Australian Government

MEA434 Weld aircraft components using the plasma arc welding process

Release: 2

MEA434 Weld aircraft components using the plasma arc welding process

Modification History

Release 2. Equivalent to MEA434 Weld aircraft components using the plasma arc welding process with amended prerequisite codes.

Application

The unit of competency requires application and adaption of the skills and knowledge of MEM05044B Perform welds to code standards using gas tungsten arc welding process, to the plasma arc welding (PAW) of applicable aircraft parent metal groups as specified by the Regulators during scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

The unit covers the development of competency elements required to gain approval within the Civil Aviation Safety Authority (CASA) or the Australian Defence Force (ADF) regulatory systems to weld aircraft components using the PAW process. Individuals will be authorised to weld specific parent metal groups, as specified in CAAP 33-1(1) Aircraft manual welding: approvals and qualifications or RAAF Specification Engineering W5003 Welders – Qualification for Aircraft, Missile and Aerospace Fusion welding.

Pre-requisite Unit

MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA154	Apply work health and safety practices in aviation maintenance
MEA156	Apply quality standards during aviation maintenance activities
MEA157	Complete aviation maintenance industry documentation
MEM05026C	Apply welding principles
MEM05044B	Perform welds to code standards using gas tungsten arc welding process

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
1.	Prepare to perform repair or fabricate component using PAW process	1.1	Materials or component to be welded and the applicable parent metal group are identified in accordance with applicable data
		1.2	Welding equipment is inspected for serviceability and correctly set up in accordance with standard operating procedures
		1.3	Component (or materials) are prepared for welding
2.	Plasma arc weld component	2.1	Welds are performed to the required standard in accordance with the applicable repair scheme or drawing while observing all relevant work health and safety (WHS) requirements, including the use of material safety data sheets (MSDS) and items of personal protective equipment (PPE)
		2.2	Completed welds are inspected for defects and any defects rectified
3.	Complete documentation	3.1	Required documentation is completed in accordance with standard enterprise procedures

Foundation Skills

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

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Materials include:

- Any metal used in the construction of aircraft components that is suitable for PAW

Components include:	• Any aircraft component where PAW is specified as either a fabrication or repair technique
Parent metal groups against which welding authorities are individually granted are:	• Aluminium alloys • Magnesium alloys • Carbon steels and low alloy steels • Corrosion and heat resisting steels • Nickel alloys • Copper-based alloys • Titanium alloys
Required standards are specified in:	• Regulations relating to required test pieces • Process specifications • Repair manuals • Overhaul manuals • Australian and New Zealand Standards

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371