

MLA Level I: Oil Analysis & Lubricant Sampling

Foundational Machine Lubricant Analysis Training for Maintenance Professionals

10

MODULES

21

TOPICS

COURSE OVERVIEW

The Machine Lubricant Analyst Level I training is designed to provide foundational knowledge and skills required for analyzing machine lubricants. Participants will learn about the principles of lubrication, oil analysis techniques, and the interpretation of results to maintain and improve machinery performance. This course aims to develop competent professionals who can contribute effectively to maintenance strategies and reduce equipment downtime.

WHO THIS COURSE IS FOR

Maintenance Professionals

Reliability Engineers

Lubrication Technicians

Maintenance Managers

Condition Monitoring Technicians

LEARNING OBJECTIVES

- Explain the role of lubrication in reducing friction and wear
- Identify types and properties of lubricants such as viscosity
- Describe lubrication system types and components
- Apply proper oil sampling procedures and best practices
- Interpret oil analysis parameters such as wear metals and contaminants
- Assess oil analysis data to determine machine condition
- Identify sources of lubricant contamination and control methods
- Describe best practices for lubricant storage and safe handling

10 Modules, 21 Topics

01

Introduction to Lubrication

TOPICS

- **Understanding the Importance of Lubrication:** Explore the fundamental role of lubrication in reducing friction and wear in machine components
- **Types of Lubricants:** Learn about various types of lubricants including oils, greases, and their specific applications
- **Properties of Lubricants:** Gain insights into critical lubricant properties such as viscosity, density, and thermal stability

02

Lubrication Systems and Components

TOPICS

- **Types of Lubrication Systems:** Identify different lubrication systems used in machinery, including centralized and decentralized systems
- **Components of Lubrication Systems:** Study the components that make up lubrication systems, including pumps, filters, and reservoirs

03

Principles of Oil Analysis

TOPICS

- **Introduction to Oil Analysis:** Understand the objectives and scope of oil analysis in predictive maintenance
- **Key Oil Analysis Parameters:** Learn about critical parameters measured in oil analysis such as wear metals, contaminants, and additive elements

04

Oil Sampling Techniques

TOPICS

- **Importance of Proper Sampling:** Recognize the significance of accurate sampling techniques to ensure reliable analysis results
- **Sampling Procedures and Best Practices:** Discover various sampling methods, tools, and best practices to obtain representative samples

05

Oil Analysis Test Methods

TOPICS

- **Spectrometric Analysis:** Explore the use of spectrometry in detecting wear metals and contaminants in lubricants
- **Physical and Chemical Tests:** Understand tests such as viscosity measurement, acid number, and water content analysis

06

Data Interpretation and Reporting

TOPICS

- **Interpreting Oil Analysis Results:** Learn how to analyze and interpret oil analysis data to assess machine condition
- **Reporting and Recommendations:** Develop skills to prepare clear, actionable reports and maintenance recommendations based on analysis

07

Contamination Control and Management

TOPICS

- **Sources and Effects of Contamination:** Identify common sources of lubricant contamination and their impact on machinery
- **Techniques for Contamination Control:** Study methods to prevent and control contamination, including filtration and sealing techniques

08

Lubricant Storage and Handling

TOPICS

- **Best Practices for Storage:** Understand how to properly store lubricants to maintain their quality and performance
- **Safe Handling Procedures:** Learn the safety protocols and procedures for handling lubricants in an industrial setting

09

Basic Machinery Health Monitoring

TOPICS

- **Introduction to Machinery Condition Monitoring:** Explore the role of lubricant analysis in overall machinery health monitoring
- **Integrating Oil Analysis with Other Techniques:** Discuss how oil analysis complements other condition monitoring techniques like vibration analysis

10

Review and Certification Preparation

TOPICS

- **Course Review:** Recap key concepts and skills learned throughout the training to solidify understanding
- **Certification Exam Preparation:** Provide guidance and practice questions to help prepare for the MLA Level I certification exam

NOTES

- Upon completion of this training, participants will be equipped with the essential knowledge and skills to perform lubricant analysis proficiently and contribute to effective machinery maintenance programs.

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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