



**THE REPUBLIC OF KENYA**

**NATIONAL OCCUPATIONAL STANDARDS  
FOR  
BUILDING TECHNICIAN**

**KNQF LEVEL 6  
ISCED PROGRAM CODE: 0732 554B**



**TVET CDACC  
P.O BOX 15745-00100  
NAIROBI**

## EXECUTE BUILDING TEMPORARY WORKS

UNIT CODE: CON/OS/BUT/CC/05/6/A

### UNIT DESCRIPTION

This Unit describes the competencies required to perform building temporary works. It involves erecting and dismantling building scaffolds and building shores, constructing and dismantling building formwork/shuttering and trench timbering.

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA <i>(Bold and italicized terms are elaborated in the Range)</i>
1. Construct and dismantle trench timbering	<ul style="list-style-type: none"><li>1.1 <b><i>Trench timbering materials and tools</i></b> are determined according to the construction rules and regulations</li><li>1.2 Personal protective equipment is selected, fitted and used according to safety rules and regulations</li><li>1.3 Trench timbering is constructed as per <b><i>soil type</i></b> and site topography</li><li>1.4 Trench timbering is dismantled according to site procedures and critical structural safety requirements</li></ul>
2. Construct and dismantle building formwork/shuttering	<ul style="list-style-type: none"><li>2.1 <b><i>Formwork material</i></b> is identified as per structure complexity, job drawings or supervisor instructions</li><li>2.2 Formwork dimensions are determined as per the structural elements to be supported</li><li>2.3 Personal protective equipment is selected, fitted and used according to safety rules and regulations</li><li>2.4 <b><i>Formwork type</i></b> is erected according to the structural element to be cast</li><li>2.5 Oiling of timber formwork surface is carried out for easy dismantling after concrete setting</li><li>2.6 Formwork is fixed into position in accordance with the construction rules and regulations</li><li>2.7 Formwork is dismantled according to site procedures and critical structural safety requirements</li></ul>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b> ( <i>Bold and italicized terms are elaborated in the Range</i> )
3. Erect and dismantle building scaffold	<p>3.1 <b><i>Scaffold system</i></b> is determined as per complexity of the building, engineering design, job drawings or supervisor instructions</p> <p>3.2 <b><i>Personal protective equipment</i></b> is selected, fitted and used according to safety rules and regulations and job specifications</p> <p>3.3 Scaffolds are erected to plan according to safe work practices and engineers' specifications</p> <p>3.4 Scaffolds are dismantled according to engineers' specifications, site procedures and critical structural safety requirements</p> <p>3.5 Site cleaned and cleared of all tools, excess material and waste</p>
4. Erect and dismantle building shores	<p>4.1 <b><i>Type of shore</i></b> is selected according to the nature of the work</p> <p>4.2 <b><i>Shoring materials</i></b> are selected according to the construction rules and regulations</p> <p>4.3 Personal protective equipment is selected, fitted and used according to safety rules and regulations</p> <p>4.4 Shoring is erected as per site conditions and building construction rules and regulations</p> <p>4.5 Shoring is dismantled according to site procedures and critical structural safety requirements</p>

## **RANGE**

<b>Variable</b>	<b>Range</b>
1. Scaffold system may include but is not limited to:	<ul style="list-style-type: none"> <li>• Quick stage</li> <li>• Cup lock</li> </ul>
2. Personal protective equipment may include but is not limited to:	<ul style="list-style-type: none"> <li>• Helmets</li> <li>• Safety boots</li> <li>• Gloves</li> <li>• Overall</li> <li>• Reflectors</li> </ul>

<b>Variable</b>	<b>Range</b>
3. Formwork material may include but is not limited to:	<ul style="list-style-type: none"> <li>• Timber</li> <li>• Metal plates</li> <li>• Plastic</li> </ul>
4. Formwork type may include but is not limited to:	<ul style="list-style-type: none"> <li>• column formwork</li> <li>• beam formwork</li> <li>• Slab formwork</li> <li>• staircase formwork</li> </ul>
5. Trench timbering materials and tools may include but is not limited to:	<ul style="list-style-type: none"> <li>• Timber</li> <li>• Hammer</li> <li>• Metal plates</li> <li>• Pliers</li> <li>• Nails</li> <li>• binding wires</li> </ul>
6. Soil type may include but is not limited to:	<ul style="list-style-type: none"> <li>• unconsolidated soils</li> <li>• consolidated soils</li> </ul>
7. Type of shore may include but is not limited to:	<ul style="list-style-type: none"> <li>• Raking/Inclined shore</li> <li>• Flying/horizontal shore</li> <li>• Dead/vertical shore</li> </ul>
8. Shoring materials may include but is not limited to:	<ul style="list-style-type: none"> <li>• timber</li> <li>• steel tubes</li> </ul>

## **REQUIRED KNOWLEDGE AND SKILLS**

### **Knowledge**

- Measurement
- Formwork
- Scaffolding
- Soil properties
- Wall construction
- Trench excavation
- Basic arithmetic
- Technical drawings
- Design forces
- Timber properties

### **Skills**

- Measurement skills
- Basic mathematic skills
- Reading skills
- Communication skills
- Management skills
- Design skills
- Problem solving skills
- Critical thinking
- Construction tools handling skills
- Technical drawing skills

## EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Erected and dismantled building scaffolds 1.2. Constructed and dismantled building formwork/shuttering 1.3. Constructed and dismantled trench timbering 1.4. Erected and dismantled building shores 1.5. Observed occupational health and safety procedures to create a safe working environment
2. Resource Implications	The following resources should be provided: 2.1 Training workshops 2.2 Construction tools and equipment 2.3 Occupational Safety and health manuals 2.4 Construction manuals 2.5 Reference textbooks 2.6 Qualified trainers 2.7 Personal protective equipment
3. Methods of Assessment	Competency may be assessed through: 3.1. Practical Tests 3.2. Written Tests 3.3. Oral interview
4. Context of Assessment	Competency may be assessed on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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