



Australian Government

**Assessment Requirements for MEA405
Repair/modify aircraft composite material
structure/components**

Release: 1

Assessment Requirements for MEA405 Repair/modify aircraft composite material structure/components

Modification History

Release 1 - New unit of competency

Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying relevant WHS procedures, including the use of PPE and MSDS
- using approved maintenance documentation and aircraft publications relating to aircraft structure
- identifying composite component applications in aircraft structures
- identifying various aircraft composite materials/resins and their basic properties by interpretation of markings and visual means
- handling and storing of composite materials to industry standards
- assessing composite component damage using visual and tap test methods
- performing composite component repairs using:
 - external patch repair
 - scarf repair
 - stepped repair
 - wet lay-up repair
 - composite fastener hole repair
 - metal to metal and metal to composite bonding
- correctly interpreting and /or producing repair scheme/modification drawings/sketches
- using appropriate hand tools and machines to disassemble and assemble aircraft composite components, parts, sections and skin, including extraction/installation equipment, drilling/cutting equipment, and material fasteners.

The underlying skills inherent in this unit should be transferable across the range of different material applications and curing requirements. It is essential that specific aspects of the laying up and curing process for aircraft composite materials are checked to ensure quality and safety standards are achieved in this area. Correct checking and wearing of safety protective clothing is critical, particularly in the hot bonding process.

Evidence of knowledge about repair techniques and the use of the standard repair manual in a range of different repair situations will be necessary to supplement evidence of ability to plan and undertake component repair. Ability to apply different materials and curing cycles, including composite to composite and composite to metal components, will be necessary to indicate competency in preparing and curing composite materials.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- how to obtain relevant MSDS
- the use of applicable items of PPE
- WHS procedures
- aircraft construction principles
- defining composite terminology
- composite component construction methods, including structural assembly fastener identification.

Assessment Conditions

- Competency should be assessed in the workplace or simulated workplace. It is also expected that general-purpose tools and test equipment found in most routine situations would be used where appropriate.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria of the unit of competency are being achieved under routine supervision using materials from each of:
 - pre-preg materials hot cure (performed on one of carbon graphite, kevlar, fibreglass or aluminium)
 - cold cure or wet lay-up (using either fibreglass or carbon graphite)
 - core materials (using one of aluminium, nomex or foam).
- This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).
- Where the unit is to be used for CASA licensing purposes the Assessor must also meet the criteria specified in the CASR Part 147 Manual of Standards.

Links

Companion Volume implementation guides are found in VETNet -

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