



Australian Government

UEEAS0006 Use lead-free soldering techniques

Release: 1

UEEAS0006 Use lead-free soldering techniques

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to use lead-free soldering techniques.

It includes working safely, performing high reliability soldering/de-soldering, checking components against job specifications, testing and following quality procedures.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

Competency Field

Assembly

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to carry out lead-free soldering

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified, obtained and understood

1.2 WHS/OHS risk control measures for work preparation are followed

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| | 1.3 | Scope of work is determined from documentation or from work supervisor |
| | 1.4 | Work is coordinated with others involved to ensure work schedules are met and safety measures are followed |
| | 1.5 | Materials required for work are sourced and checked for lead-free soldering requirements in accordance with workplace procedures and relevant industry standards |
| | 1.6 | Tools and equipment required for work are selected for their effectiveness and checked for correct operation and safety |
| 2 | Carry out lead-free soldering | |
| | 2.1 | WHS/OHS risk control work measures and procedures are followed |
| | 2.2 | Lead-free soldering characteristic and requirements are applied to soldering/de-soldering operations |
| | 2.3 | Components are connected and disconnected in accordance with workplace procedures and relevant industry standards |
| | 2.4 | Work is carried out in accordance with quality workplace procedures and relevant industry standards |
| | 2.5 | Lead-free soldering is completed in acceptable timeframe, environment and workplace conditions |
| 3 | Check quality of lead-free soldering work | |
| | 3.1 | WHS/OHS risk control measures for work completion are followed |
| | 3.2 | Quality of lead-free is checked in accordance with workplace procedures and industry standards |
| | 3.3 | Functional tests on lead-free soldered connections are carried out in accordance with workplace routines |
| | 3.4 | Actions are taken to rectify defects within the scope of work and in accordance with workplace procedures |
| | 3.5 | Report forms/data sheets on lead-free soldering work are completed |

Foundation Skills

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

competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEA106A Use lead-free soldering techniques.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEEAS0006 Use lead-free soldering techniques

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- adhering to quality procedures
- applying relevant work health and safety (WHS)/occupational health and safety (WHS/OHS) requirements, including using risk control measures
- carrying out functional tests on lead-free soldered connections
- carrying out lead-free soldering
- checking quality of lead-free soldering work
- following manufacturer specifications and operating instructions
- preparing to carryout lead-free soldering
- rectifying defects
- soldering and de-soldering components
- sourcing and checking materials
- using high reliability lead-free soldering/de-soldering techniques.

Knowledge Evidence

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

- completed soldered connections compliance requirements
- component requirements for lead-free soldering
- equipment requirements
- lead-free solder issues
- lead-free soldering cleaning requirements
- lead-free soldering safety considerations
- quality management procedures for soldering and re-work
- relevant differences, advantages and disadvantages between lead and lead-free solder
- relevant industry standards
- relevant manufacturer specifications and operating instructions

- relevant soldering tools and equipment
- relevant types of fluxes and their activity level
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace quality, instructions, policies and procedures
- solder types and characteristics
- soldering techniques.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated suitable workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to applying lead-free soldering technology
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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