

ECVET Earth Building	<b>Formwork</b> Rammed earth	<b>Unit F</b>
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<b>Learning outcomes</b>		<b>Levels 3+4</b>
KNOWLEDGE	SKILLS	
<ul style="list-style-type: none"> <li>- Formwork types and requirements (assembly, safety, storage):               <ul style="list-style-type: none"> <li>o Moving or static</li> <li>o Partial, integral</li> <li>o Traditional (historical), manufactured</li> </ul> </li> <li>- Plan / drawing reading</li> <li>- Formwork assembly: formwork key, spacer tubes, wood spacers</li> <li>- Formwork for curved walls, other shapes</li> <li>- Block-outs (negative / imprint) for constructive details: corners, edges, openings, top of wall, services</li> <li>- Criteria for selection of an appropriate system</li> <li>- Relation of component sizes and resistance to bending</li> <li>- Materials for formwork (different skins, surfaces)</li> <li>- Installation of the formwork: handling, transport, set up, alignment, plumb, clamp connectors</li> <li>- Factors influencing the final rammed wall surface quality</li> <li>- Specific safety works at height and handling</li> <li>- Appropriate scaffold types and requirements</li> <li>- Health and safety regulations</li> </ul>	<p><b>Set up and rotation</b></p> <ul style="list-style-type: none"> <li>- Receive and control a system formwork (one-man, craned)</li> <li>- Hand-make specific formwork</li> <li>- Ensure use and placing of appropriate scaffold</li> <li>- Set up, fix and prop the formwork to suit the wall length</li> <li>- Manage the use and rotation of the shutters</li> <li>- Make, set up and remove block-outs</li> <li>- Remove the formwork</li> </ul> <p><b>Maintenance</b></p> <ul style="list-style-type: none"> <li>- Clean, maintain and store the shutters and accessories</li> </ul> <p><b>Planning and Organisation</b></p> <ul style="list-style-type: none"> <li>- Read formwork plans and drawings</li> <li>- Calculate materials for hand-made specific formwork</li> <li>- Design block-outs</li> <li>- Select and use appropriate tools and machines</li> <li>- Organise the building site for formwork delivery, production, rotation, storage)</li> </ul>	



## COMPETENCE

## Level 3

**Decision making process**

- Choose an appropriate formwork system for a defined task

**Planning and organising for own work**

- With the materials provided, plan and organise the production of formwork according to the specifications
- Plan and organise the assembly and removal of formwork under site conditions

**Execution, quality control and coordination within the earth building team**

- Work in accordance with the schedule of works, adjust to general work process on site, instruct L1 + L2 workers of the EB team
- Check if all the steps involved conform to the specification and program
- Identify problems and report
- Control the setting up and stability of formwork

**Communication beyond the earth building team**

- Liaise with non earth-building specialists on formwork setting up and rotation

## COMPETENCE

## Level 4

**Decision making process**

- Advise on formwork coursing and formwork types in the design process

**Planning and organising for team work**

- Make formwork plans and produce an appropriate formwork for a defined task
- Plan and organise the assembly, rotation and removal of formwork under site conditions

**Execution, quality control and coordination within the earth building team**

- Supervise and coordinate the entire work of the earth building team according to the specifications and program
- Report construction progress
- Identify significant problems and intervene
- Control the production of formwork
- Control the assembly and removal of formwork

**Communication beyond the earth building team**

- Liaise with supervision and design team
- Liaise with other trades and professionals, coordinate and sequence earth works within the general schedule
- Liaise with non earth building specialists on formwork setting up and rotation



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<b>Criteria and Indicators for the Assessment of Skills</b>		<b>Levels 3+4</b>
Criteria	Indicators	
Set up and rotation	<ul style="list-style-type: none"> <li>- Formwork is set out according to the plans</li> <li>- Formwork is set up plumb; it is stiff enough</li> <li>- Formwork is stable and regularly checked</li> <li>- It is possible to take the formwork apart without damaging the work</li> <li>- Formwork removal is planned</li> <li>- The dimensions of the form comply with the design</li> <li>- Formwork rotation is done carefully to avoid damage to finished lifts</li> </ul>	
Maintenance	<ul style="list-style-type: none"> <li>- All elements of the formwork are cleaned and stored under dry conditions</li> <li>- Damaged and worn out parts are sorted out and replaced</li> </ul>	

Ensure that standards of work and materials comply with relevant codes of practice and to current standards.

