

PERFORM WELDING INSPECTION AND QUALITY CONTROL

UNIT CODE: ENG/OS/WEF/CR/09/6/A

UNIT DESCRIPTION

This unit of competency specifies competencies required to perform quality control and inspection on welded products and structures while observing safety. It also includes competencies to document test results.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA (<i>Bold and italicized terms are elaborated in the Range</i>)
1. Set up testing equipment and accessories	1.1 Prepare the workpieces as per standard testing procedures 1.2 Prepare testing materials, tools and equipment 1.3 Set up testing equipment as per standard testing procedures
2. Carry out weld tests and inspection	2.1 Carry out the <i>non-destructive tests</i> as per the ISO standards 2.2 Carry out the <i>destructive tests</i> as per the ISO standards 2.3 Document test results as per workplace procedures 2.4 Conduct housekeeping as per workplace procedures

RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
1. Destructive tests may include but is not limited to:	<ul style="list-style-type: none">• Tensile test (When $D \leq 25\text{mm}$)• Bend test (ISO 5173)• Fracture test (ISO 9017)
2. Non-destructive tests may include but is not limited to:	<ul style="list-style-type: none">• Visual inspection (ISO 17637)• Ultrasonic (Ferrite steel $t \geq 8\text{mm}$)• Radiographic test(ISO 17637)

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

- Safety procedures in carrying out weld tests
- Welding defects
- Qualities of good weld
- BS and ISO welding standards
- Destructive test techniques
- Non-destructive test techniques
- Documentation procedures

REQUIRED SKILLS

The individual needs to demonstrate the following skills:

- Identifying weld defects
- Conducting destructive tests
- Conducting non-destructives tests
- Documenting of test results

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	<p><i>Assessment requires evidence that the candidate:</i></p> <ul style="list-style-type: none">1.1 Prepared the workpieces as per standard testing procedures1.2 Prepared testing materials, tools and equipment1.3 Set up testing equipment as per standard testing procedures1.4 Carried out the destructive tests as per the standard testing procedures1.5 Carried out the non-destructive tests as per the standard testing procedures
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	<p>1.6 Documented test results as per workplace procedures</p> <p>1.7 Housekeeping is conducted as per workplace procedures</p>
2. Resource implications	<p>The following resources must be provided:</p> <p>2.1 Testing equipment</p> <p>2.2 PPE</p>
3. Methods of assessment	<p>Competency may be assessed through:</p> <p>3.1 Observation</p> <p>3.2 Oral questioning</p> <p>3.3 Written tests</p> <p>3.4 Projects</p>
4. Context of assessment	<p>Candidate will be assessed</p> <p>4.1 On job</p> <p>4.2 Off job</p> <p>4.3 During industrial attachment</p>
5. Guidance information for assessment.	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>