

Domain

CARPENTRY

Title:

Construct and erect advance roofing

Level: 3

Credits: 10

Purpose

This unit standard specifies the competencies required to construct and erect advance roofing. It includes planing and preparing for work, demonstrating constructing of trusses for gable and butterfly roof cladding structures, positioning and installing trusses, installing insulation materials, positioning and installing purlins, cladding roofing with tiles, cladding gable roofing with thatching, cladding roofing with asphalt materials, cladding gable and butterfly roof structures with sheets and installing finishing components.

This unit standard is intended for those who work as carpenters.

Special Notes

1. Entry information:

Prerequisites:

- *1157-Demonstrate basic knowledge of workplace health and safety or demonstrated equivalent knowledge and skills.*
2. To demonstrate competence, evidence is required of constructing gable and butterfly roofing using required tools and following specifications. It includes elevating, positioning and securing of trusses, purlins and cladding for roofing with tiles, thatching, asphalt and sheet materials.
3. Assessment evidence may be collected from a real workplace, or simulated real workplace in which carpentry operations are carried out.
4. Tools and equipment may include but are not limited to carpenter pencil, spanners, squares, measuring tape, rulers, sliding bevel, hammers, portable or hand plane, builder line, straight edge, spirit level, saw, claw bar, circular saw, screw drivers, tin snip, pliers, clamping and gripping tools, drill machine, drill bits, bit set, grinder and accessories.
5. Types of trusses include but not limited to fink, howe, mono, king-post and pratt.
6. Cladding materials for roofing includes but not limited to:
- corrugate and inverted box rib (IBR) sheets made of galvanised, asbestos, plastic, aluminium;
 - tiles made of fibre cement slates, clay and concrete;
 - asphalt materials;
 - thatching grasses and poles.
7. Fixatives may include but are not limited to nails, screws, bolts and nuts, corrugated fasteners, nail plates, angle plates and hoop iron.

8. Structural material may include but are not limited to timber, mitex (galvanise) and steel.
9. All inspection, operation and maintenance procedures associated with the use of tools and equipment shall comply with manufacturers' and company guidelines, instructions, and reasonable flat rate time.
10. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act No 11, 2007 as amended;
 - Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Plan and prepare for work

Performance Criteria

- 1.1 Safety requirements are followed in line with safety policies.
- 1.2 Sign and barricade requirements are identified and implemented.
- 1.3 Tools and equipment selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults rectified or reported prior to commencement.
- 1.4 Material quantity requirements are calculated in line with plans and/or specifications.
- 1.5 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located, ready for use.
- 1.6 Environmental protection requirements are identified and applied in line with environmental plans and regulatory obligations.

Element 2: Demonstrate construction of trusses for gable and butterfly roof cladding structures

Performance Criteria

- 2.1 Drawing of roof structures interpreted and explained.

- 2.2 Tools and equipment are identified.
- 2.3 Factors consider for selecting material are explained.
- 2.4 Material selected in line with job requirement.
- 2.5 Set out truss template according to drawing.
- 2.6 Construct and finish trusses according to specification.

Element 3: Position and install trusses

Performance Criteria

- 3.1 Safety precautions are identified and explained.
- 3.2 Wall plates are treated and securely fixed.
- 3.3 Trusses are elevated and position according to specifications.
- 3.4 Trusses are secured and temporally bracing done.
- 3.5 Trusses are fixed on to wall.

Element 4: Install insulation materials

Performance criteria

- 4.1 Types of insulation materials are identified.
- 4.2 Purpose of insulation materials and specifications are explained.
- 4.3 Materials are marked, cut and trimmed to specifications.
- 4.4 Materials are installed in line with specifications.
- 4.5 Materials are inspected for compliance.

Element 5: Position and install purlins

Performance Criteria

- 5.1 Safety precautions are identified and explained.
- 5.2 Materials of purlins are identified and selected according to specifications.
- 5.3 Position of purlins is determined according to specifications.
- 5.4 Purlins are elevated and position.

5.5 Purlins are secured according to specifications.

Element 6: Clad roof with tiles

Performance Criteria

- 6.1 Top batten position interpreted according to drawing.
- 6.2 Tilting batten position interpreted according to drawing.
- 6.3 Counter batten position interpreted according to drawing.
- 6.4 Intermediate battens position interpreted according to drawing.

Element 7: Clad gable roof with thatching

Performance Criteria

- 7.1 Poles positioned according to drawing.
- 7.2 Purlins spaced and positioned according to drawing.
- 7.3 Thatch grass placed and installed according to specifications.
- 7.4 Ridge sealing explained and demonstrated.
- 7.5 Finishing of roof is demonstrated according to specification.
- 7.6 Roofing inspected according to specifications and explained.

Element 8: Clad roof with asphalt materials

Performance Criteria

- 8.1 Drawing of roof structures interpreted and explained.
- 8.2 Tools and equipment are identified.
- 8.3 Factors considered for selecting material are explained.
- 8.4 Materials are identified and selected according to specifications.
- 8.5 Cladding is installed according to drawing.
- 8.6 Finishing of roof is demonstrated according to specification.

Element 9: Clad gable and butterfly roof structures with sheets

Performance Criteria

- 9.1 Drawing of roof structures interpreted and explained.

- 9.2 Tools and equipment are identified.
- 9.3 Factors considered for selecting material are explained.
- 9.4 Materials are identified and selected according to specifications.
- 9.5 Cladding is installed according to drawing.
- 9.6 Roofing inspected according to specifications and explained.

Element 10: Install finishing components

Range

Finishing components by include but not limited to ridge capping, ridge tiles, fascia boards and barge boards.

Performance Criteria

- 10.1 Ridging materials are securely fixed according to specifications.
- 10.2 Barge and fascia boards are in line and level.
- 10.3 Work area is cleaned.
- 10.4 Safely precautions are adhered to.
- 10.5 All work is completed within allocated time frame.

Registration Data

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