FORMWORK FOR A CONCRETE SLAB

The bulk of the work in laying a new slab for a domestic building is in the excavation and preparation of the formwork. In this unit you will be constructing formwork for a 'L' shaped dwelling using appropriate materials and techniques that include:

- external corner
- internal corner
- edge rebate

Plan for a 'L' shaped dwelling

The importance of getting the formwork for a concrete slab right, cannot be overstated. The formwork must be rigid and thick enough so as not to bend under the load of fresh concrete placed against it. The formwork will lay out the dimensions of the home.
CONCRETE SLABS

A concrete slab forms the foundation of a house or building and is made using concrete. The type of slab used depends on the nature of the soil on the site and the kind of house being built. There are two main types of concrete slabs, raft or ground slab and waffle slab.

Raft or Ground Level Slab

Raft foundation consists of a concrete slab. Moreover, raft foundation serves to avoid differential settlement which otherwise would occur if pad or strip foundation is adopted.

Waffle Pod Slab

A waffle pod slab is constructed entirely above the ground by pouring concrete over a grid of polystyrene blocks known as 'void forms'. Waffle pod slabs are generally suitable for sites with less reactive soil and use about 30% less concrete and 20% less steel than a raft or ground level slab. Waffle pod slabs are only suitable for very flat ground.
**ASSESSMENT 2: EXPLAIN THE DIFFERENT TYPES OF CONCRETE SLABS TO YOUR INSTRUCTOR**

**How:** Read page 21 then explain the different types of concrete slabs to your instructor.

**RAFT OR GROUND LEVEL SLAB PROCESS**

The raft or ground level slab is the simplest and most common slab construction technique. It is this technique that will be used for Assessment 3, where you will construct the formwork for a slab along the outer edges of the building footprint, **Step 6**.

The following steps are used to construct a raft or ground level slab:

**Step 1** Level the site using laser tools to suite the slab and house construction and set the datum.

**Step 2** Dig trenches about 450mm wide x 450mm deep around the perimeter of external walls and under load bearing walls to engineer specifications.

**Step 3** Position steel reinforcing bars and mesh within the formwork before the concrete is poured in. **Note:** Plastic or steel bar chairs are used to hold the reinforcing steel away from the bottom and sides of the form-work, so that when the concrete sets it completely envelops the reinforcement.

**Step 4** Pour ready mixed concrete into the trench to ground level

**NOTE:** Due to the nature of concrete, to provide a slab that fits engineer specifications it must in most cases be completed in one pour.

**Step 5** Install moisture protection, termite protection, electrical conduit, drainage and sewerage pipes for bathrooms and kitchens are positioned.

**Step 6** Erect formwork for the slab along the outer edges of the building footprint. The formwork will provide the shape of the slab and hold the concrete while it dries.

**Step 7** Lay polythene sheeting and tape.

**Step 8** Lay steel reinforcement fabric and trench mesh for the slab

**Step 9** Pour concrete in one operation creating a slab that covers the entire floor area.
# Student Learning Guide & Record

<table>
<thead>
<tr>
<th>TASK</th>
<th>PAGE</th>
<th>TASK TITLE</th>
<th>DATE COMPLETED</th>
<th>INSTRUCTOR'S SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>19</td>
<td>Summarises concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment 2</td>
<td>22</td>
<td>Explain the different types of concrete slabs to your instructor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment 3</td>
<td>23</td>
<td>Erect formwork for a slab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment 4</td>
<td>31</td>
<td>Summarises reinforcing steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment 5</td>
<td>33</td>
<td>Reflection – Formwork for concrete</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## OBSERVATION OF PERFORMANCE

**VU20981 Formwork for concrete**

<table>
<thead>
<tr>
<th>Has the learner?:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complied with OHS legislation, regulations, Codes of Practice applicable to workplace operations.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Complied with workplace/organisational policies and procedures.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Communicated and worked safely and effectively with others.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Completed set out to achieve levels and other specified dimensions before construction of formwork</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Constructed formwork for a 'L' shaped dwelling using the appropriate materials and techniques, including:</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• external corner</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• internal corner</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• edge rebate</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Is the learner C competent or N not yet competent?  
C ☐ N ☐

Outline further training if required here

Assessors comments

Assessors name: .............................................................
Signature: ............................................................. Date: .............................................................

I acknowledge that I have been informed of the assessment decision and agree to the proposed training plan (if required).

Student’s name: .............................................................
Signature: ............................................................. Date: .............................................................