



**Australian Government**

# **MEASTR0002 Modify and repair aircraft composite materials structures and components**

**Release: 1**

# MEASTR0002 Modify and repair aircraft composite materials structures and components

## Modification History

Release 1. Unit code and title changed. 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 MEA405 Repair/modify aircraft composite material structure/components.

## Application

This unit describes the skills and knowledge required to repair aircraft composite material structure and components during the performance of scheduled or unscheduled maintenance using hand skills, maintenance publications and applicable materials, tools and methods. Work may be performed individually or as part of a team.

Applications include composite material structure and components from fixed and rotary wing aircraft either on-aircraft or in the workshop.

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

MEASTR0001 Inspect aircraft structures

## Competency Field

Aviation maintenance

## Elements and Performance Criteria

| Elements                                  | Performance Criteria                                                                                                                                                                                                                                                                                               |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element.                                                                                                                                                                                                                    |
| 1. Plan repair or modification            | 1.1 Assess extent of damage using visual and tap test methods to assist in determining repair procedure<br>1.2 Support structure and prepare it in accordance with maintenance manual to ensure personnel safety and avoidance of damage<br>1.3 Identify suitable modification or repair scheme in accordance with |

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|                                                | <p>structural repair manual and relevant data</p> <p>1.4 Obtain specialist or supervisory advice to establish an approved repair scheme where a standard repair scheme cannot be identified, or damage criteria are out of limits</p> <p>1.5 Organise all required materials and equipment in readiness for repair or modification</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2. Prepare components for hot bonding          | <p>2.1 Prepare components in accordance with process specification 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>2.2 Check bagging to ensure vacuum seal is correct</p> <p>2.3 Place temperature probes to provide accurate measurement</p> <p>2.4 Check equipment for serviceability to ensure safety in application</p> <p>2.5 Lay heat blanket on component or structure to be repaired or modified, ensuring even temperature distribution</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3. Repair or modify components using hot bond  | <p>3.1 Operate hot bonding equipment in accordance with equipment manufacturer's procedures to achieve the void-free lamination</p> <p>3.2 Monitor vacuum and temperature recordings, including checking hot and cold spots on trailing and leading temperature probes, to ensure specifications are met</p> <p>3.3 Monitor curing cycle and operating cycle data recording in accordance with specified procedures to ensure specifications are met</p> <p>3.4 Seal, pot or fill blemishes as required and in accordance with process specification</p> <p>3.5 Prepare component assemblies, including test pieces, that need further or special treatment for the required processes</p> <p>3.6 Complete and process required maintenance documentation relating to hot bond repair or modification in accordance with standard enterprise procedures</p> <p>3.7 Tag, seal and pack completed assemblies in accordance with specified procedures</p> <p>3.8 Handle and store composite materials used in accordance with industry standards</p> |
| 4. Repair or modify components using cold cure | <p>4.1 Check lay-up of materials to confirm that components meet specifications while observing all relevant WHS requirements, including the use of MSDSs and items of PPE</p> <p>4.2 Regularly monitor curing cycle to ensure specifications are met</p> <p>4.3 Check components for blemishes or delamination in accordance with</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|  | <p>quality procedures</p> <p>4.4 Prepare component assemblies requiring further or special treatment for the required processes</p> <p>4.5 Complete and process required maintenance documentation in accordance with standard enterprise procedures</p> <p>4.6 Tag, seal or pack completed assemblies in accordance with specific procedures</p> <p>4.7 Handle and store composite materials used in accordance with industry standards</p> |
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## 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 maintenance manuals, inspection procedures and specifications.
- Writing skills to record and report on repair and modification operations.
- Numeracy skills to interpret and communicate technical information including drawings or sketches.

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

## Unit Mapping Information

Release 1. Supersedes and is equivalent to MEA405 Repair/modify aircraft composite material structure/components.

## Links

Companion Volume implementation guides are found in VETNet –

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