"Foundational Machine Lubricant Analysis Training for Maintenance Professionals"

Machine Lubricant Analyst (MLA) Level I Training

Course Introduction:

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.

Module 1: Introduction to Lubrication

   • 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.

Module 2: Lubrication Systems and Components

   • 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.

Module 3: Principles of Oil Analysis

   • 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.

Module 4: Oil Sampling Techniques

• 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.

Module 5: Oil Analysis Test Methods

• 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.

Module 6: Data Interpretation and Reporting

• 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.

Module 7: Contamination Control and Management

• 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.

Module 8: Lubricant Storage and Handling

• 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.

Module 9: Basic Machinery Health Monitoring

• 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.

Module 10: Review and Certification Preparation

 • 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.

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.