



THE REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS
FOR
BUILDING TECHNICIAN

KNQF LEVEL 6
ISCED PROGRAM CODE: 0732 554B



TVET CDACC
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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">1.1 <i>Trench timbering materials and tools</i> are determined according to the construction rules and regulations1.2 Personal protective equipment is selected, fitted and used according to safety rules and regulations1.3 Trench timbering is constructed as per <i>soil type</i> and site topography1.4 Trench timbering is dismantled according to site procedures and critical structural safety requirements
2. Construct and dismantle building formwork/shuttering	<ul style="list-style-type: none">2.1 <i>Formwork material</i> is identified as per structure complexity, job drawings or supervisor instructions2.2 Formwork dimensions are determined as per the structural elements to be supported2.3 Personal protective equipment is selected, fitted and used according to safety rules and regulations2.4 <i>Formwork type</i> is erected according to the structural element to be cast2.5 Oiling of timber formwork surface is carried out for easy dismantling after concrete setting2.6 Formwork is fixed into position in accordance with the construction rules and regulations2.7 Formwork is dismantled according to site procedures and critical structural safety requirements

ELEMENT	PERFORMANCE CRITERIA (<i>Bold and italicized terms are elaborated in the Range</i>)
3. Erect and dismantle building scaffold	<p>3.1 Scaffold system is determined as per complexity of the building, engineering design, job drawings or supervisor instructions</p> <p>3.2 Personal protective equipment 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 Type of shore is selected according to the nature of the work</p> <p>4.2 Shoring materials 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

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

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

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	<p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> 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	<p>The following resources should be provided:</p> <ol style="list-style-type: none"> 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	<p>Competency may be assessed through:</p> <ol style="list-style-type: none"> 3.1. Practical Tests 3.2. Written Tests 3.3. Oral interview
4. Context of Assessment	<p>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.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>

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