

**Domain****CARPENTRY****Title:****Construct and erect gable roof with  
hipped-end and valley****Level: 4****Credits: 10****Purpose**

This unit standard specifies the competencies required to construct and erect gable roof with hipped-end and valley. It includes planning and preparing for work, setting out rafter patterns for hipped end roofs, constructing hipped-end gable roofs, constructing valley end gable roofs, positioning and installing purlins, cladding roof structures and installing finishing components.

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

**Special Notes**

1. Entry information:

Prerequisite:

- *1157 - Demonstrate basic knowledge of workplace health and safety or demonstrated equivalent knowledge and skills.*

2. To demonstrate competence, at a minimum, evidence is required of constructing gable roof with hipped-end and valley roofing using required tools and following specifications. Construction includes elevating, positioning and securing of trusses, purlins and cladding of structures.
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](http://www.namqa.org) and the Namibia Training Authority on [www.nta.com.na](http://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 plans and 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: Set out rafter patterns for hipped end roofs**

#### **Performance criteria**

- 2.1 Roofing terminologies are defined.

- 2.2 Drawing of roof structures interpreted and explained.
- 2.3 Type of roof is identified.
- 2.4 Roof structure designs used are explained.
- 2.5 Calculations related to roofing are identified and calculated.
- 2.6 Materials and fixatives are identified.
- 2.7 Tools and equipment are identified.

### **Element 3: Construct hipped-end gable roofs**

#### **Performance Criteria**

- 3.1 Material selected in line with job requirement.
- 3.2 Span checked for run (angle).
- 3.3 Wall plates are treated and installed.
- 3.4 Crown rafter and ridge board positioned and braced.
- 3.5 Tie beam positioned.
- 3.6 Rafters are braced.
- 3.7 Saddle board is fixed.
- 3.8 Jack, hipped rafters, struts and remaining binders are positioned.

### **Element 4: Construct valley end gable roofs**

#### **Performance Criteria**

- 4.1 Material selected in line with job requirement.
- 4.2 Span checked for run (angle).
- 4.3 Valley rafter and ridge board positioned and braced.
- 4.4 Tie beam positioned.
- 4.5 Rafters are braced.
- 4.6 Saddle board is fixed.
- 4.7 Cripple rafters, struts and remaining binders are positioned.
- 4.8 Valley board positioned and installed.

## **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 structures**

### **Performance Criteria**

- 6.1 Drawing of roof structures interpreted and explained.
- 6.2 Tools and equipment are identified.
- 6.3 Factors considered for selecting material are explained.
- 6.4 Materials are identified and selected according to specifications.
- 6.5 Valley gutters is installed according to drawing.
- 6.6 Cladding is installed according to drawing.
- 6.7 Finishing of roof is demonstrated according to specification.
- 6.8 Roofing inspected according to specifications and explained.

## **Element 7: Install finishing components**

### **Range**

Finishing components may include but not limited to ridge capping, hip capping, IBR closures, ridge tiles, fascia boards and barge board.

### **Performance Criteria**

- 7.1 Safety precautions are adhered to.
- 7.2 Ridging materials are securely fixed according to specifications.
- 7.3 Barge and fascia boards are in line and level.

## **Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	08 June 2016
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