installation and interference fit
- Comparison of couplings

### POWER-TRANSMISSION FORMULAS

### CONVERSIONS