



## ASTM Diesel Product Certification Workshop - CER

### Objective of the course:

- Diesel engines power a significant portion of the global economy, and the reliability and efficiency of these engines are directly linked to the quality of the fuel they consume. That's why ASTM International, a global leader in the development and publication of voluntary consensus standards, has established the ASTM D975 Standard Specification for Diesel Fuel Oils.
- This course will provide participants with a comprehensive understanding of the ASTM D975 standard, including its scope, technical requirements, and test methods.
- This course will explore the critical role of ASTM standards in ensuring the quality and performance of diesel fuels used in a wide range of applications, from transportation to industrial equipment.



## At the end of the course the participants will be able to :

- Explain the purpose and importance of ASTM standards for diesel fuel quality and performance.
- Describe the key technical requirements and test methods specified in ASTM D975 - Standard Specification for Diesel Fuel Oils.
- Understand the diesel fuel certification process, including sampling, testing, documentation, and accreditation.
- Identify regulatory requirements and enforcement mechanisms related to diesel fuel compliance.
- Recognize common challenges and best practices for maintaining ASTM diesel fuel certification.
- Apply learned concepts to evaluate diesel fuel quality, troubleshoot compliance issues, and implement effective certification programs.
- Demonstrate the ability to interpret ASTM test results and make informed decisions about diesel fuel suitability.
- Recognize the role of diesel fuel certification in supporting sustainable, reliable, and efficient diesel engine operations.

## **Day One**

### **1- Overview of diesel fuel standards and regulations**

- ASTM standard development process
- ASTM International specification standards
- Importance of ASTM certification for diesel fuel quality
- Basic properties of Diesel fuel.
- Diesel fuel composition and production processes.
- Introduction to ASTM D975 - Standard Specification for Diesel Fuel Oils
- Scope and application of the standard
- Key technical requirements and test methods
- Significance of ASTM Specification for diesel fuel oils
- Grades of diesel fuel oils for various types of diesel engines
- Selection of Particular Grade

## **Day Two**

### **2- ASTM D975 Technical Requirements**

- Terminology of the ASTM D975 – Standard
- Physical properties of diesel fuel, Test methods and measurements
- Flash Point, according to ASTM D93
- Water and Sediment, according to ASTM D2709 and D1796
- Distillation Temperature, according to ASTM D86
- Kinematic Viscosity, according to ASTM D445
- Ash content, according to ASTM D482
- Cetane number, according to ASTM D613
- Cloud point, according to ASTM D2500
- Conductivity, according to ASTM D2624
- Chemical composition of diesel fuel, Test methods and measurements
- Sulfur content, according to ASTM D2624 D5453
- Copper strip corrosion rating, according to ASTM D130



- Lubricity, HFRR according to ASTM D6079
- Aromaticity according to ASTM D1319

### **Day Three**

#### **3- Diesel Fuel Certification Process**

- Sampling, Containers and Sample Handling
- ASTM test methods and laboratory ISO 17025 accreditation
- Storage and Thermal Stability of Diesel fuels
- Diesel Fuel Additives
- Diesel Fuel Monitoring
- Diesel fuel lubricity
- Fuel Characteristics Affecting Equipment Wear
- Diesel Microbial Contamination
- Water and Sediment guidelines
- Certification documentation and reporting requirements
- Introduction to other relevant ASTM standards
- ASTM D 7467 (Biodiesel Blends)
- ASTM D 6751 (Biodiesel)
- Future outlook for diesel fuel standards and certification