



**COMPETENCY STANDARD**  
**FOR**  
**Enhanced Aluminium Formwork Installation**  
**(Singapore)**

**Level: 3**

**(Construction Sector)**

**Competency Standard Code: CS-CON-EAFI-L3-EN-V1**



**National Skills Development Authority**  
**Chief Advisor's Office**  
**Government of the People's Republic of Bangladesh**



## Copyright

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This document has been developed by NSDA in association with Construction Sector, industry representatives, academia, related specialist, trainer and related employee.

Public and private institutions may use the information contained in this standard for activities benefitting Bangladesh.

## **Introduction**

The NSDA aims to enhance an individual's employability by certifying completeness with skills. NSDA works to expand the skilling capacity of identified public and private training providers qualitatively and quantitatively. It also aims to establish and operationalize a responsive skills ecosystem and delivery mechanism through a combination of well-defined set of mechanisms and necessary technical supports.

Key priority economic growth sectors identified by the government have been targeted by NSDA to improve current job skills along with existing workforce to ensure required skills to industry standards. Training providers are encouraged and supported to work with industry to address identified skills and knowledge to enable industry growth and increased employment through the provision of market responsive inclusive skills training program. "**Construction Formwork**" is selected as one of the priority occupations of Construction Sector. This standard is developed to adopt a demand driven approach to training with effective inputs from Industry Skills Councils (ISC's), employer associations and employers.

Generally, a competency standard informs curriculum, learning materials, assessment and certification of trainees enrolled in Skills Training. Trainees who successfully pass the assessment will receive a qualification in the National Skills Qualification Framework (NSQF) under Bangladesh National Qualification Framework and will be listed on the NSDA's online portal.

This competency standard is developed to improve skills and knowledge in accordance with the job roles, duties and tasks of the occupation and ensure that the required skills and knowledge are aligned to industry requirements. A series of stakeholder consultations, workshops were held to develop this document.

The document also details the format, sequencing, wording and layout of the Competency Standard for an occupation which is comprised of Units of Competence and its corresponding Elements.

## Overview

A competency standard is a written specification of the knowledge, skills and attitudes required for the performance of an occupation, trade or job corresponding to the industry standard of performance required in the workplace.

The purpose of a competency standards is to:

- provide a consistent and reliable set of components for training, recognising and assessing people's skills, and may also have optional support materials
- enable industry recognised qualifications to be awarded through direct assessment of workplace competencies
- encourage the development and delivery of flexible training which suits individual and industry requirements
- encourage learning and assessment in a work-related environment which leads to verifiable workplace outcomes

Competency standards are developed by a working group comprised of representative from NSDA, Key Institutions, ISC, and industry experts to identify the competencies required of an occupation in Informal Sector.

Competency standards describe the skills, knowledge and attitude needed to perform effectively in the workplace. CS acknowledge that people can achieve technical and vocational competency in many ways by emphasizing what the learner can do, not how or where they learned to do it.

With competency standards, training and assessment may be conducted at the workplace or at training institute or any combination of these.

Competency standards consist of a number of units of competency. A unit of competency describes a distinct work activity that would normally be undertaken by one person in accordance with industry standards.

Units of competency are documented in a standard format that comprises of:

- unit title
- nominal duration
- unit code
- unit descriptor
- elements and performance criteria
- variables and range statement
- curricular content guide
- assessment evidence guide

Together, all the parts of a unit of competency:

- describe a work activity
- guide the assessor to determine whether the candidate is competent or not yet competent

The ensuing sections of this document comprise of a description of the relevant occupation, trade or job with all the key components of a unit of competency, including:

- a chart with an overview of all Units of Competency for the relevant occupation, trade or job including the Unit Codes and the Unit of Competency titles and corresponding Elements
- the Competency Standard that includes the Unit of Competency, Unit Descriptor, Elements and Performance Criteria, Range of Variables, Curricular Content Guide and Assessment Evidence Guide.

## Competency Standards for National Skill Certificate – 3 in Enhanced Aluminium Formwork Installation in Construction Sector

### Level Descriptors of Skills Sector, BNQF Level 1-6

Level & Job classification	Knowledge Domain	Skills Domain	Responsibility Domain
6-Mid-Level Manager/ Sub Assistant Engineer	Comprehensive actual and theoretical knowledge within a specific work or study area with an awareness of the validity and limits of that knowledge, able to analyse, compare, relate and evaluate.	Specialised and wider range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems. Communicate professional issues and solutions to the team and to external partners/users.	Work under broad guidance and self-motivation to execute strategic and operational plan/s. Lead lower-level management. Diagnose and resolve problems within and among work groups.
5-Supervisor	Broad knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to scrutinize and break information into parts by identifying motives or causes.	Broad range of cognitive and practical skills required to generate solutions to specific problems in one or more work or study areas. Communicate practice-related problems and possible solutions to external partners.	Work under guidance of management and self-direction to resolve specific issues. Lead and take responsibility for the work and actions of group/team members. Bridge between management.
4-Highly Skilled Worker	Broader knowledge of the underlying, concepts, principles, and processes in a specific work or study area, able to solve problems to new situations by comparing and applying acquired knowledge.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying the full range of methods, tools, materials and information. Communicate using technical terminology and IT technology with partners and users as per workplace requirements.	Work under minimal supervision in specific contexts in response to workplace requirements. Resolve technical issues in response to workplace requirements and lead/guide a team/ group.
3-Skilled Worker	Moderately broad knowledge in a specific work or study area, able to perceive ideas and abstract from drawing and design according to workplace requirements.	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools. Communicate with his team and limited external partners upholding the values, nature and culture of the workplace	Work or study under supervision with considerable autonomy. Participate in teams and responsible for group coordination.
2-Semi Skilled Worker	Basic understanding of underpinning knowledge in a specific work or study area, able to interpret and apply common occupational terms and instructions.	Skills required to carry out simple tasks, communicate with his team in the workplace presenting and discussing results of his work with required clarity.	Work or study under supervision in a structured context with limited scope of manipulation
1 –Basic Skilled Worker	Elementary understanding of ability to interpret the underpinning knowledge in a specific study area, able to interpret common occupational terms and instructions.	Specific Basic skills required to carry out simple tasks. Interpret occupational terms and present the results of own work within guided work environment/ under supervision.	Work under direct supervision in a structured context with limited range of responsibilities.

## List of Abbreviations

CS	-	Competency Standard
ISC	-	Industry Skills Council
CONISC	-	Construction Industry Skills Councils
NSDA	-	National Skills Development Authority
BNQF	-	Bangladesh National Qualification Framework
OSH	-	Occupational Safety and Health
PPE	-	Personal Protective Equipment
SCVC	-	Standards and Curriculum Validation Committee
STP	-	Skills Training Provider
SOP	-	Standard Operating Procedure
UoC	-	Unit of Competency
EAFI	-	Enhanced Aluminium Formwork Installation
4 iR	-	4 <sup>th</sup> Industrial Revolution



Approved by the Authority meeting, held on .....



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**Competency Standards for National Skill Certificate, Level-2 in  
Construction Formwork in Construction Sector**

**Course Structure**

<b>Sl. No.</b>	<b>Unit code and Title</b>		<b>UOC Level</b>	<b>Nominal (Hours)</b>
<b>Generic Units of Competencies</b>				<b>100</b>
1.	GU-03-L2-V1	Communicate in the Workplace	2	15
2.	GU-04-L2-V1	Follow Health Hygiene Procedure	2	20
3.	GU-09-L3-V1	Carryout Workplace Interaction in English	3	65
<b>Sector Specific Units of Competencies</b>				<b>20</b>
4.	SU-CON-01-L1-V1	Interpret Drawings, Specifications and Manuals	1	20
<b>Occupation Specific Units of Competencies</b>				<b>240</b>
5.	OU-CON-EAFI-01-L3-V1	Apply Safety Procedures in Aluminium Formwork	3	30
6.	OU-CON-EAFI-02-L3-V1	Interpret and Apply Fundamentals Issues of Aluminium Formwork.	3	30
7.	OU-CON-EAFI-03-L3-V1	Use Tools for Advanced Aluminium Formwork	3	30
8.	OU-CON-EAFI-04-L3-V1	Perform Assembly & Erection of Aluminium Panel	3	120
9.	OU-CON-EAFI-05-L3-V1	Dismantle the Aluminium Formwork	3	30
<b>Total Nominal Hours</b>				<b>360</b>

## Units & Elements at Glance

### Generic Competencies (100 Hours)

Code	Unit of competency	Elements of competency	Duration (hours)
GU-03-L2-V1	Communicate in the Workplace	<ol style="list-style-type: none"> <li>1. Receive verbal instructions</li> <li>2. Interpret verbal and written information/instruction</li> <li>3. Convery instructions using verbal and written forms of communication</li> <li>4. Complete written documentation</li> <li>5. Participate in workplace meetings and discussions</li> </ol>	15
GU-04-L2-V1	Follow Health Hygiene Procedure	<ol style="list-style-type: none"> <li>1. Interpret healthy living</li> <li>2. Provide Education and counselling on hygiene and sanitation</li> <li>3. Perform personal hygiene and well grooming standards</li> <li>4. Identify and prevent hygiene risks</li> </ol>	20
GU-09-L3-V1	Carryout Workplace Interaction in English	<ol style="list-style-type: none"> <li>1. Practice to prepare simple sentence</li> <li>2. Read and interpret workplace documents in English</li> <li>3. Write simple routine workplace documents in English</li> <li>4. Listen conversation in English</li> <li>5. Perform conversation in English</li> <li>6. Practice professional ethics at workplace</li> </ol>	65
<b>Total hours</b>			<b>100</b>

## Sector specific competencies (20 Hours)

Code	Unit of competency	Elements of competency	Duration (hours)
SU-CON-02-L2-V1	Interpret Drawings, Specifications and Manuals	<ol style="list-style-type: none"><li>1. Identify information from manuals</li><li>2. Identify drawings and specifications</li><li>3. Interpret drawings and specifications</li><li>4. Interpret manuals</li><li>5. Store manuals</li></ol>	20
<b>Total hours</b>			<b>20</b>

## Occupation specific competencies (240 Hours)

Code	Unit of competency	Elements of competency	Duration (Hours)
OU-CON-EAFI-01-L3-V1	Apply Safety Procedures in Aluminium Formwork	<ol style="list-style-type: none"> <li>1. Interpret safety policies and procedures</li> <li>2. Plan and prepare for safe work practices</li> <li>3. Use safe work practices</li> <li>4. Work with ladder and platform</li> <li>5. Respond to emergencies</li> <li>6. Perform green Practice in the workplace</li> </ol>	30
OU-CON-EAFI-02-L3-V1	Interpret and Apply Fundamentals Issues of Aluminium Formwork	<ol style="list-style-type: none"> <li>1. Identify basic building parts</li> <li>2. Interpret formwork and Falsework materials</li> <li>3. Interpret formwork accessories</li> <li>4. Perform basic measurement and calculations</li> </ol>	30
OU-CON-EAFI-03-L3-V1	Use Tools for Advanced Aluminium Formwork	<ol style="list-style-type: none"> <li>1. Identify tools</li> <li>2. Use hand tools</li> <li>3. Use power tools</li> <li>4. Perform basic preventive maintenance</li> <li>5. Maintain workplace, tools, equipment and materials</li> </ol>	30
OU-CON-EAFI-04-L3-V1	Perform Assembly & Erection of Aluminium Panel	<ol style="list-style-type: none"> <li>1. Prepare for work</li> <li>2. Plan and prepare for formworks</li> <li>3. Assemble panels of formwork</li> <li>4. Erect Aluminium component</li> <li>5. Maintain workplace, tools, equipment and materials</li> </ol>	120
OU-CON-EAFI-05-L3-V1	Dismantle the Aluminium Formwork	<ol style="list-style-type: none"> <li>1. prepare for formworks dismantling</li> <li>2. Remove formwork</li> <li>3. Clean and store the dismantled panels</li> <li>4. Maintain workplace, tools, equipment and materials</li> </ol>	30
<b>Total Hours</b>			<b>240</b>

## **Generic Units of Ccompetencies**

<b>Unit code and Title</b>	<b>GU-03-L2-V1: Communicate in the Workplace</b>
<b>Unit Descriptor</b>	<p>This unit covers the knowledge, skills and attitudes (KSAs) required to communicating in the workplace.</p> <p>It includes the receiving verbal instructions, interpreting verbal and written information/instruction, conveying instructions using verbal and written forms of communication, completing written documentation and participating in workplace meetings and discussions.</p>
<b>Nominal Hours</b>	<b>15 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables.
1. Receive verbal instructions	<p>1.1 Instructions are accessed and interpreted;</p> <p>1.2 Questions are asked to clarify understanding or gain more information;</p> <p>1.3 Information/instruction is recorded.</p>
2. Interpret verbal and written information/ instruction	<p>2.1 <b><u>Written instructions</u></b> are interpreted;</p> <p>2.2 Work <b><u>signage's</u></b> are properly responded;</p> <p>2.3 Routine written instructions are followed in sequence;</p> <p>2.4 Feedback is given to workplace supervisor.</p>
3. Convey instructions using verbal and written forms of communication	<p>3.1 Relevant <b><u>communication</u></b> methods are used to transmit instructions;</p> <p>3.2 Appropriate non-verbal communication is used;</p> <p>3.3 Channels of communication are identified and followed;</p> <p>3.4 Communication <b><u>tools and equipment</u></b> are operated and faults are identified and reported;</p> <p>3.5 Information is conveyed using appropriate <b><u>forms.</u></b></p>
4 Complete written documentation	<p>4.1 All required <b><u>documentation</u></b> is completed;</p> <p>4.2 Workplace data are recorded;</p> <p>4.3 Written information/instruction is passed to personnel.</p>
5 Participate in work place meetings and discussions	<p>5.1 Meetings are attended regularly and on time;</p> <p>5.2 Meeting inputs are consistent with the meeting purpose and established protocols;</p> <p>5.3 Opinions are expressed without interruption;</p> <p>5.4 Meeting outputs are processed and implemented.</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range</b> (may include but not limited to):
1. Written instructions	<p>1.1 Supervisor's/Manager's Instructions</p> <p>1.2 Memoranda</p> <p>1.3 Rules and Regulations</p> <p>1.4 Signage</p> <p>1.5 Approved Work Plan</p> <p>1.6 External communications</p>

2. Signage	<ul style="list-style-type: none"> <li>2.1 On-site direction signs</li> <li>2.2 Common site warnings</li> <li>2.3 Location signs</li> <li>2.4 Traffic signs</li> </ul>
3. Communication	<ul style="list-style-type: none"> <li>3.1 Verbal instructions</li> <li>3.2 Written instructions</li> <li>3.3 Online communication</li> </ul>
4. Tools and equipment	<ul style="list-style-type: none"> <li>4.1 Telephone</li> <li>4.2 Mobile Phone</li> <li>4.3 Fax machines</li> <li>4.4 Two-way radio</li> <li>4.5 Computers</li> <li>4.6 Forms</li> <li>4.7 Memo</li> </ul>
5. Forms	<ul style="list-style-type: none"> <li>5.1 Memorandum</li> <li>5.2 Requisitioning Form</li> <li>5.3 Personnel Form</li> <li>5.4 Safety Report Form</li> </ul>
6. Documentation	<ul style="list-style-type: none"> <li>6.1 Reports (Monthly, Quarterly, Half-Yearly, Annual)</li> <li>6.2 Plans (Strategic Plan, Operational Plan, Monthly Schedule)</li> <li>6.3 Monitoring and Evaluation Report</li> <li>6.4 Minutes of Meetings</li> </ul>
<p><b>Evidence Guide</b>  The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency</p>	
1. Critical Aspects of Competency	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 demonstrated knowledge of workplace procedures in receiving, interpreting and conveying verbal &amp; written communication.</li> <li>1.2 satisfied the requirements mentioned in the Performance Criteria and Range of Variables.</li> </ul>
2. Underpinning Knowledge	<ul style="list-style-type: none"> <li>2.1 Workplace Communication Policies, Standards and Procedures</li> <li>2.2 Verbal and Non-verbal communication</li> <li>2.3 Modes of Communication</li> <li>2.4 Communication Equipment: Types, Uses and Faults</li> <li>2.5 Channels of Communication</li> </ul>
3. Underpinning Skills	<ul style="list-style-type: none"> <li>3.1 Receiving verbal instructions.</li> <li>3.2 Interpreting verbal and written information/ instruction</li> <li>3.3 Conveying instructions using verbal and written forms of communication</li> <li>3.4 Completing written documentation</li> <li>3.5 Participating in workplace meetings and discussions</li> </ul>

4. Underpinning Attitude	4.1 Commitment to occupational health and safety 4.2 Environmental concerns 4.3 Eagerness to learn 4.4 Tidiness and timeliness 4.5 Respect for rights of peers and seniors in workplace 4.6 Communication with peers and seniors in workplace
5. Resource Implications	The following resources must be provided: 5.1 Pens 5.2 Telephone 5.3 Computer 5.4 Writing materials 5.5 Online communication
6. Methods of Assessment	Methods of assessment may include but not limited to: 6.1 Demonstration 6.2 Oral questioning 6.3 Written test 6.4 Portfolio
7. Context of Assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre; 7.2 Assessment should be done by a NSDA certified/nominated assessor.
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

Unit Code and Title	GU-04-L2-V1: Follow Health Hygiene Procedure
<b>Unit Descriptor</b>	<p>This unit covers the skills, knowledge and attitude required in working in the informal sector.</p> <p>It includes the tasks of interpreting healthy living, providing education and counselling on hygiene and sanitation, performing personal hygiene and well grooming standards and identifying and preventing hygiene risks</p>
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <u><b>Bold and Underlined</b></u> terms are elaborated in the Range of Variables.
1. Interpret healthy living	1.1 Physical, mental and social health conditions are interpreted; 1.2 <u><b>Keys for healthy living</b></u> are interpreted.
2. Provide Education and counselling on hygiene and sanitation	2.1 Hygiene is defined; 2.2 Importance of hygiene is recognized; 2.3 <u><b>Components of personal hygiene</b></u> are interpreted; 2.4 <u><b>Community hygiene</b></u> is interpreted; 2.5 Sanitation is described; 2.6 Importance of safe water and sanitation are interpreted; 2.7 Counselling is provided for using safe water and sanitation.
3. Perform personal hygiene and well grooming standards	3.1 Personal hygiene and well grooming are practiced in line with workplace health and safety requirements; 3.2 Health conditions and / or illness are reported as required by the workplace; 3.3 <u><b>Personal Protective Equipment (PPE)</b></u> are used and applied according to the situation; 3.4 Movement around the workplace are conducted in accordance with the procedure.
4. Identify and prevent hygiene risks	4.1 Potential <u><b>hygiene risks</b></u> are identified as per workplace hygiene procedures; 4.2 Actions are taken to <u><b>minimize or remove risks</b></u> within the scope of individual responsibility as per workplace requirements; 4.3 Hygiene risks are reported to the appropriate person, which are beyond the control of individual staff members.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Keys for healthy living	1.1 Healthy environment 1.2 Healthy food habits 1.3 Sleeping regularly 1.4 Abstinance from tobacco and alcohol/substance abuse 1.5 Taking regular physical exercise 1.6 Recreational activities 1.7 Reduce stress

2. Components of personal hygiene	<ul style="list-style-type: none"> <li>2.1 Hand washing</li> <li>2.2 Skin hygiene</li> <li>2.3 Regular bathing</li> <li>2.4 Hair and Nail cutting</li> <li>2.5 Clean wearable</li> <li>2.6 Not to spit anywhere</li> <li>2.6 Usage of sandal/foot hygiene</li> <li>2.7 Menstrual hygiene</li> <li>2.8 Waste disposal</li> </ul>
3. Community hygiene	<ul style="list-style-type: none"> <li>3.1 Safe water supply</li> <li>3.2 Sanitation facilities</li> <li>3.3 Hygiene promotion</li> <li>3.4 Waste management</li> <li>3.5 Vector control</li> <li>3.6 Environment hygiene</li> <li>3.7 Health education</li> <li>3.8 Monitoring</li> </ul>
4. Personal protective equipment (PPE)	<ul style="list-style-type: none"> <li>4.1 Protective gown/apron</li> <li>4.2 Gloves</li> <li>4.3 Face mask</li> <li>4.4 Eye protection</li> <li>4.5 Hair net</li> <li>4.6 Raincoat / umbrella</li> <li>4.7 Sun cap</li> <li>4.8 Walking shoes</li> </ul>
5. Hygiene risks	<ul style="list-style-type: none"> <li>5.1 Bacterial and other contamination arising from poor handling of food</li> <li>5.2 Poor personal hygiene practices</li> <li>5.3 Poor work practices</li> <li>5.4 Cleaning</li> <li>5.5 Housekeeping</li> <li>5.6 Food handling</li> <li>5.7 Vermin</li> <li>5.8 Airborne dust</li> <li>5.9 Water contamination</li> <li>5.10 Cross-contamination through inappropriate cleaning practices</li> <li>5.11 Inappropriate handling of potentially infectious linen</li> <li>5.12 Contaminated wastes such as blood and body secretions</li> <li>5.13 Disposal of garbage and contaminated or potentially contaminated wastes</li> </ul>
6. Minimize or remove risks	<ul style="list-style-type: none"> <li>6.1 Regular Handwashing</li> <li>6.2 Personal Protective Equipment (PPE)</li> <li>6.3 Clean work attire</li> <li>6.4 Sanitize work areas</li> <li>6.5 Proper waste disposal</li> <li>6.6 Avoid cross-contamination</li> </ul>

	6.7 Stay informed 6.8 Continuous training 6.9 Self-monitoring 6.10 Regular health check-up 6.11 Report hazards 6.12 Awareness buildup 6.13 Clear Communication
<b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: 1.1 interpreted healthy living; 1.2 recognized the importance of hygiene; 1.3 interpreted components of hygiene; and 1.4 interpreted safe water and sanitation 1.5 practiced personal hygiene and grooming standard 1.6 identified and prevented hygiene risks.
2. Underpinning knowledge	2.1 Healthy life and wellbeing. 2.2 Hygiene. 2.3 Personal hygiene 2.4 Community hygiene 2.5 Components of personal hygiene 2.6 Hygien risks 2.7 Minimize or remove risks 2.8 Sanitation. 2.9 Cleaning, waste segregation and disposal practices.
3. Underpinning skills	3.1 Interpreting healthy life 3.2 Recognizing importance of sanitation 3.3 Interpreting components of hygiene 3.4 Interpreting safe water and sanitation 3.5 Using Personal Protective Equipment (PPE) 3.6 Practicing personal hygiene and well grooming in line with the workplace health and safety requirements 3.7 Controlling the measures for minimizing food and water contamination 3.8 Collecting waste: recycling, handling and disposal.
4. Underpinning attitudes	4.1 Commitment to occupational safety and health. 4.2 Promptness in carrying out activities. 4.3 Sincere and honest to duties. 4.4 Eagerness to learn. 4.5 Tidiness and timeliness. 4.6 Environmental concerns. 4.7 Respect for rights of peers and seniors at workplace. 4.8 Communicate with peers and seniors at workplace.
	The following resources must be available:

5. Resource implications	5.1 Workplace (actual or simulated); 5.2 Required tools & equipment; 5.3 Facilities and relevant accessories for care giving; 5.4 Required teaching aids; and 5.5 Learning materials.
6. Methods of assessment	Methods of assessment may include but not limited to: 6.1 written test; 6.2 demonstration; 6.3 oral questioning; and 6.4 portfolio.
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre; 7.2 Assessment should be done by NSDA certified/ nominated assessor.
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>GU-09-L3-V1: Carryout Workplace Interaction in English</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required to use English in the workplace. It includes practicing to prepare simple sentence, reading and interpreting workplace documents in English, writing simple routine workplace documents in English, listening conversation in English, performing conversation in English and practicing professional ethics at workplace.
<b>Nominal Hours</b>	<b>65 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Practice to prepare simple sentence	<p>1.1 Common vocabulary is identified usually used in the workplace;</p> <p>1.2 Spelling and correct punctuation of vocabulary are checked and learned;</p> <p>1.3 Correct sentences are formed and practiced in written and spelled orally.</p>
2. Read and interpret workplace documents in English	<p>2.1 <b><u>Workplace documents</u></b> are collected;</p> <p>2.2 Workplace documents are read and interpreted;</p> <p>2.3 Workplace code of conducts are interpreted as per organizational guidelines;</p> <p>2.4 Appropriate lines of communication are maintained with supervisors and colleagues;</p> <p>2.5 Workplace interactions are conducted in a <b><u>courteous manner</u></b> to gather and convey information;</p> <p>2.6 <b><u>Visual information</u></b> is interpreted in English.</p>
3. Write simple routine workplace documents in English	<p>3.1 <b><u>Simple routine workplace documents</u></b> are prepared using key words, phrases, simple sentences and visual aids where appropriate;</p> <p>3.2 Key information is written in the appropriate places in standard forms.</p>
4. Listen conversation in English	<p>4.1 Way of active listening are interpreted;</p> <p>4.2 Conversation topics are interpreted / written correctly after active listening;</p> <p>4.3 Attention to the speaker is created / communicated through <b><u>non-verbal means</u></b>;</p> <p>4.4 Appropriate response and feedback are provided in English.</p>
5. Perform conversation in English	<p>5.1 Conversation / dialogue is performed in English as per job requirements with peers, customers and management;</p> <p>5.2 Good gesture and posture are used during conversation;</p> <p>5.3 Clear and simple sentences are used during conversation;</p>

	<p>5.4 Pauses are used for emphasizing the important portion of the dialogue;</p> <p>5.5 Information is communicated to the clients.</p>
6. Practice professional ethics at workplace	<p>6.1 Responsibilities as a team member are demonstrated and kept promises and commitments made to others;</p> <p>6.2 Tasks are performed in accordance with workplace procedures;</p> <p>6.3 Confidentiality is respected and maintained;</p> <p>6.4 Situations and actions considered inappropriate or which causes conflict of interest are avoided.</p>
<b>Range of Variables</b>	
<b>Variable</b>	<b>Range (may include but not limited to):</b>
1. Workplace documents	<p>1.1 Schedules and itineraries</p> <p>1.2 Agenda</p> <p>1.3 Meeting minutes</p> <p>1.4 progress and incident reports</p> <p>1.5 Job sheets</p> <p>1.6 Operational manuals</p> <p>1.7 Brochures and promotional material</p> <p>1.8 Visual and graphic materials</p> <p>1.9 Standards</p> <p>1.10 Occupational Safety and Health (OSH) information</p>
2. Courteous Manner	<p>2.1 Effective questioning</p> <p>2.2 Active listening</p> <p>2.3 Speaking skills</p>
3. Visual information	<p>3.1 Signs</p> <p>3.2 Maps</p> <p>3.3 Diagrams</p> <p>3.4 Forms</p> <p>3.5 Labels</p> <p>3.6 Graphs</p> <p>3.7 Charts</p>
4. Simple routine workplace documents	<p>4.1 Leave Application Form</p> <p>4.2 Daily Work Log / Timesheet</p> <p>4.3 Work Schedule / Duty Roster</p> <p>4.4 Job Card / Task Sheet</p> <p>4.5 Maintenance Report</p> <p>4.6 Incident Report Form</p> <p>4.7 Inventory Checklist</p> <p>4.8 Requisition Form</p> <p>4.9 Safety Inspection Checklist</p> <p>4.10 Attendance Register</p> <p>4.11 Email Communication</p>

	<p>4.12 Training Attendance Sheet</p> <p>4.13 Tool Issuance and Return Record</p>
5. Non-verbal means	<p>5.1 Sings</p> <p>5.2 Symbols</p> <p>5.3 Touch</p> <p>5.4 Physical expression</p> <p>5.5 Eye contact</p> <p>5.6 Facial expression</p>
<p><b>Evidence Guide</b></p> <p>The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>Assessment required evidences that the candidate:</p> <p>1.1 interpreted Workplace documents</p> <p>1.2 interpreted visual information</p> <p>1.3 prepared workplace documents in English</p> <p>1.4 interpreted / written the topics of conversation correctly after active listening</p> <p>1.5 provided responses and feedback</p> <p>1.6 used good gesture and posture during conversation.</p> <p>1.7 practiced professional ethics.</p>
2. Underpinning knowledge	<p>2.1 Workplace documents</p> <p>2.2 Technique of writing workplace documents in English</p> <p>2.3 Listening techniques in English</p> <p>2.4 Courteous Manner of communication</p> <p>2.5 Conversation and dialogue procedure in English</p> <p>2.6 Interaction skills, job roles, responsibilities and compliances issues in English.</p>
3. Underpinning skills	<p>3.1 Reading and interpreting workplace documents in English</p> <p>3.2 Using vocabulary and grammar, and standard spelling and pronunciation</p> <p>3.3 Writing simple routine workplace documents in English</p> <p>3.4 listening English conversation</p> <p>3.5 Performing conversation in English with peers, customers and management</p> <p>3.6 Working effectively with others</p> <p>3.7 Listening and questioning skills.</p>

4. Required attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational safety and health.</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere and honest to duties</li> <li>4.4 Eagerness to learn</li> <li>4.5 Tidiness and timeliness</li> <li>4.6 Environmental concerns</li> <li>4.7 Respect for rights of peers and seniors at workplace</li> <li>4.8 Communication with peers and seniors at workplace.</li> </ul>
5. Resources implication	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 workplace (actual or simulated).</li> <li>5.2 tools, equipment and physical facilities appropriate to perform activities</li> <li>5.3 materials, consumables needed to perform activities.</li> </ul>
6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 written test</li> <li>6.2 demonstration</li> <li>6.3 oral questioning</li> <li>6.4 portfolio.</li> </ul>
7. Context of Assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in NSDA accredited assessment centre;</li> <li>7.2 Assessment should be done by a NSDA certified/nominated assessor.</li> </ul>
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

## **Sector Specific Unit of Competency**

<b>Unit Code and Title</b>	<b>SU-CON-01-L1-V1: Interpret Drawings, Specifications and Manuals</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skill and attitude required to interpret drawings, specifications and manuals. It specifically includes the tasks of identifying information, identifying drawings and specifications, interpreting drawings and specifications, interpreting manuals and storing manuals.
<b>Nominal Hours</b>	<b>20 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold and Underlined</u></b> terms are elaborated in the Range of Variables.
1. Identify information from manuals	1.1 Appropriate manuals are identified and accessed; 1.2 Version and date of the manual are checked to ensure up-to-date specifications of tools, equipment, materials and procedures.
2. Identify drawings and specifications	2.1 Relevant <b><u>drawings</u></b> and <b><u>specifications</u></b> are correctly identified; 2.2 <b><u>Terms and abbreviations</u></b> are interpreted; 2.3 <b><u>Signs and symbols</u></b> are identified.
3. Interpret drawings and specifications	3.1 Drawing components, assemblies are identified; 3.2 Dimensions are identified according to job requirement; 3.3 Terms and abbreviations contained in the drawings are interpreted; 3.4 Schedules, dimensions and specifications contained in the drawings are interpreted; 3.5 Signs and symbols contained in the drawings are interpreted.
4. Interpret manuals	5.1 Relevant sections, chapters of manuals are determined in relation to the work to be conducted; 5.2 Information and procedure in the manual are interpreted according to job requirements; 5.3 Work steps are correctly identified in accordance with manufacturer's specification; 5.4 Correct sequencing and adjustments are interpreted in accordance with information contained in the manual.
5. Store manuals	4.1. Documents are collected and packed; 4.2. Documents are stored to prevent damage, and ready access and updating of information when required.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Drawings	2.1 Technical Drawings 2.2 Sketch
2. Specifications	3.1 Product specifications 3.2 Performance specifications

	3.3 Method specifications
3. Terms and abbreviations	<p>RFI Request for Information</p> <p>RFP Request for Proposal</p> <p>RCC Reinforced Cement Concrete</p> <p>PCC Plain Cement Concrete</p> <p>MEP Mechanical, Electrical, and Plumbing</p> <p>HVAC Heating, Ventilation, and Air Conditioning</p> <p>GI Galvanized Iron</p> <p>MS Mild Steel</p> <p>FFL Finished Floor Level</p> <p>NGL Natural Ground Level</p> <p>DPC Damp Proof Course</p> <p>Lintel Horizontal support above openings</p> <p>Elevation External view of a building</p> <p>Section Cut-through view of structure</p> <p>Plan Top view of structure layout</p> <p>QA/QC Quality Assurance / Quality Control</p> <p>HSE Health, Safety, and Environment</p> <p>PPE Personal Protective Equipment</p>
4. Signs and symbols	<p>4.1 Architectural Symbols</p> <ul style="list-style-type: none"> <li>▪ Door symbols</li> <li>▪ Window symbols</li> <li>▪ Wall types</li> <li>▪ Stairs</li> <li>▪ Room names and numbers</li> <li>▪ Section and elevation indicators marks.</li> <li>▪ Finish symbols</li> </ul> <p>4.2 Structural Symbols</p> <ul style="list-style-type: none"> <li>▪ Columns</li> <li>▪ Beams and girders</li> <li>▪ Footings</li> <li>▪ Slabs</li> <li>▪ Reinforcement</li> </ul> <p>4.3 Electrical Symbols</p> <ul style="list-style-type: none"> <li>▪ Switches</li> <li>▪ Outlets</li> <li>▪ Lighting fixtures</li> <li>▪ Circuit lines</li> <li>▪ Panel boards and breakers</li> </ul> <p>4.4 Plumbing Symbols</p> <ul style="list-style-type: none"> <li>▪ Water supply lines</li> <li>▪ Drainage and vent pipes.</li> <li>▪ Fixtures</li> <li>▪ Valves</li> <li>▪ Pumps and tanks</li> </ul> <p>4.5 HVAC Symbols</p>

	<ul style="list-style-type: none"> <li>▪ Ducts</li> <li>▪ Diffusers, grilles, and registers.</li> <li>▪ Fans and blowers.</li> <li>▪ Thermostats.</li> <li>▪ Air conditioning units, chillers, heaters.</li> </ul> <p>4.6 Site or Civil Symbols</p>
<p><b>Evidence Guide</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the Unit of Competency.</p>	
1. Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <p>1.1 Interpreted schedules, dimensions and specifications contained in the drawings</p> <p>1.2 Interpreted signs and symbols contained in the drawings</p> <p>1.3 Interpreted information and procedure in the manual</p> <p>1.4 Interpreted correct sequencing and adjustments in accordance with information contained in the manual</p>
2. Underpinning knowledge	<p>2.1 Types of construction manuals</p> <p>2.2 signs and symbols used in construction drawing</p> <p>2.3 units of measurement</p> <p>2.4 units of conversion</p> <p>2.5 Drawings and specifications</p> <p>2.6 Terms and abbreviations.</p>
3. Underpinning skills	<p>3.1 Identifying appropriate manuals</p> <p>3.2 Identifying drawings and specifications</p> <p>3.3 Interpreting drawings and specifications</p> <p>3.4 Storing manuals.</p>
4. Underpinning attitudes	<p>4.1 Commitment to occupational health and safety</p> <p>4.2 Environmental concerns</p> <p>4.3 Eagerness to learn</p> <p>4.4 Tidiness and timeliness</p> <p>4.5 Respect for rights of peers and seniors in workplace.</p>
5. Resource implications	<p>5.1 Pens</p> <p>5.2 Telephone</p> <p>5.3 Computer</p> <p>5.4 Writing materials</p> <p>5.5 Online communication.</p>
6. Methods of assessment	<p>Assessment methods may include but not limited to:</p> <p>6.1 demonstration</p> <p>6.2 oral questioning</p> <p>6.3 written test</p> <p>6.4 portfolio</p>
7. Context of assessment	<p>7.1 Competency assessment must be done in NSDA accredited assessment centre;</p>

	7.2 Assessment should be done by a NSDA certified/nominated assessor.
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**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

## **Occupation Specific Units of Competencies**

<b>Unit Code and Title</b>	<b>OU-CON-EAFI-01-L3-V1: Apply Safety Procedures in Aluminium Formwork</b>
<b>Unit Descriptor</b>	This unit covers the knowledge, skills and attitudes required in applying safety procedures in aluminum formwork.  It specifically includes interpreting safety policies and procedures Planning and preparing for safe work practices, using safe work practices, working with ladder and platform, responding to emergencies and performing green practice in the workplace.
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables
1. Interpret safety policies and procedures	<p>1.1. <b><u>Safety policies</u></b> of construction formwork are accessed and stated;</p> <p>1.2. <b><u>Safe operating procedures</u></b> of construction formwork are interpreted;</p> <p>1.3. <b><u>Safety signs and symbols</u></b> are identified.</p>
2. Plan and prepare for safe work practices	<p>2.1 <b><u>Personal protective equipment (PPE)</u></b> is selected and used as per job requirement;</p> <p>2.2 Emergency response, evacuation procedures are interpreted and followed;</p> <p>2.3 Barricades, hoardings and signage are erected as per job requirement.</p>
3. Use safe work practices	<p>3.1 Work is carried out safely accordance with safety requirements;</p> <p>3.2 <b><u>Hazard</u></b> is identified and assessed ;</p> <p>3.3 Hazard is mitigated for safe operation;</p> <p>3.4 Site safety responsibilities are interpreted;</p> <p>3.5 <b><u>Fire-fighting equipment</u></b> is identified and operated as per requirement;</p> <p>3.6 First aid procedures are applied as per requirement;</p> <p>3.7 <b><u>Formwork panel</u></b> is handled according to safety procedure.</p>
4. Work with ladder and platform	<p>4.1 Ladder is placed in safe location free from sleeper substances</p> <p>4.2 Ladder is used following <b><u>safety tags</u></b>;</p> <p>4.3 Overhead power lines and other obstructions are followed during erect ladder or platform;</p> <p>4.4 Formwork position is set according to height and prevent hazards;</p> <p>4.5 Ladder and work platforms are adjusted following standard procedure;</p> <p>4.6 Ladder and work platforms are erected as per planned location;</p> <p>4.7 <b><u>Fall arrest equipment</u></b> is used accordance with safety guidelines.</p>

5. Respond to emergencies	<p>5.1 Alarms and warning devices are responded;</p> <p>5.2 Workplace <b><u>emergency procedures</u></b> are followed;</p> <p>5.3 <b><u>Contingency measures</u></b> are recognized and followed in accordance with organization procedures.</p>
6. Perform green Practice in the workplace	<p>6.1 Energy Consumption is reduced by adapting <b><u>energy saving process</u></b>;</p> <p>6.2 Paper use is minimized by applying minimization process</p> <p>6.3 <b><u>Recycling process</u></b> is encouraged;</p> <p>6.4 Waste reduction is practiced to keep minimum waste;</p> <p>6.5 Water conservation system is implemented;</p> <p>6.6 Green culture is created by conducting awareness development training.</p>
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Safety policies	<p>1.1. Bangladesh standards for safety</p> <p>1.2. Fire safety rules and regulations</p> <p>1.3. Code of practice</p> <p>1.4. Construction industry guidelines</p> <p>1.5. BCA Code (Singapore)</p> <p>1.6. BNBC</p>
2. Safe operating procedures	<p>2.1 Orientation on emergency exits</p> <p>2.2 Safe location</p> <p>2.3 Rescue procedure</p> <p>2.4 use of fire extinguishers</p> <p>2.5 fire escape</p> <p>2.6 Emergency procedures</p> <p>2.7 First aid procedures</p> <p>2.8 Tagging procedures</p> <p>2.9 Use of PPE</p> <p>2.10 Safety procedures for hazardous substances</p>
3. Safety signs and symbols	<p>3.1 Direction signs (exit, emergency exit, etc.)</p> <p>3.2 First aid signs</p> <p>3.3 Danger tags</p> <p>3.4 Hazard signs</p> <p>3.5 Safety tags</p> <p>3.6 Warning signs</p>
4. Personal protective equipment (PPE)	<p>4.1 Mask</p> <p>4.2 Apron/high visible vest</p> <p>4.3 Hand gloves</p> <p>4.4 Ear plug</p> <p>4.5 Safety boots</p> <p>4.6 Anchor safety harness</p> <p>4.7 Safety goggles</p> <p>4.8 Safety helmet</p>

5. Hazard	<ul style="list-style-type: none"> <li>5.1 Chemical hazards</li> <li>5.2 Biological hazards</li> <li>5.3 Physical Hazards</li> <li>5.4 Mechanical and electrical hazard</li> <li>5.5 Mental hazard</li> <li>5.6 Ergonomic hazard</li> </ul>
6. Firefighting equipment	<ul style="list-style-type: none"> <li>6.1 Fire extinguisher</li> <li>6.2 Fire blanket</li> <li>6.3 Hose pipe reel</li> <li>6.4 Fire hydrant valve</li> <li>6.5 Fire hose</li> <li>6.6 Firefighting ladder</li> </ul>
7. Formwork panel	<ul style="list-style-type: none"> <li>7.1 Wall/column panel</li> <li>7.2 Slab panel (SP)</li> <li>7.3 Beam panel (BP)</li> <li>7.4 Beam filler panel (BFP)</li> <li>7.5 Beam bottom panel (BBP)</li> <li>7.6 Middle beam (MB)</li> <li>7.7 End beam (EB)</li> </ul>
8. Safety tags	<ul style="list-style-type: none"> <li>8.1 Do not use</li> <li>8.2 Damage equipment</li> <li>8.3 Faulty machinery</li> <li>8.4 Equipment Locked Out</li> <li>8.5 High Voltage</li> <li>8.6 Asbestos Hazard</li> </ul>
9. Fall arrest equipment	<ul style="list-style-type: none"> <li>9.1 Lifeline</li> <li>9.2 Body harness</li> <li>9.3 Fall arrester</li> <li>9.4 Rope catcher</li> <li>9.5 Self-retractable fall arrest equipment</li> <li>9.6 Safety net</li> <li>9.7 Toe board</li> </ul>
10. Emergency Procedures	<ul style="list-style-type: none"> <li>10.1 Firefighting</li> <li>10.2 Earthquake</li> <li>10.3 Medical and first aid</li> <li>10.4 Evacuation</li> </ul>
11. Contingency measures	<ul style="list-style-type: none"> <li>11.1 Evacuation</li> <li>11.2 Isolation</li> <li>11.3 Decontamination</li> </ul>
12. Energy saving process	<ul style="list-style-type: none"> <li>12.1 Use energy-efficient lighting (e.g., LED bulbs).</li> <li>12.2 Switch off lights, computers, and equipment when not in use.</li> <li>12.3 Set computers and monitors to sleep mode when idle.</li> <li>12.4 Use natural light wherever possible.</li> </ul>
13. Recycling process	<ul style="list-style-type: none"> <li>13.1 Set up labelled recycling bins (paper, plastic, metal, e-waste).</li> </ul>

	<p>13.2 Educate employees on what can and cannot be recycled.</p> <p>13.3 Recycle toner cartridges, batteries, and electronics responsibly</p>
<p><b>Evidence Guide</b>  The evidence must be authentic, valid, sufficient, reliable, consistent, recent and meet all requirements of current version of the Unit of Competency</p>	
1. Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1 followed safety signs and symbols</li> <li>1.2 used personal protective equipment (PPE)</li> <li>1.3 maintained workplace clear and tidy</li> <li>1.4 followed emergency procedures</li> <li>1.5 followed contingency measures</li> <li>1.6 implemented corrective actions</li> <li>1.7 adjusted ladder and platform</li> <li>1.8 used fall arrest equipment</li> <li>1.9 followed formwork panel handling procedure.</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1 Define OHS</li> <li>2.2 OHS policies and procedures</li> <li>2.3 Work safety procedures</li> <li>2.4 Emergency procedures</li> <li>2.5 Types of hazards</li> <li>2.6 Hazard control procedure</li> <li>2.7 PPE and there uses</li> <li>2.8 Personal hygiene practice</li> <li>2.9 First aid procedure</li> <li>2.10 Formwork panel handling procedure</li> <li>2.11 Procedure of work at height</li> <li>2.12 Minimization process</li> <li>2.13 Recycling process</li> <li>2.14 Waste reduction process</li> <li>2.15 Water conservation system</li> <li>2.16 Green culture.</li> </ol>
3. Underpinning skills	<ol style="list-style-type: none"> <li>3.1 Accessing OHS policies</li> <li>3.2 Handling of formwork panel</li> <li>3.3 Handling cleaning tools and equipment</li> <li>3.4 Responding to emergency procedures</li> <li>3.5 Handling firefighting equipment</li> <li>3.6 Setting formwork position</li> <li>3.7 Adjusting ladder and platform</li> </ol>
4. Required attitude	<ol style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Sincere and honest to duties</li> <li>4.3 Promptness in carrying out activities</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> </ol>

	4.6 Tidiness and timeliness 4.7 Communicate with peers and seniors in workplace
5. Resource implications	5.1 Equipment and outfits appropriate in applying safety measures 5.2 Tools, materials and documentation required 5.3 OHS Policies and Procedures
6. Methods of assessment	Assessment methods may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral Questioning 6.4 Portfolio
7. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre; 7.2 Assessment should be done by a NSDA certified/nominated assessor.
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>OU-CON-EAFI-02-L3-V1: Interpret and Apply Fundamentals Issues of Aluminium Formwork</b>
<b>Unit descriptor</b>	This unit covers the knowledge, skills and attitudes required to interpret and apply fundamentals issues of construction formwork. It specifically includes identifying basic building parts, interpreting formwork and falsework materials, interpreting formwork accessories and performing basic measurement and calculations.
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables.
1. Identify basic building parts	1.1 <b><u>Basic parts of building</u></b> are identified for a given model; 1.2 Function of main building components are interpreted; 1.3 Name of main building components are listed.
2. Interpret formwork and Falsework materials	2.1 <b><u>Formwork and falsework materials</u></b> are identified; 2.2 Formwork materials are checked for <b><u>quality</u></b> ; 2.3 Functions of formwork materials are interpreted.
3. Interpret formwork accessories	3.1 <b><u>Formwork accessories</u></b> are identified; 3.2 Accessories are checked for quality; 3.3 Functions of formwork accessories are interpreted.
4. Perform basic measurement and calculations	4.1 <b><u>Measuring units</u></b> to be used are determined as per workplace requirements; 4.2 <b><u>Measuring instruments</u></b> are selected as per requirements; 4.3 <b><u>Measurement</u></b> of <b><u>shapes</u></b> are taken using measuring instrument; 4.4 Basic <b><u>calculations</u></b> are carried out.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Basic parts of building	1.1 Foundation/Footing <ul style="list-style-type: none"> <li>▪ Deep foundation</li> <li>▪ Shallow foundation</li> </ul> 1.2 Column 1.3 Beam 1.4 Slab 1.5 Wall 1.6 Floor 1.7 Stair 1.8 Lintel 1.9 Sunshade 1.10 Window 1.11 Door
2. Formwork and falsework materials	2.1 Timber 2.2 Steel sheet

	<p>2.3 Bar/reinforcement</p> <p>2.4 Aluminum</p>
3. Quality	<p><b>Wood</b></p> <p>3.1 Line and level</p> <p>3.2 Crack free</p> <p>3.3 Strength</p> <p>3.4 Leakage free</p> <p>3.5 Thickness</p> <p>3.6 Tightness</p> <p>3.7 Size and shape</p> <p><b>Steel and aluminum</b></p> <p>3.8 Weight</p> <p>3.9 Strength</p> <p>3.10 Linear expansion</p> <p>3.11 Smoothness</p> <p>3.12 Formability</p> <p>3.13 Conductivity</p> <p>3.14 Joining</p> <p>3.15 Corrosion resistance</p> <p>3.16 Non-magnetic material</p> <p>3.17 Zero toxicity</p> <p>3.18 Size</p> <p>3.19 Tightness of pin wedge</p> <p>3.20 Leakage proofness</p> <p>3.21 Level check</p>
4. Formwork accessories	<p><b>Wood</b></p> <p>4.1 Nail</p> <p>4.2 Jute tape</p> <p>4.3 Thin Sheet</p> <p>4.4 Pin</p> <p>4.5 Steel tie and nut</p> <p>4.6 PVC pipe</p> <p><b>Steel board</b></p> <p>4.7 Nut</p> <p>4.8 Bolt</p> <p>4.9 Washer</p> <p>4.10 Foam</p> <p>4.11 U-clip</p> <p>4.12 T-bolt</p> <p>4.13 C-clamp</p> <p>4.14 U-clamp</p> <p>4.15 Steel tie and nut</p> <p>4.16 Steel Props</p> <p>4.17 Braching</p> <p>4.18 Adjustable baseplate</p>

	4.19 Adjustable U jack 4.20 PVC pipe <b>Aluminum</b> 4.21 Pin 4.22 Wedge 4.23 Nut 4.24 Bolt 4.25 Washer 4.26 Gasket 4.27 Steel tie 4.28 PVC sleeve
5. Measuring units	5.1 CGS (Centimeter, gram, second) system 5.2 FPS (foot, pound, second) system 5.3 MKS (meter, kilogram, second) system 5.4 SI (International Standard) unit system
6. Measuring instruments	6.1 Rulers 6.2 Measurement tapes 6.3 Try square 6.4 Calculator 6.5 Plum bob 6.6 Builder square
7. Measurement	7.1 Length 7.2 Width 7.3 Height 7.4 Depth 7.5 Quantities of materials
8. Shapes	8.1 Triangular 8.2 Square 8.3 Rectangular 8.4 Circular 8.5 Angular 8.6 Transverse 8.7 Vertical 8.8 Longitudinal
9. Calculations	9.1 Addition 9.2 Substruction 9.3 Multiplication 9.4 Division 9.5 Area 9.6 Volume
<b>Evidence guides</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the unit of competency.	

1. Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1.1. checked quality of materials and accessories</li> <li>1.2. followed drawing, specification and instructions</li> <li>1.3. took measurement</li> <li>1.4. calculated linear, area and volume.</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1 Define formwork and falsework</li> <li>2.2 Types of formworks</li> <li>2.3 Procedure of materials selection</li> <li>2.4 Main building components</li> <li>2.5 Measuring instruments and units</li> <li>2.6 Plan, elevation and section</li> <li>2.7 Types of drawing</li> <li>2.8 Quality</li> <li>2.9 Formwork accessories</li> <li>2.10 Measurement</li> <li>2.11 Shapes.</li> </ol>
1. Underpinning skills	<ol style="list-style-type: none"> <li>1.1. Selecting materials and accessories</li> <li>1.2. Making list of basic building components</li> <li>1.3. Interpreting drawings and specifications</li> <li>1.4. Interpreting plan, elevation and section</li> <li>1.5. Taking measurement of shapes</li> <li>1.6. Performing calculations</li> <li>1.7. Checking quality of materials and accessories.</li> </ol>
2. Underpinning attitudes	<ol style="list-style-type: none"> <li>2.1. Commitment to occupational health and safety</li> <li>2.2. Promptness in carrying out activities</li> <li>2.3. Sincere and honest to duties</li> <li>2.4. Environmental concerns</li> <li>2.5. Eagerness to learn</li> <li>2.6. Tidiness and timeliness</li> <li>2.7. Respect to rights of peers and seniors in workplace</li> <li>2.8. Communicate with peers and seniors in workplace.</li> </ol>
3. Resource implications	<p>The following resources must be provided:</p> <ol style="list-style-type: none"> <li>3.1. Workplace</li> <li>3.2. Formwork materials</li> <li>3.3. Formwork accessories</li> <li>3.4. Measuring instruments</li> <li>3.5. Stationery.</li> </ol>
4. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ol style="list-style-type: none"> <li>4.1. Written test</li> <li>4.2. Demonstration</li> <li>4.3. Oral questioning</li> <li>4.4. Portfolio</li> </ol>

5. Context of assessment	<p>7.1 Competency assessment must be done in NSDA accredited assessment centre;</p> <p>7.2 Assessment should be done by a NSDA certified/nominated assessor.</p>
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**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

<b>Unit Code and Title</b>	<b>OU-CON-EAFI-03-L3-V1: Use Hand and Power Tools for Advanced Aluminium Formwork</b>
<b>Unit descriptor</b>	<p>This unit covers the knowledge, skills and attitudes required to use tools for advanced aluminium formwork.</p> <p>It specifically includes identifying tools, using hand tools, using power tool, performing basic preventive maintenance and maintaining workplace, tools, equipment and materials.</p>
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables.
1. Identify tools	<p>1.1 <b><u>Hand tools</u></b> are identified as per work requirement;</p> <p>1.2 Functions of hand tools are interpreted;</p> <p>1.3 <b><u>Power tools</u></b> are identified as per work requirement;</p> <p>1.4 Functions of power tools are interpreted.</p>
2. Use hand tools	<p>2.1 <b><u>Personal Protective Equipment (PPE)</u></b> is used;</p> <p>2.2 Safety requirements are complied with before, during and after use;</p> <p>2.3 Unsafe or faulty tools are identified and marked for repair according to workplace procedures;</p> <p>2.4 Hand tools are used as per standard procedure.</p>
3. Use power tools	<p>3.1 <b><u>Power sources</u></b> are identified;</p> <p>3.2 Power tools are prepared according to workplace procedures;</p> <p>3.3 Route for power supply established in accordance with work safety requirements;</p> <p>3.4 Power tools are used as per job requirement following Standard Operating Procedure (SOP).</p>
4. Perform basic preventive maintenance	<p>4.1 Tools are inspected and reported to supervisor as per workplace procedure;</p> <p>4.2 Tools and equipment are cleaned according to workplace instructions;</p> <p>4.3 Appropriate lubricants are identified;</p> <p>4.4 Tools and equipment are lubricated as per manufacturer's instruction.</p>
5. Maintain workplace, tools, equipment and materials	<p>5.1 Work area is cleaned in accordance with workplace procedures;</p> <p>5.2 Unused materials are stored for re-use or disposed following workplace procedures;</p> <p>5.3 Waste and scrap materials are disposed with following workplace procedures;</p> <p>5.4 Inventory of tools equipment are conducted and recorded as per checklist;</p> <p>5.5 Tools and equipment are cleaned and stored as per manufacturer's recommendation in appropriate location.</p>

<b>Range of Variables</b>	
<b>Variables</b>	<b>Range (may include but not limited to):</b>
1. Hand tools	1.1 Ball pin hammer 1.2 Claw hammer 1.3 Mallet 1.4 Measuring tape (5m) 1.5 Tri-square 1.6 Combination pliers 1.7 Spirit level 1.8 Hacksaw frame with blade 1.9 PVC level hose/Auto level machine 1.10 Drill bits-concrete and iron bit 1.11 Ring wrench 1.12 L pin 1.13 Plumb bob 1.14 Steel tie 1.15 Claw bar 1.16 Y-bar 1.17 Shino 1.18 Roller brush 1.19 Bracing clamp
2. Power tools	2.1 Hand drill machine 2.2 Grinding machine 2.3 Cordless drill machine 2.4 Portable circular saw
3. Personal Protective Equipment (PPE)	3.1 Helmet 3.2 Ear plug 3.3 Aprons 3.4 Safety goggles 3.5 Hand gloves 3.6 Dust mask 3.7 Safety shoes/boots
4. Power source	4.1 Electric 4.2 Pneumatic 4.3 Hydraulic
<b>Evidence guides</b>	
The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the unit of competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. identified appropriate tools</li> <li>1.2. used hand tools</li> <li>1.3. used power tools</li> <li>1.4. performed preventive maintenance.</li> </ol>

2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Definition of tools</li> <li>2.2 Types of tools</li> <li>2.3 Types of power sources</li> <li>2.4 Procedure of the use of hand tools and power tools</li> <li>2.5 Application of hand tools and power tools</li> <li>2.6 Basic preventive maintenance of tools.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1. Identifying tools</li> <li>3.2. Using hand tools with appropriate method</li> <li>3.3. Using power tools with appropriate SOP</li> <li>3.4. Performing preventive maintenance.</li> </ul>
4. Underpinning attitudes	<ul style="list-style-type: none"> <li>4.1. Commitment to occupational health and safety</li> <li>4.2. Promptness in carrying out activities</li> <li>4.3. Sincere and honest to duties</li> <li>4.4. Environmental concerns</li> <li>4.5. Eagerness to learn</li> <li>4.6. Tidiness and timeliness</li> <li>4.7. Respect to rights of peers and seniors in workplace</li> <li>4.8. Communicate with peers and seniors in workplace</li> </ul>
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1. Workplace (actual or simulated).</li> <li>5.2. Hand tools</li> <li>5.3. Power tools</li> <li>5.4. Personal protective equipment (PPE)</li> <li>5.5. Stationery</li> </ul>
6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1. Written test</li> <li>6.2. Demonstration</li> <li>6.3. Oral questioning</li> <li>6.4. Portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in NSDA accredited assessment centre;</li> <li>7.2 Assessment should be done by a NSDA certified/nominated assessor.</li> </ul>
<p><b>Accreditation Requirements</b>  Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>OU-CON-EAFI-04-L3-V1: Perform Assembly &amp; Erection of Aluminium Panel</b>
<b>Unit descriptor</b>	<p>This unit covers the knowledge, skills and attitudes required to installing aluminium formwork.</p> <p>It specifically includes preparing for work, planning and preparing for formworks, assembling panels of formwork, erecting aluminium components and maintaining workplace, tools, equipment and materials</p>
<b>Nominal Hours</b>	<b>120 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables.
1. Prepare for work	<p>1.1 Work requirements, including plans and specifications, are interpreted</p> <p>1.2 <b><u>Safe work practices</u></b> are followed throughout the work process</p> <p>1.3 Work area is inspected and prepared as per job requirement</p> <p>1.4 <b><u>Personal protective equipment (PPE)</u></b> is identified and used</p> <p>1.5 <b><u>Tools, equipment</u></b> and aluminum (grade 6061) are identified and checked for serviceability.</p>
2. Plan and prepare for formworks	<p>2.1 Job instructions are read and clarified as required</p> <p>2.2 <b><u>Signage and barricade</u></b> requirements are identified and used</p> <p>2.3 <b><u>Aluminum formwork components</u></b> are selected and checked for serviceability</p> <p>2.4 <b><u>Formwork accessories</u></b> are selected and checked</p> <p>2.5 <b><u>Material</u></b> quantity requirements are calculated as per plans and specifications</p> <p>2.6 Aluminum components are collected as per requirement</p>
3. Assemble panels of formwork	<p>3.1 Mark the positions of walls, columns, beams based on the drawings.</p> <p>3.2 Aluminum components are checked against job requirement</p> <p>3.3 Formwork and supporting structures are selected</p> <p>3.4 Fixings and fasteners are selected as per job requirements</p> <p>3.5 Form oil/shutter oil are applied to shutter face as per manufacturer's specifications</p> <p>3.6 Panels are assembled as per layout and drawing</p>
4. Erect Aluminium component	<p>4.1 Erection process is started from wall or column corner</p> <p>4.2 Rocker and Kickers are used to support and align the panels from inside of formwork</p> <p>4.3 Wall/column panels are secured by pin and wedge</p> <p>4.4 Steel ties with PVC sleeve are inserted</p> <p>4.5 Props for slab and bracing for wall and column are used to support and align the panels</p> <p>4.6 Aluminum components are erected as per specified tolerance requirements</p>

	<p>4.7 Formwork is checked for vertically and horizontally alignment as per standard</p> <p>4.8 Levelling of formwork is checked for accuracy of erection</p> <p>4.9 Panels of Slabs are erected progressively until completed.</p>
5. Maintain workplace, tools, equipment and materials	<p>5.1 Work area is cleaned in accordance with workplace procedures</p> <p>5.2 Unused materials are stored for re-use or disposed following workplace procedures</p> <p>5.3 Waste and scrap materials are disposed with following workplace procedures</p> <p>5.4 Inventory of tools equipment are conducted and recorded as per checklist</p> <p>5.5 Tools and equipment are cleaned and stored as per manufacturer's recommendation in appropriate location</p>
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Signage and barricade	<p>1.1 Signage for aluminium formwork areas</p> <ul style="list-style-type: none"> <li>▪ Work in Progress</li> <li>▪ Restricted Area – Authorized Personnel Only</li> <li>▪ PPE Mandatory Beyond This Point (with icons for helmet, gloves, shoes, etc.)</li> <li>▪ Formwork Under Assembly – Keep Clear</li> <li>▪ Danger: Overhead Work</li> <li>▪ Fall Hazard: Edge Protection Required</li> <li>▪ Material Storage Area</li> <li>▪ Formwork Striking in Progress – Stay Clear</li> <li>▪ Slippery Surface Warning</li> <li>▪ Heavy Lifting in Progress</li> <li>▪ No Entry During Concrete Pouring</li> <li>▪ Scaffold/Formwork Inspection Record Board</li> <li>▪ Emergency Assembly Point</li> <li>▪ First Aid Station</li> <li>▪ Fire Extinguisher Location Sign</li> <li>▪ Lifting Equipment Inspection Status Board</li> <li>▪ Safe Load Capacity Board (at slab or deck access points)</li> <li>▪ Exit/Access Direction Signs</li> <li>▪ Hand Tool Usage Zone</li> <li>▪ Noise Hazard – Hearing Protection Required</li> </ul> <p>1.2 Barricades for Aluminium Formwork Areas:</p> <p>a. Hard Barricades (e.g., steel pipe or metal frame, concrete frame and plastics frame ) around:</p> <ul style="list-style-type: none"> <li>▪ Openings (elevator shafts, stairwells, floor edges)</li> <li>▪ Formwork assembly zones</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Striking areas (where formwork panels are being dismantled)</li> <li>b. Soft Barricades (e.g., caution tape, warning ribbons) around: <ul style="list-style-type: none"> <li>○ Less hazardous formwork setup areas</li> <li>○ Temporary material laydown areas</li> </ul> </li> <li>c. Toe Boards: <ul style="list-style-type: none"> <li>○ At edges to prevent tools or material from falling</li> </ul> </li> <li>d. Edge Protection/Guardrails: <ul style="list-style-type: none"> <li>○ Fixed on all slab edges where formwork is being installed or removed</li> </ul> </li> <li>e. Warning Flags: <ul style="list-style-type: none"> <li>○ Attached to cables or ropes when overhead lifting is ongoing</li> </ul> </li> <li>f. Temporary Fencing Panels: <ul style="list-style-type: none"> <li>○ Around perimeter of large formwork storage or preassembly zones</li> </ul> </li> <li>g. Swing Gates: <ul style="list-style-type: none"> <li>○ At ladder access points to slabs/formwork decks</li> </ul> </li> <li>h. Access Control Barricades: <ul style="list-style-type: none"> <li>○ Barrier at site entry to ensure PPE check compliance</li> </ul> </li> </ul>
2. Personal protective equipment (PPE)	<ol style="list-style-type: none"> <li>2.1. Helmet with color code</li> <li>2.2. Ear plug</li> <li>2.3. Aprons</li> <li>2.4. Safety goggles</li> <li>2.5. Hand gloves</li> <li>2.6. Dust mask</li> <li>2.7. Safety shoes/boots</li> <li>2.8. Safety harness</li> </ol>
3. Hand tools	<ol style="list-style-type: none"> <li>3.1 Ball pin hammer</li> <li>3.2 Claw hammer</li> <li>3.3 Mallet</li> <li>3.4 Measuring tape (5m)</li> <li>3.5 Tri-square</li> <li>3.6 Spirit level</li> <li>3.7 Hacksaw frame with blade</li> <li>3.8 PVC level hose/Auto level machine</li> <li>3.9 Drill Bits-Concrete &amp; iron bit</li> <li>3.10 Ring wrench</li> <li>3.11 L pin</li> <li>3.12 Plumb boob</li> <li>3.13 Steel tie</li> <li>3.14 Claw bar</li> <li>3.15 Y-bar</li> </ol>

	3.16 Shino 3.17 Roller brush 3.18 Bracing clamp
4. Power tools	4.1 Hand drill machine 4.2 Grinding machine 4.3 Cordless drill machine 4.4 Portable circular saw
5. Equipment	5.1 Tower Crane / Mobile Crane (for lifting large panels or deck assemblies) 5.2 Chain Pulley Block / Hoist 5.3 Material Platform / Rack (for lifting and storing formwork panels safely) 5.4 Scaffolding or Working Platform (for safe access during erection) 5.5 Ladder or Step Ladder 5.6 Working bench 5.7 Trolley or Hand Cart (for transporting small panels and accessories on site)
6. Aluminium formwork components	<b>Components:</b> 6.1 Wall/column panel 6.2 Slab panel 6.3 Beam panel 6.4 Beam filler panel 6.5 Beam bottom panel 6.6 External soffit corner 6.7 Internal soffit corner 6.8 Slab outer corner 6.9 Mid-link/Middle beam (MB) 6.10 Side-link/End beam (EB) 6.11 V-shape prop head 6.12 Link bar 6.13 Pipe support 6.14 Beam bottom joint 6.15 Beam vertical corner joint 6.16 Slab soffit joint 6.17 Rocker angle 6.18 Kicker angle 6.19 Beam side internal angle 6.20 Beam side external angle <b>Fasteners:</b> 6.21 Bolt 6.22 Nut 6.23 Washer 6.24 Steel tie 6.25 Pin

	6.26 Wedge 6.27 Steel or timber Waller 6.28 Tie rod connector 6.29 Anchor nut 6.30 Wing nut 6.31 Rapid clamp 6.32 Water barrier
7. Formwork accessories	7.1 PVC sleeve 7.2 Tie sleeve pusher 7.3 Steel tie puller 7.4 Working bench 7.5 mobile platform 7.6 scaffolding 7.7 Y-bar 7.8 L-bar/L-pin
8. Material	8.1 Form oil/shutter oil 8.2 Timber 8.3 Plywood 8.4 Nail 8.5 Shim plate 8.6 Royal bolt
<b>Evidence guides</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the unit of competency.	
1. Critical aspects of competency	Assessment required evidence that the candidate: <ol style="list-style-type: none"> <li>1.1. installed formwork</li> <li>1.2. concreted pressure allowance</li> <li>1.3. braced Formwork support</li> <li>1.4. removed formwork.</li> </ol>
2. Underpinning knowledge	<ol style="list-style-type: none"> <li>2.1. Aluminium Formwork</li> <li>2.2. Concrete pressure allowance</li> <li>2.3. Functions of Signage and barricade</li> <li>2.4. Safe use of Hand tools</li> <li>2.5. Safe use of Power tools</li> <li>2.6. Function of Equipment used for aluminium form work</li> <li>2.7. Aluminium formwork components</li> <li>2.8. Formwork accessories             <ol style="list-style-type: none"> <li>1.1. Installation process</li> <li>1.2. Bracing setting procedure</li> <li>1.3. Props setting procedure</li> <li>1.4. Form oil/shutter oil</li> <li>1.5. Standard operating procedure</li> <li>1.6. Cleaning and maintenance procedure</li> <li>1.7. Assembling procedure of slab link components.</li> </ol> </li> </ol>

2. Underpinning skills	3.1 Installing formwork 3.2 Determining concrete pressure allowance 3.3 Setting props 3.4 Setting bracing 3.5 Installing steel tie 3.6 Assembling of slab link components 3.7 Removing formwork 3.8 Cleaning and maintaining work area.
3. Underpinning attitudes	4.1 Commitment to occupational health and safety 4.2 Promptness in carrying out activities 4.3 Sincere and honest to duties 4.4 Environmental concerns 4.5 Eagerness to learn 4.6 Tidiness and timeliness 4.7 Respect to rights of peers and seniors in workplace 4.8 Communicate with peers and seniors in workplace
4. Resource implications	The following resources must be provided: 5.1 Workplace (actual or simulated) 5.2 Personal protective equipment (PPE) 5.3 Signage 5.4 Barricades 5.5 Tools and equipment 5.6 Aluminium Formwork 5.7 Stationery.
5. Methods of assessment	Methods of assessment may include but not limited to: 6.1 Written test 6.2 Demonstration 6.3 Oral questioning 6.4 Portfolio
6. Context of assessment	7.1 Competency assessment must be done in NSDA accredited assessment centre; 7.2 Assessment should be done by a NSDA certified/nominated assessor.
<p><b>Accreditation Requirements</b></p> <p>Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.</p>	

<b>Unit Code and Title</b>	<b>OU-CON-EAFI-05-L3-V1: Dismantle the Aluminium Formwork</b>
<b>Unit descriptor</b>	This unit covers the knowledge, skills and attitudes required to installing aluminium formwork.  It specifically includes preparing for formworks, removing formwork, cleaning and storing the dismantled panels, maintaining workplace, tools, equipment and materials.
<b>Nominal Hours</b>	<b>30 Hours</b>
<b>Elements of Competency</b>	<b>Performance Criteria</b> <b><u>Bold &amp; Underlined</u></b> terms are elaborated in the Range of Variables.
1. prepare for formworks dismantling	<ul style="list-style-type: none"> <li>1.1 Job instructions are read and clarified as required;</li> <li>1.2 <b><u>Safe work practices</u></b> are followed throughout the work process;</li> <li>1.3 <b><u>Signage and barricade</u></b> requirements are identified and used;</li> <li>1.4 <b><u>Personal protective equipment (PPE)</u></b> is identified and used;</li> <li>1.5 <b><u>Tools, equipment</u></b> are identified and checked for serviceability.</li> </ul>
2. Remove formwork	<ul style="list-style-type: none"> <li>2.1 Work area is appropriately signed and barricaded as per standard;</li> <li>2.2 Minimum stripping period of formwork is ensured;</li> <li>2.3 Formwork is loosened and lowered carefully to prevent pull, drop, or shake them hard;</li> <li>2.4 Formwork is carefully removed using reverse installation procedure;</li> <li>2.5 The concrete surface is checked for cracks, honeycombing, or any damage.</li> </ul>
3. Clean and store the dismantled panels	<ul style="list-style-type: none"> <li>3.1 Clean the removed panels with a soft brush or cloth to remove any concrete stuck;</li> <li>3.2 Formwork are stacked as per individual group;</li> <li>3.3 Formwork components are inventoried and returned to storage area as per standard operating procedure;</li> <li>3.4 Formwork components are stored properly in racks or stacking areas for re-use.</li> </ul>
4. Maintain workplace, tools, equipment and materials	<ul style="list-style-type: none"> <li>4.1 Work area is cleaned in accordance with workplace procedures;</li> <li>4.2 Unused materials are stored for re-use or disposed following workplace procedures;</li> <li>4.3 Waste and scrap materials are disposed with following workplace procedures;</li> <li>4.4 Inventory of tools equipment are conducted and recorded as per checklist;</li> </ul>

	4.5 Tools and equipment are cleaned and stored as per manufacturer's recommendation in appropriate location.
<b>Range of Variables</b>	
<b>Variables</b>	<b>Range</b> (may include but not limited to):
1. Safe work practices	1.1 Use PPE 1.2 Use fire extinguisher 1.3 Response emergency situation 1.4 Identify hazard 1.5 Control hazards 1.6 Measure risk 1.7 Use first aid 1.8 Follow safety signs and symbols 1.9 Report uncontrolled hazards and situations
2. Signage and barricade	2.1 Signage for aluminium formwork areas <ul style="list-style-type: none"> <li>▪ Work in Progress</li> <li>▪ Restricted Area</li> <li>▪ PPE mandatory beyond this point (with icons for helmet, gloves, shoes, etc.)</li> <li>▪ Formwork under disassembly</li> <li>▪ Danger</li> <li>▪ Fall hazard</li> <li>▪ Material storage area</li> <li>▪ Formwork striking in progress</li> <li>▪ Slippery surface warning</li> <li>▪ Heavy lifting in progress</li> <li>▪ No entry during concrete pouring</li> <li>▪ Scaffold/formwork inspection record board</li> <li>▪ Emergency assembly point</li> <li>▪ First aid station</li> <li>▪ Fire extinguisher location sign</li> <li>▪ Lifting equipment inspection status board</li> <li>▪ Safe load capacity board</li> <li>▪ Exit/access direction signs</li> <li>▪ Hand tool usage zone</li> <li>▪ Noise hazard</li> </ul> 2.2 Barricades for Aluminium Formwork Areas: <ul style="list-style-type: none"> <li>▪ Hard barricades (e.g., steel pipe or metal frame) around:</li> <li>▪ Soft barricades (e.g., caution tape, warning ribbons) around</li> <li>▪ Toe boards</li> <li>▪ Edge protection/guardrails</li> <li>▪ Warning flags</li> <li>▪ Temporary fencing panels</li> <li>▪ Swing gates</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Access control barricades</li> </ul>
3. Personal protective equipment (PPE)	<ul style="list-style-type: none"> <li>3.1 Helmet with colour code</li> <li>3.2 Ear plug</li> <li>3.3 Aprons</li> <li>3.4 Safety goggles</li> <li>3.5 Hand gloves</li> <li>3.6 Dust mask</li> <li>3.7 Safety shoes/boots</li> <li>3.8 Safety harness</li> </ul>
4. Hand tools	<ul style="list-style-type: none"> <li>4.1 Claw hammer</li> <li>4.2 Drill bits-concrete &amp; iron bit</li> <li>4.3 Ring wrench</li> <li>4.4 Slide wrench</li> <li>4.5 Open ended wrench</li> <li>4.6 L pin</li> <li>4.7 Claw bar</li> <li>4.8 Y-bar</li> <li>4.9 Shino</li> </ul>
5. Power tools	<ul style="list-style-type: none"> <li>5.1 Hand drill machine</li> <li>5.2 Grinding machine</li> <li>5.3 Cordless drill machine</li> </ul>
6. Equipment	<ul style="list-style-type: none"> <li>6.1 Chain pulley block / hoist</li> <li>6.2 Material platform / rack (for lifting and storing formwork panels safely)</li> <li>6.3 Scaffolding or working platform (for safe access during erection)</li> <li>6.4 Ladder or step ladder</li> <li>6.5 Working bench</li> <li>6.6 Trolley or hand cart (for transporting small panels and accessories on site)</li> </ul>
<p><b>Evidence guides</b> The evidence must be authentic, valid, sufficient, reliable, consistent and recent and meet the requirements of the current version of the unit of competency.</p>	
1. Critical aspects of competency	<p>Assessment required evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1. followed safe work practices</li> <li>1.2. identified signage and verri</li> <li>1.3. removed formwork</li> <li>1.4. cleaned and stored the panels</li> <li>1.5. maintained workplace, tools, equipment and materials.</li> </ul>
2. Underpinning knowledge	<ul style="list-style-type: none"> <li>2.1 Aluminium Formwork</li> <li>2.2 Concrete pressure allowance</li> <li>2.3 Functions of Signage and barricade</li> <li>2.4 Safe use of Hand tools</li> <li>2.5 Safe use of Power tools</li> </ul>

	<ul style="list-style-type: none"> <li>2.6 Function of Equipment used for aluminium form work</li> <li>2.7 Aluminium formwork components</li> <li>2.8 Formwork accessories</li> <li>2.9 Dismantling process</li> <li>2.10 Bracing removing procedure</li> <li>2.11 Props removing procedure</li> <li>2.12 Standard operating procedure</li> <li>2.13 Cleaning and maintenance procedure</li> <li>2.14 Dismantling procedure of slab link components.</li> </ul>
3. Underpinning skills	<ul style="list-style-type: none"> <li>3.1 Dismantling formwork</li> <li>3.2 Removing props</li> <li>3.3 Removing bracing</li> <li>3.4 Removing steel tie</li> <li>3.5 Removing of slab link components</li> <li>3.6 Removing slab soffit panels</li> <li>3.7 Removing formwork</li> <li>3.8 Cleaning and maintaining work area.</li> </ul>
4. Underpinning attitudes	<ul style="list-style-type: none"> <li>4.1 Commitment to occupational health and safety</li> <li>4.2 Promptness in carrying out activities</li> <li>4.3 Sincere and honest to duties</li> <li>4.4 Environmental concerns</li> <li>4.5 Eagerness to learn</li> <li>4.6 Tidiness and timeliness</li> <li>4.7 Respect to rights of peers and seniors in workplace</li> <li>4.8 Communicate with peers and seniors in workplace.</li> </ul>
5. Resource implications	<p>The following resources must be provided:</p> <ul style="list-style-type: none"> <li>5.1 Workplace (actual or simulated)</li> <li>5.2 Personal protective equipment (PPE)</li> <li>5.3 Signage</li> <li>5.4 Barricades</li> <li>5.5 Tools and equipment</li> <li>5.6 Aluminium Formwork</li> <li>5.7 Stationery.</li> </ul>
6. Methods of assessment	<p>Methods of assessment may include but not limited to:</p> <ul style="list-style-type: none"> <li>6.1 Written test</li> <li>6.2 Demonstration</li> <li>6.3 Oral questioning</li> <li>6.4 Portfolio</li> </ul>
7. Context of assessment	<ul style="list-style-type: none"> <li>7.1 Competency assessment must be done in NSDA accredited assessment centre;</li> <li>7.2 Assessment should be done by a NSDA certified/nominated assessor.</li> </ul>

**Accreditation Requirements**

Training Providers must be accredited by National Skills Development Authority (NSDA), the National Quality Assurance Body, or a body with delegated authority for quality assurance to conduct training and assessment against this unit of competency for credit towards the award of qualification under BNQF. Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by NSDA.

## **References:**

- Curriculum of Enhanced Aluminum Formwork, BRAC
- Competency Standard on Construction Formwork, NSDA

## Development of Competency Standard

The Competency Standards for National Skills Certificate in Enhanced Aluminum Formwork Installation, Level- 03 is developed by NSDA on 28-30 April 2025.

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## Validation of Competency Standard

The Competency Standards for National Skills Certificate in Enhanced Aluminum Formwork Installation, Level- 03 is validated by NSDA 15 May, 2025.

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