

## Advanced Welding Inspector

*London (UK)*

*7 - 11 April 2025*

UK Training

# PARTNER



## Advanced Welding Inspector

Code: OG28 From: 7 - 11 April 2025 City: London (UK) Fees: 5100 Pound

### Introduction

The Advanced Welding Inspector course is crafted to equip welding professionals with advanced knowledge and skills essential for excelling in welding inspection. This comprehensive program covers advanced inspection techniques, industry best practices, and emerging technologies, ensuring participants are prepared to handle the complexities of modern welding processes. Completing this course is a critical step toward achieving Certified Welding Inspector status, qualifying participants for work on complex industrial projects.

### Course Objectives

- Provide participants with an in-depth understanding of advanced welding inspection techniques.
- Enhance knowledge of current welding codes, standards, and specifications.
- Introduce participants to the latest technological advancements in welding and their implications for inspection practices.
- Develop participants' ability to interpret and evaluate welding procedures and welder qualifications.
- Enable participants to identify and analyze welding defects and understand their root causes.
- Train participants in conducting non-destructive testing NDT methods to assess weld quality.
- Equip participants with skills to evaluate and ensure weld integrity in critical applications.
- Provide tools for effectively communicating inspection findings and recommendations.

### Course Outlines

#### Day 1: Introduction to Advanced Welding Inspection

- Overview of modern welding processes and their applications.
- Introduction to advanced welding inspection techniques.
- Understanding welding codes, standards, and specifications.
- Interpretation of welding symbols.
- Overview of welding procedure specifications WPS and welder qualification requirements.

#### Day 2: Advanced Welding Defects and Inspection Methods

- Common welding defects and their causes.
- Advanced inspection methods for defect detection.
- Non-destructive testing NDT techniques: Radiographic testing, ultrasonic testing, magnetic particle testing, liquid penetrant testing, and visual inspection.
- Interpretation and evaluation of NDT results.
- Assessment of welding distortion and residual stress.

#### Day 3: Welding Metallurgy and Material Inspection



- Fundamentals of welding metallurgy.
- Material selection for specific welding applications.
- Understanding the heat-affected zone HAZ and its significance in welding inspection.
- Microstructure analysis and macroscopic examination.
- Evaluation of weld metal properties.

#### Day 4: Welding Quality Assurance and Control

- Quality assurance and quality control in welding.
- Documentation and record-keeping for welding.
- Inspection of welding during fabrication and construction phases.
- Evaluation of welding procedures and qualifications.
- Inspection of repairs and rework in welding.

#### Day 5: Advanced Topics in Welding Inspection

- Welding in critical applications: Pressure vessels, pipelines, aerospace, and others.
- Inspection of special materials: Stainless steel, aluminum, exotic alloys, and more.
- Emerging technologies in welding inspection: Laser inspection, automated inspection systems.
- Reporting and communication of inspection findings.
- Case studies and real-world applications.

#### Conclusion

Upon completion of the Advanced Welding Inspector course, participants will gain the knowledge and skills needed to excel in welding inspection, including the ability to identify defects, apply non-destructive testing techniques, and develop effective inspection protocols. This course paves the way for participants to earn their Welding Inspector Certification and join an essential field within large-scale industrial projects.



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