



**Australian Government**

# **ACMFAR314 Perform routine welding techniques for farriery activities**

**Release: 1**

# ACMFAR314 Perform routine welding techniques for farriery activities

## Modification History

| Release   | Comments                                                                                |
|-----------|-----------------------------------------------------------------------------------------|
| Release 1 | This version released with ACM Animal Care and Management Training Package Version 2.0. |

## Application

This unit of competency describes the skills and knowledge required to carry out routine manual metal arc welding (MMAW) and gas metal arc welding (GMAW), using both steel and aluminium, for farriery activities. It covers determining job requirements, preparing materials and equipment and selecting appropriate welding techniques to ensure integrity of materials during welding process. Weld quality is not required to meet an Australian Standard or equivalent. Fillet and butt welds would typically be performed on low carbon/mild steels.

The unit applies to individuals who are required to weld to carry out farriery services across different equine industry sectors.

No occupational licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

Nil

## Unit Sector

Farriery (FAR)

## Elements and Performance Criteria

| Elements                                         | Performance Criteria                                                                                                                                       |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i> | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                     |
| 1. Determine job requirements                    | 1.1 Identify job requirements from specifications, sketches, or instructions<br>1.2 Select most appropriate metal for welding process and job requirements |

| Elements                                                                                          | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>                                                  | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                     |
|                                                                                                   | 1.3 Select most appropriate welding process for job requirement<br>1.4 Identify hazards associated with the work and control risks                                                                                                                                                                                                                                                                                         |
| 2. Prepare materials and equipment for welding                                                    | 2.1 Comply with work health and safety requirements relevant to welding at all times<br>2.2 Identify, fit and use personal protective equipment for welding activity according to health and safety in the workplace procedures<br>2.3 Clean and prepare materials ready for welding<br>2.4 Set up welding equipment to meet work requirement in safe area<br>2.5 Select settings and consumables to suit job requirements |
| 3. Perform routine welding using manual metal arc welding (MMAW) and gas metal arc welding (GMAW) | 3.1 Address job specifications and identify weld locations<br>3.2 Weld materials to job requirement using MMAW process and GMAW process according to manufacturers' operating instructions and safety requirements<br>3.3 Test weld outcome for quality and useability and rectify any defects detected<br>3.4 Clean welds, using appropriate tools and materials, according to job requirements                           |
| 4. Complete work processes                                                                        | 4.1 Carry out final inspection to ensure work meets job and quality requirements<br>4.2 Clean work area, dispose of waste and non-recyclable materials and collect and store recyclable material<br>4.3 Check tools and equipment, organise maintenance of faulty or defective equipment, and store safely according to workplace procedures                                                                               |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.*

| Skill | Description |
|-------|-------------|
|-------|-------------|

| Skill                      | Description                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading                    | <ul style="list-style-type: none"><li>Interpret welding symbols and diagrams in instructions</li></ul>                                                                                                 |
| Numeracy                   | <ul style="list-style-type: none"><li>Estimate time to complete activities</li><li>Calculate quantities of materials needed for tasks</li></ul>                                                        |
| Navigate the world of work | <ul style="list-style-type: none"><li>Take responsibility for adherence to work health and safety requirements relating to welding activity and work area</li></ul>                                    |
| Get the work done          | <ul style="list-style-type: none"><li>Plan, sequence and prioritise tasks and assemble equipment to carry out welding tasks</li><li>Monitor safety and risk factors during welding processes</li></ul> |

## Unit Mapping Information

| Code and title current version                                          | Code and title previous version | Comments | Equivalence status |
|-------------------------------------------------------------------------|---------------------------------|----------|--------------------|
| ACMFAR314<br>Perform routine welding techniques for farriery activities | Not applicable                  | New unit | No equivalent unit |

## Links

Companion Volumes, including Implementation Guides, are available at VETNet: -  
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b75f4b23-54c9-4cc9-a5db-d3502d154103>

# Assessment Requirements for ACMFAR314 Perform routine welding techniques for farriery activities

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## Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has:

- used manual metal arc welding (MMAW) process to complete two different welded shoe types on at least two separate occasions
- used gas metal arc welding (GMAW) process to complete two different welded shoe types on at least two separate occasions
- for each task the individual must have:
  - interpreted specifications from drawings, sketches and verbal or written job instructions
  - cleaned and prepared materials to specifications
  - set up welding equipment, selected appropriate consumables and adjusted settings to suit application
  - welded steel and aluminium to comply with specifications
  - cleaned welds for slag and splatter.

## Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- safe welding practices and procedures, including:
  - use of fire and dangers to operators
  - use of bottled gas
  - dry and ventilated location
  - emergency procedures
  - chemical content of fumes emitted by welding processes
  - housekeeping
- hazards associated with welding, including:
  - arc eye and exposure to ultraviolet light

- metal vapours, welding electrodes and welded components
- molten metal spatter and fire danger
- uses and purposes of various metals, including:
  - properties and characteristics of commonly used metals and materials used in farriery activities
  - basic metallurgy principles
  - distortion control techniques for various metals
- material and equipment preparation, including:
  - equipment set-up and settings for MMAW and GMAW
  - appropriate welding consumables for MMAW and GMAW
- processes, properties and differences between MMAW and GMAW, including:
  - current and voltage settings
  - gas flow rates wire diameters, wire feed speed and other variables to suit typical situations
  - fuel gas properties and applications
  - shielding gas properties and applications
  - weld characteristics
- post-welding treatments
- safe work practices, including:
  - manual handling
  - work health and safety requirements
  - types, purpose and use of personal protective equipment (PPE)
  - safe disposal of waste materials.

## Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
  - a workplace or environment that accurately reflects performance in a real workplace setting
- resources, equipment and materials:
  - MMAW welding equipment
  - GMAW welding equipment
  - PPE correctly fitted and applicable to tasks for individual
  - protective screens and fume extraction system
  - materials and consumables for MMAW and GMAW welding processes
- specifications:
  - work instructions for welding tasks.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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