



**Australian Government**

# **MEALSU0003 Maintain and fit immersion suits**

**Release: 1**

## MEALSU0003 Maintain and fit immersion suits

### Modification History

Release 1. Application changed. Elements and Performance Criteria changed. Foundation Skills made explicit. Range of Conditions removed, and relevant information moved to Assessment Requirements. Assessment Requirements clarified. Supersedes and is equivalent to MEA503 Maintain and fit immersion suits.

### Application

This unit describes the skills and knowledge required to maintain and fit immersion suits. Maintenance involves inspection, testing, fault diagnosis, parts replacement and cleaning. Work may be performed individually or as part of a team. Fitting involves adjusting the immersion suit to correctly fit an individual. There are two types of immersion suits: quick don and constant wear. Quick don usually does not require fitting while constant wear is custom fitted to the individual.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Civil Aviation Safety Authority (CASA) and the Defence Aviation Safety Authority (DASA).

Any other relevant legislation, industry standards and codes of practice within Australia must be applied.

### Pre-requisite Unit

MEA107 Interpret and use aviation maintenance industry manuals and specifications

MEA118 Conduct self in the aviation maintenance environment

MEA154 Apply work health and safety practices in aviation maintenance

MEA155 Plan and organise aviation maintenance work activities

MEA156 Apply quality standards during aviation maintenance activities

MEA157 Complete aviation maintenance industry documentation

MEA158 Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

MSTTF2008 Use adhesives

### Competency Field

Aircraft life support

### Elements and Performance Criteria

| Elements                                  | Performance Criteria                                                                            |
|-------------------------------------------|-------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1. Maintain immersion suit                | <p>1.1 Inspect immersion suit for serviceability in accordance with standard procedures</p> <p>1.2 Test immersion suit for serviceability in accordance with standard procedures and manufacturer's specifications</p> <p>1.3 Report identified faults beyond own authority to rectify to supervisor and quarantine faulty immersion suit</p> <p>1.4 Replace unserviceable parts of the immersion suit while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDSs) and items of personal protective equipment (PPE)</p> <p>1.5 Clean immersion suit in accordance with standard procedures</p> <p>1.6 Repack immersion suit in accordance with standard procedures</p> <p>1.7 Present immersion suit for inspection by supervisor in accordance with standard procedures</p> <p>1.8 Complete and process maintenance documentation in accordance with standard enterprise procedures</p> <p>1.9 Clean and perform required maintenance on equipment and tools used in accordance with standard enterprise procedures</p> |
| 2. Fit immersion suit                     | <p>2.1 Explain fitting process to participant to achieve optimal fit</p> <p>2.2 Measure participant and select appropriate size immersion suit based on available information</p> <p>2.3 Use available information and participant feedback to adjust immersion suit to optimise fit</p> <p>2.4 Organise verification of immersion suit fit by supervisor in accordance with standard enterprise procedures</p> <p>2.5 Complete and process required documentation in accordance with standard enterprise procedures</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret a wide range of procedures and manuals

- Numeracy skills to interpret technical information
- Writing and oral communication skills to explain the fitting process and complete documentation.

Other foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## **Unit Mapping Information**

Release 1. Supersedes and is equivalent to MEA503 Maintain and fit immersion suits.

## **Links**

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>

# Assessment Requirements for MEALSU0003 Maintain and fit immersion suits

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## Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- maintain three immersion suits, covering a representative range of maintenance tasks, and correctly fit anti-G suits to at least three differently sized individuals
- use applicable tools and maintenance documentation to:
  - test and inspect immersion suits for serviceability
  - replace unserviceable components (boots, gloves, life-line, light, seals around wrist and neck, whistle) in accordance with approved procedures, including the use of hazardous materials and adhesives
  - select and use appropriate immersion suit cleaning materials
  - correctly fit immersion suits to users, adjusting leg length, sleeve length and trimming seals
- operate specialist equipment, including at least three of the following:
  - heat press
  - vacuum heat sealer
  - 3 stage in-line breathing apparatus
  - filter extraction systems
  - spill kits
- apply procedures, cleanliness requirements and safety precautions at all times, and as relevant to the maintenance and fitting tasks being performed.
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## Knowledge Evidence

There must be evidence the candidate has knowledge of:

- relevant enterprise procedures and maintenance publications, including:
  - equipment manufacturers' specifications and procedures
  - industry practices
  - safety manuals
  - maintenance schedules

- work instructions
- maintenance organisation manuals
- standing instructions
- Commonwealth, state and territory work health and safety (WHS) legislation, regulations, codes and procedures for immersion suit maintenance, including selecting and using personal protective equipment (PPE)
- Australian Standards for oxygen masks
- Defence Aviation Safety Authority (DASA) regulations and instructions
- how to obtain material safety data sheets (MSDSs)
- emergency procedures in relation to chemical spills and emergency evacuation of personnel in distress
- chemical disposal procedures
- requirements for storage of adhesives
- cold shock and hypothermia in relation to survival
- priorities of survival and how they relate to immersion suits and associated ancillary equipment
- physiological effects of flight
- critical nature of maintaining and fitting immersion suits
- materials used to manufacture immersion suits (i.e. neoprene and Gor-Tex)
- operation of testing and measuring equipment and tools used to maintain immersion suits
- components of an immersion suit and their function
- typical faults that may affect immersion suits, including:
  - contamination
  - corrosion of metal parts, such as zippers
  - delamination
  - incorrect manufacture
  - leaks
  - lifting of tapes
  - scuffing (e.g. boot)
  - tears in suit or seals
- modification requirements for immersion suits
- immersion suit repair procedures and limitations
- immersion suit cleaning methods and materials
- handling, storage and transit procedures relating to life support equipment
- handling and storage procedures relating to immersion suits (i.e. Macpac highly susceptible to damage)
- specialist equipment operation, including:
  - heat press
  - vacuum heat sealer
  - 3 stage in-line breathing apparatus
  - filter extraction systems
- spill kits.

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## Assessment Conditions

The following conditions of assessment represent the requirements of the regulators DASA and Civil Aviation Safety Authority (CASA) and maintenance stakeholders and must be rigorously observed.

Skills must have been demonstrated under routine supervision in the workplace or in a simulated environment that reflects workplace conditions and contingencies encountered in maintaining and fitting immersion suits. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials relevant to maintaining and fitting immersion suits
  - materials, tools and equipment specified in the maintenance manuals and applicable procedures
  - general- and special-purpose tools and items of ground support required for maintaining and fitting immersion suits.

Evidence of tasks demonstrating competency must be recorded in a log of industrial experience and achievement.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

## Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>