

**Domain**  
**Title:**  
**Level: 3**

**CARPENTRY**  
**Construct timber joints using machines**

**Unit ID: 1595**

**Credits: 6**

**Purpose**

This unit standard specifies the competencies required to construct timber joints using machines. It includes planning and preparing for work, identifying and selecting different types of timber joints, marking out joints, cutting joints using machines, fitting joints and finishing joints.

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. This unit standard is to be delivered and assessed in the context of carpentry operations and should be assessed in conjunction with other relevant technical unit standards selected from this domain.
3. To demonstrate competence, at a minimum, evidence is required of making joints using machines. Timber joints includes:
  - Butt joints: square ended, mitre, edge-to-edge, tongue and groove, dowel, biscuit, rebate, loose tongue and groove, slotted screw, laminated.
  - Halving joints: cross, tee, corner, dovetailed, mitre, oblique, glazing bar halving,
  - Housing joints: through, stopped, bare-face, dovetailed.
  - Mortise and tenon joints: through, stopped, wedged, double, twin, pinned, haunched, groove-frame, rebate-frame, moulded-frame, bare-face tenon, skewed tenon, corner joint, loose-wedged, corner bridle, T-bridle.
  - Dovetail joints: single, through, lapped, double lapped, bevelled, mitre, skewed, decorative through, mitred through, rebate through.Board joints includes:
  - Corner joints: butt, mitre, spindle mitre, loose tongued mitre, lapped, mitre lapped, bare-faced housing, dowel, mitre dowel, through dovetail, lapped dovetail, double lapped, mitred dovetail, biscuit.
  - T-joints: butt, housing, stopped housing, bare-faced housing, dovetailed housing, dowel, biscuit.
  - Edge-to-edge: butt, loose tongue, tongue and groove, dowel, biscuit.
4. Assessment evidence may be collected from a real workplace, or simulated real workplace in which carpentry operations are carried out.

5. All the joints may be reinforced by nails, screws, wriggle nails, nail plates, gang nails, angle plates or patent connectors and bolts.
6. Tools and equipment may include but are not limited to try square, mitre square, measuring tape, ruler, folding rule, sliding bevel, rubber hammer, circular saw, surface planner, thickness planner, spindle moulder, mortiser, router, dowel, band saw, bench drill and press.
7. Material and fixatives may include but are not limited to timber; fastening materials; nails, screws, bolts, dowels, glue, corrugated plates, wriggle nails, nail plates, gang nail plates and angle plates.
8. 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.
9. Regulations and legislation relevant to this unit standard include the following:
  - Labour Act, No. 11, 2007 as amended;
  - Public and Environmental Health Act No 1, 2015;
  - 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: Identify and select different types of timber joints**

### **Performance criteria**

- 2.1 Different types of joints are identified from sketches and drawings.
- 2.2 Different types of joints are selected for given applications.
- 2.3 Materials and fixatives to be used are identified.

## **Element 3: Mark out joints**

### **Performance criteria**

- 3.1 Marking out tools are selected and used in line with workplace procedures.
- 3.2 Correct marking out procedure is followed in line with workplace procedures.
- 3.3 Marking out is carried out in line with specifications.

## **Element 4: Cut joints using machines**

### **Performance criteria**

- 4.1 Machines and equipment are operated in line with manufacturers' specifications and workplace procedures.
- 4.2 Machines, machine guards, fences and accessories are set up and adjusted in line with manufacturers' specifications.
- 4.3 Machining of joints is undertaken in line with standard methods and procedures.

## **Element 5: Fit joints**

### **Performance criteria**

- 5.1 Joints are fitted according to specifications and workplace procedures.
- 5.2 Faults in joints are identified and rectified in line with workplace procedures.

## **Element 6: Finish joints**

### **Performance criteria**

- 6.1 Finishing methods and products are identified and selected in line with workplace procedures.
- 6.2 Different finishing methods and products are applied in line with workplace procedures.

6.3 Fixatives install to manufactures' specifications.

### **Registration Data**

<b>Subfield:</b>	General Construction
<b>Date first registered:</b>	08 June 2016
<b>Date this version registered:</b>	08 June 2016
<b>Anticipated review:</b>	2021
<b>Body responsible for review:</b>	Namibia Training Authority