Unit of Competency CPCPRF2024 Fabricate roof coverings for curved structures

Application

This unit specifies the skills and knowledge required to design and fabricate curved industrial roof coverings.

It covers drawing fabrication patterns based on sketches of roof coverings, calculating curve dimensions and selecting roofing materials for new or existing, domestic or commercial structures.

The unit is suitable for people with basic skills and knowledge who undertake routine work tasks under the direction of more experienced workers.

In some jurisdictions, this unit of competency may form part of accreditation, licensing, legislative, regulatory or certification requirements.

Prerequisite Unit

CPCPCM2043 Carry out WHS requirements

Elements and Performance Criteria

1. Prepare for work.	1.1 Determine requirements roof coverings to be designed and fabricated based on plans and specifications. 1.2 Identify and apply workplace policies and procedures, work health and safety (WHS) and environmental requirements and sustainability principles associated with fabricating roof coverings for curved structures. 1.4 Consult with relevant personnel to plan and sequence tasks. 1.5 Prepare work area to support efficient fabrication of roof coverings.
2. Identify installation requirements.	2.1 Select roofing material that is suitable for the fabrication process, job requirements and relevant information. 2.2 Ascertain curvature of roof covering and use to determine the starting and finishing points of curves. 2.3 Create design and freehand sketch of the roof covering to form the basis of fabrication patterns. 2.4 Draw fabrication patterns based on design and freehand sketch of roof covering.
3. Fabricate covering.	3.1 Determine material list from patterns and calculations. 3.2 Determine method of fabrication, tools and machinery for fabrication to suit job requirements. 3.3 Select and check the serviceability of the appropriate tools, equipment and PPE reporting any faults according to workplace procedures. 3.4 Mark out and fabricate roof covering according to drawings, patterns or calculations 3.5 Access information to complete documentation according to workplace procedures and submit within specified timeframes.
4. Clean up.	4.1 Clear the work area, and dispose of, reuse or recycle materials in accordance with state and territory legislation and workplace policies and procedures.

	4.2 Clean tools and equipment, check for serviceability reporting any damage, store and secure.

Foundation skills

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

Unit Mapping Information

Supersedes and is equivalent to CPCPRF2024A Fabricate roof coverings for curved structures.

Links

Companion Volume Implementation Guide:
https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad

Assessment Requirements for CPCPRF2024 Fabricate roof coverings for curved structures

Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria for this unit by:

- designing and fabricating the curved roof coverings of a bull nosed verandah incorporating one internal and one external angle.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- capillary action, thermal expansion and fabrication techniques to prevent leaking installations
- characteristics of various metals and finishes
- uses and limitations of materials:
    - drawing materials
    - manufacturer catalogues and specifications
    - metal roof sheeting of concealed or fixed type and accessories
- design concepts and performance measures for curved roof covering including
- electrolysis and problems associated with the use of dissimilar metals
- job safety environmental analysis (JSEA) and safe work method statements (SWMSs)
- processes of designing and fabricating curved roof coverings:
    - barrel shaped
    - concave
    - convex
    - hyperbolic
    - paraboloid
- processes for accessing information relevant to designing and fabricating roof coverings:
    - charts and hand drawings
    - instructions issued by authorised organisational or external personnel
    - manufacturer specifications and instructions
    - safety data sheets (SDSs)
    - memos
    - organisation work specifications and requirements
    - plans and sketches
    - regulatory and legislative requirements, particularly those pertaining to:
        - building codes
        - WHS and environmental requirements
        - plumbing regulations
    - relevant Australian standards
    - safe work procedures relating to the design, and fabrication of coverings for curved roofs
    - signage
    - verbal, written and graphical instructions

    - work bulletins
    - work schedules, plans and specifications.
- different types of tools and equipment, their application and method of operation:
    - drafting equipment
    - hand and power tools
    - lifting and load shifting equipment
    - machinery for shaping the roof material
    - measuring equipment
- processes for reporting faults according to company's workplace procedures this includes both written and verbal
- statutory and regulatory authorities:
    - Commonwealth government
    - state or territory governments
    - local authorities
- SI system of measurements
- safe work practices associated with designing and fabricating roof coverings for curved structures:
    - handling of materials
    - hazard control
    - personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
    - recognising and preventing hazards associated with:
        - electricity
        - hazardous materials and substances
        - service lines
        - surrounding structures and facilities
        - trip hazards
        - use of tools and equipment
        - work site visitors and the public
        - working at heights
        - working in proximity to others
    - use of firefighting equipment
    - use of first aid equipment
    - workplace environment and safety
- environmental requirements and sustainability principles and concepts:
    - clean-up protection
    - stormwater protection
    - waste management
    - efficient energy
    - efficient use and recycling of material
    - disposing of waste material to ensure minimal environmental impact
    - selecting appropriate components to ensure minimal environmental impact.
- quality assurance requirements:
    - Environment Protection Authority (EPA)
    - internal company quality assurance policy and risk management strategy
    - International Standards Organisation (ISO)
    - site safety plan
    - workplace operations and procedures.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

This unit must be assessed in the workplace or a close simulation using realistic workplace conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Links

Companion Volume Implementation Guide: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad