

Industrial Lubricants Fundamentals and Applications Training Course

28 March – 1 April 2027
Muscat

AGILE LEADERS
Training Center

Industrial Lubricants Fundamentals and Applications Training Course

Ref: 1879_240214 **Date:** 28 March – 1 April 2027 **Location:** Muscat **Fees:** 6500 Euro

Overview

Industrial Lubricants Fundamentals and Applications Training Course is a one-week foundation course for maintenance, reliability, mechanical, operations, lubrication, and laboratory personnel who leave with a Machinery Lubrication Control Pack. Participants connect tribology, lubricant functions, base stocks, additives, viscosity, lubrication regimes, oil and grease selection, storage, contamination control, sampling, analysis, and application. The course turns product labels into traceable machinery decisions. Agile Leaders Training Center presents industrial lubricants through selection, cleanliness, and application control.

Who Should Attend

- Maintenance functions responsible for lubricated machinery and routine service
- Reliability teams responsible for lubricant-related failure prevention
- Mechanical functions responsible for bearings, gears, hydraulics, compressors, and turbines
- Operations teams responsible for inspections, top-up, and abnormal-condition reporting
- Laboratories responsible for lubricant sampling and condition data

The course assumes participants can follow equipment manuals and maintenance records, and it leaves out formulation chemistry, laboratory certification, and live intrusive maintenance.

Departments and Industries

The course supports departments and industries that depend on reliable lubrication of rotating and hydraulic equipment.

- Manufacturing, mining, metals, cement, and heavy industry
- Oil, gas, chemicals, power, water, and utilities
- Marine, transport, automotive, and logistics operations
- Maintenance, reliability, mechanical, and asset management
- Laboratories, stores, procurement, and technical services

Learning Objectives

By the end of this course, participants will be able to:

- Analyze friction, wear, and lubrication-film regimes
- Compare base stocks, additives, oils, and greases
- Apply viscosity and operating-condition selection criteria
- Build storage, transfer, labeling, and contamination controls
- Use representative sampling and basic oil-analysis evidence
- Diagnose lubrication symptoms and prioritize corrective actions

Course Agenda

Day 1: Establish Lubrication Fundamentals

- Friction, Wear, and Lubricant Function Map
- Hydrodynamic, Elastohydrodynamic, Mixed, and Boundary Regime Matrix
- Load, Speed, Temperature, and Surface Interaction Worksheet
- Lubrication Point and Failure-Risk Register
- Machinery Lubrication Control Pack Structure

Day 2: Compare Lubricant Materials and Properties

- Mineral, Synthetic, and Bio-Based Base Stock Comparison
- Anti-Wear, Extreme-Pressure, Antioxidant, and Detergent Additive Map
- ISO 3448 Viscosity Grade Selection Sheet
- Viscosity Index, Pour Point, Flash Point, and Oxidation Review
- Oil and Grease Thickener Compatibility Matrix

Day 3: Select and Apply Oils and Greases

- Bearing, Gear, Hydraulic, Compressor, and Turbine Application Matrix
- OEM Requirement and Operating Environment Review
- Relubrication Quantity, Interval, and Method Worksheet
- Lubrication Route, Point Identification, and Work-Control Sheet
- Changeover, Flushing, Mixing, and Compatibility Decision Guide

Day 4: Control Contamination and Monitor Condition

- Storage, Receiving, Labeling, and Transfer Cleanliness Plan
- Particle, Water, Air, Fuel, Chemical, and Cross-Contamination Map
- Filter, Breather, Seal, and Cleanliness Control Checklist
- Representative Oil Sampling Point and Procedure Record
- Viscosity, Particle, Water, Wear-Debris, and Trend Review

Day 5: Machinery Lubrication Practice

- Exercise: Identify a Lubrication Regime and Failure Risk
- Exercise: Select an Oil and ISO Viscosity Grade
- Exercise: Build a Storage and Contamination-Control Plan
- Exercise: Interpret a Basic Oil-Analysis Trend
- Capstone Exercise: Complete the Machinery Lubrication Control Pack

Practical Exercises

The course uses suggested activities based on equipment data, lubricant specifications, storage layouts, sampling records, and condition trends.

- Suggested activity: map lubrication regimes and risks for bearings, gears, and hydraulic components
- Suggested activity: compare base stocks, additives, viscosity grades, and grease characteristics
- Suggested activity: design clean receiving, storage, transfer, application, and sampling controls
- Suggested activity: evaluate abnormal lubricant results and document a corrective action

FAQs

Who suits industrial lubricants fundamentals training, and what does it assume?

Industrial lubricants fundamentals training suits maintenance, reliability, mechanical, operations, stores, and laboratory functions. It assumes participants can follow equipment manuals and maintenance records.

How does industrial lubricants training differ from advanced oil-analysis training?

Industrial lubricants training covers selection, application, storage, contamination control, and basic condition evidence. Advanced oil-analysis training focuses on analytical methods, interpretation limits, diagnostics, and laboratory quality systems.

How is an industrial lubricant viscosity grade selected?

Viscosity grade selection considers equipment design, speed, load, operating temperature, film requirement, starting conditions, environment, manufacturer guidance, and the applicable viscosity classification.

Why is lubricant contamination control important?

Contamination control reduces abrasive wear, sticking, corrosion, oxidation, additive depletion, foaming, and reliability loss by controlling particles, water, air, mixed fluids, chemicals, and poor handling.

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What makes an oil sample representative?

A representative oil sample comes from a suitable point under consistent operating conditions, uses clean equipment and a documented method, avoids stagnant or disturbed zones, and carries enough context for comparison and trending.

Conclusion

Participants take back a Machinery Lubrication Control Pack linking equipment needs, lubricant selection, application, storage, cleanliness, sampling, condition evidence, and corrective action. The pack replaces isolated product choices with traceable maintenance controls. It supports machinery reliability while approved equipment instructions, safety procedures, and competent technical review remain governing.