

PERFORM METAL ACTIVE GAS (MAG) WELDING

UNIT CODE: ENG/OS/WEF/CR/04/6/A

UNIT DESCRIPTION

This unit specifies competencies required for material preparation, setting up of Metal Active Gas (MAG) welding equipment and application of safety in MAG welding. It involves competencies in thermal joining of metals using consumable electrodes.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicized terms are elaborated in the Range)</i>
1. Set up MAG welding equipment and materials	1.1 Interpreted working drawings as per job specifications 1.2 Materials, tools and equipment are selected as per job specifications 1.3 Joints are prepared as per working drawings 1.4 Set up MAG welding equipment as per job specifications
2. Carry out MAG welding	2.1 Observed safety as per workplace procedures and OSHA 2.2 Welded work pieces using MAG process as per job specifications and ISO 9606-1 standard 2.3 Examined the weld joint as per ISO 17637 standard 2.4 Housekeeping is conducted 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. MAG welding equipment may include but is not limited to:	<ul style="list-style-type: none">• MAG welding PPE• MAG welding machine• MAG welding accessories• Feed wire

Variable	Range
2. Materials may include but is not limited to:	<ul style="list-style-type: none"> • Metal tubing • Metal sheets • Metal plates • Metal bars

REQUIRED KNOWLEDGE

The individual needs to demonstrate knowledge of:

- Workplace procedures and OSHA
- MAG welding equipment
- Joint preparation
- MAG welding techniques and specification procedure
- Setting of wire feed rate
- BS and ISO standards
- MAG welding safety procedures
- Applications of MAG
- Workplace housekeeping procedures

REQUIRED SKILLS

The individual needs to demonstrate the following skills:

- Interpreting working drawings
- Preparing joints
- MAG welding techniques
- Product quality assessment
- Manipulation of MAG feed rate
- Observation of safety
- Workplace housekeeping procedures

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>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Observed safety as per workplace procedures and OSHA 1.2 Selected materials, tools and equipment 1.3 Prepared joints as per working drawings 1.4 Set up MAG welding equipment in accordance with job specifications 1.5 Welded work pieces using MAG process as per job specifications and ISO 9606-1 standard 1.6 Welded work pieces are examined as per ISO 17637 1.7 Conducted housekeeping as per workplace procedures
2. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> 2.1 Fully equipped welding workshop meeting OSHA standards 2.2 MAG welding consumables and equipment 2.3 Personal Protective Equipment
3. Methods of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Written tests 3.4 Projects
4. Context of Assessment	<p>Candidate will be assessed</p> <ul style="list-style-type: none"> 4.1 On job 4.2 Off job 4.3 During industrial attachment.
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended..</p>