



**Government of the People's Republic of Bangladesh
Skills Development Project**



National Competency Standards For Tile work

Qualification Title: **National Skills Certificate-III in Tile work
(Construction Sector)**

Qualification Code : **CONTW0503**



Bangladesh Technical Education Board

FEBRUARY 2014

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Approval Sheet

The National Competency Standards for **National Skills Certificate-III in tile work (Construction Sector)** Qualification is a document developed by the Technical sub Committee for tile work under the Skills Development Project ADB Loan 2425 – BAN (SF).

It was approved by the Bangladesh Technical Education Board (BTEB) upon the endorsement of the Sector Working Committee at a meeting held on 10 April 2012 at the office of the Industry Skills Council.

The Standard was also approved by Standard and Curriculum Development Committee (SCDC) on 17 April 2014 at BTEB CBT cell.

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On behalf of Construction Sector *Industry*
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Under the guidance of:

Chowdury Mufad Ahmed

Project Director

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Chairman

Bangladesh Technical Education Board

Preface

The TVET system has a large role to play in economic growth and social development as workforce provider to the labor market and as provider of skills to those who are looking for employment. In the case of Bangladesh, the TVET sector needs major reforms to ensure that issues of quality and capacity, relevance, and access are properly addressed.

The Directorate of Technical Education (DTE) with funding from the Asian Development Bank (ADB), Swiss Agency Development for Cooperation SDC and the Government of Bangladesh (GoB) is implementing a project known as Skills Development Project (SDP). The main target of the Skills Development Project (SDP) is to improve the relevance of TVET in labor market by introducing competency-based training system: a system that proceeds from the development of a qualifications framework, competency standards, curriculum, training delivery, assessment, and quality assurance mechanisms in order to develop a competitive workforce.

The development of competency standards is regarded as the heart of a competency-based training regime. Each standard defines sets of knowledge, skills and attitudes (KSAs) that a Bangladeshi trainee should be able to demonstrate at a recognized level of competence. It provides a common framework of outcomes between the labor and education sectors, as well as among workers, trainers and trainees.

In the process of development, *Industry Skills Council (ISC)* was organized to determine competencies expected of an occupation in Bangladesh. The ISC, whose membership come from “top performers” in the industry, performed occupational, competency and unit analyses based on their rich experiences in the field, existing documents, and on the advice of national and international experts. Competency standards of Sri Lanka, Philippines, Australia, Korea, Malaysia, Maldives and other countries were examined.

A series of workshops – development, review and finalization - were conducted to ensure a workable National Competency Standards for the occupation. Further, a validation instrument was developed and administered to other top industry performers to verify and confirm the draft being developed.

It is hoped that this document reflects the real needs of the industry thereby providing a concrete basis for the curriculum development and assessment. In such a way, the development of relevant and competent workforce is not farfetched.

Chowdury Mufad Ahmed

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Acronyms

MoE	Ministry of Education
DG	Director General
DTE	Directorate of Technical Education
SDP	Skills Development Project
PD	Project Director
PIU	Project Implementation Unit
GOB	Government of Bangladesh
ADB	Asian Development Bank
SC	Swiss contact
ANTA	Australian National Training Authority
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BMET	Bureau of Manpower Employment and Training
NTVQ	National Technical Vocational Qualification
NTVQF	National Technical Vocational Qualification Framework
BTEB	Bangladesh Technical Education Board
CBT	Competency Based Training
CS	Competency Standard
HSC (Voc)	Higher Secondary Certificate (Vocational)
KSA	Knowledge, Skills, Attitude
MoLE	Ministry of Labor and Employment
NTVQF	National Technical Vocational Qualification Framework
NTVQ	National Technical Vocational Qualification
OHS	Occupational Health and Safety
PSC	Project Steering Committee
RMG	Ready Made Garments
RPL	Recognition of Prior Learning
SSC (Voc)	Secondary School Certificate (Vocational)
STEP	Skills and Training Enhancement project (WB)
ISC	Industry Skills Council
TESDA	Technical Education and Skills Development Authority
TL	Team Leader
TSC	Technical Sub Committee
TVET	Technical and Vocational Education and Training
WB	World Bank
DACUM	Development of a Curriculum
CBLM	Competency based learning Materials

Section 1
The Qualification

1. Title of Qualification: National Skills Certificate-III in tile work (Construction Sector)	
2. Qualification code:	3. Endorsement date:
CONTW0503	6 June 2012
Purpose of the qualification	<p>The NSC III in Tile work Qualification consists of a set of competencies that a person must achieve in order to work competently in the Construction Sector as a Tile worker.</p> <p>In particular, he/she should be able to:</p> <ol style="list-style-type: none"> 1. Perform Decorative Tile 2. Lay Tile for Curved Surfaces 3. Fix Tile for Irregular Roof 4. Set Tile for Pools and Spas
4. Regulatory Arrangements	The holder of this qualification should have been assessed by a BTEB certified assessor and found to be competent in the units listed in Section 2.
5. Accreditation requirements	The qualifications shall be offered in compliance with the accreditation requirements set by BTEB.
6. Transition arrangements	In the absence of certified assessors, the BTEB shall appoint trainers who have undergone assessment trainings.
7. Contact for comments	Chairperson Bangladesh Technical Education Board (BTEB) Agargoan, Sher-E-Bangla Nagar

National Competency Standards for NSC-3 in Tile Work

Generic Competencies

Code	Unit of Competency	Level	No. of Hours.
GN01001A1	Use Basic Mathematical Concept	1	40
GN01002A1	Apply OHS Practices in the work place	1	20
GN02003A1	Communicate in the workplace	2	18
GN02004A1	Work in a team environment	2	18
GN02005A1	Maintain tools and equipment	2	30
GN03006A1	Demonstrate work values	3	18
GN03007A1	Lead small team	3	18
GN03008A1	Practice negotiation skills	3	24
Total			156

Sector Specific Competencies

Code	Unit of Competency	Level	No. of Hours.
CON01001A1	Work in the civil construction Sector	1	30
CON01002A1	Use hand, measuring and power tools	1	30
CON02003A1	Interpret Drawings and Specifications in Construction Manuals	2	24
CON02004A1	Perform Measurement and Calculations in Construction Sector	2	24
CON02005A1	Maintain tools and equipment	2	30
Total			162

Occupation Specific Competencies

Code	Unit of Competency	Level	No. of Hours.
CONTW01001A1	Prepare Surface for tile work	1	40
CONTW01002A1	Perform floor tile work	1	50
CONTW01003A1	Perform wall tile work	1	50
CONTW01004A1	Perform marble work	1	50
CONTW01005A1	Perform pavement tile work	1	50
CONTW02006A1	Perform Corner tile work	2	30
CONTW02007A1	Repair wall and floor tile work	2	30
CONTW02008A1	Fix mosaic tile	2	36
CONTW02009A1	Perform mosaic work	2	36
CONTW03010A1	Set decorative tile	3	48
CONTW03011A1	Lay tile for curved surfaces	3	48
CONTW03012A1	Fix tile for irregular roof	3	54
CONTW03013A1	Set tile for pools and spas	3	60
Total			582
Grand Total			900

Section 2**NATIONAL COMPETENCY STANDERS****For****Tile work: NTVQF 3****Structure of Units of Competencies**

The units of competencies this qualification are summarized as follows:

Generic Competencies

Code	Unit of Competency	Level	No. of Hours
GN03006	Demonstrate work values	3	18
GN03007	Lead small team	3	18
GN03008	Practice negotiation skill	3	24
Total			60

Occupation Specific Competencies

Code		Level	No. of Hours
CONTW03010A1	Set decorative tile	3	48
CONTW03011A1	Lay tile for curved surfaces	3	48
CONTW03012A1	Fix tile for irregular roof	3	54
CONTW03013A1	Set tile for pools and spas	3	60
Total			210
Grand Total			270

Section 3

Generic Competencies

National Technical and Vocational Qualifications Framework for Bangladesh

Tile work: NTVQF 3

Unit of Competency

Unit of Competency	Demonstrate work values
Unit Code	GN03005A1
Unit Descriptor	This unit covers the knowledge, skills, and attitude required to perform routine maintenance. It includes defining purpose, applying work values, dealing with ethical problems, planning and practicing negotiations.
Nominal Hours	18 hrs.

Element	Performance Criteria
	Bold italicized words are detailed in the Range of Variables
1. Define the purpose of work	1.1 One's unique sense of purpose for working and the why's of work are identified, reflected on and clearly defined for one's development as a person and as a member of society. 1.2 Personal mission is harmonized with company's values.
2. Apply work values/ethics	2.1 Work values/ethics/concepts are classified and reaffirmed in accordance with the transparent company ethical standards, policies and guidelines. 2.2 Work practices are undertaken in compliance with industry work ethical standards, organizational policy and guidelines. 2.3 Personal behavior and relationships with co-workers standards, policy and guidelines. 2.4 Company resources are used in accordance with transparent company ethical standard, policies and guidelines.
3. Deal with ethical problems	3.1 Company ethical standard, organizational policy and guidelines on the prevention and reporting of unethical conduct are accessed and applied in accordance with transparent company ethical standard, policies and

	<p>guidelines.</p> <p>3.2 Work incidents/situations are reported and/or resolved in accordance with company protocol/guidelines.</p> <p>3.3 Resolution and/or referral of ethical problems identified are used as learning opportunities.</p>
4. Maintain integrity of conduct in the workplace	<p>4.1 Personal work practices and values are demonstrated consistently with acceptable ethical conduct and company's core values.</p> <p>4.2 Instructions to co-workers are provided based on ethical, lawful and reasonable directives.</p> <p>4.3 Company values/practices are shares with co-workers using appropriate behavior and language.</p>
5. Plan negotiations	<p>5.1 Information on preparing for negotiation is identified and included in the plan.</p> <p>5.2 Information on creating non verbal environments for positive negotiating is identified and included in the plan.</p> <p>5.3 Information on active listening is identified and included in the plan.</p> <p>5.4 Information is checked to ensure it is correct and up-to-date</p>
6. Participate in negotiations	<p>6.1 Criteria for successful outcome are agreed upon by all parties.</p> <p>6.2 Desired outcome of all parties are considered.</p> <p>6.3 Appropriate language is used throughout the negotiation.</p> <p>6.4 A variety of questioning techniques are used.</p> <p>6.5 The issues and processes are documented and agreed upon by all parties.</p> <p>6.6 Possible solutions are discussed and their viability assessed</p> <p>6.7 Areas for agreement are confirmed and recorded.</p> <p>6.8 Follow-up action is agreed upon by all parties.</p>

Range of Variables

Variable	Range (Included but not limited to):
1. Work values/ethics/ concepts	May include but are not limited to: 1.1 Commitment/Dedication 1.2 Sense of urgency 1.3 Sense of purpose 1.4 Love for work 1.5 High motivation 1.6 Orderliness 1.7 Reliability 1.8 Competence 1.9 Dependability 1.10 Goal-oriented 1.11 Sense of responsibility 1.12 Being knowledgeable 1.13 Loyalty to work/company 1.14 Sensitivity to others 1.15 Compassion/Caring attitude 1.16 Balancing between family and work 1.17 Spirit/teamwork 1.18 Sense of nationalism
2. Work practices	2.1 Quality of work. 2.2 Punctuality 2.3 Efficiency 2.4 Effectiveness 2.5 Productivity 2.6 Resourcefulness 2.7 Innovativeness/Creativity 2.8 Cost consciousness 2.9 5S 2.10 Attention to details
3. Incidents/situations	3.1 Violent/intense dispute or argument 3.2 Gambling 3.3 Use of prohibited substances 3.4 Pilferages 3.5 Damage to person or property

	<p>3.6 Vandalism</p> <p>3.7 Falsification</p> <p>3.8 Bribery</p> <p>3.9 Sexual Harassment</p> <p>3.10 Blackmail</p>
4. Company resources	<p>4.1 Consumable materials</p> <p>4.2 Equipment/Machineries</p> <p>4.3 Human</p> <p>4.4 Time</p> <p>4.5 Financial resources</p>
5. Instructions	<p>5.1 Verbal</p> <p>5.2 written</p>
6. Preparing for negotiation	<p>6.1 Background information on other parties to the negotiation</p> <p>6.2 Good understanding of topic to be negotiated</p> <p>6.3 Clear understanding of desired outcome/s</p> <p>6.4 Personal attributes</p> <p>6.5 self awareness</p> <p>6.6. self esteem</p> <p>6.7. objectivity</p> <p>6.8. empathy</p> <p>6.9. respect for others</p> <p>6.10 Interpersonal skills</p> <p>6.11 listening/reflecting</p> <p>6.12 non verbal communication</p> <p>6.13 assertiveness</p> <p>6.14 behavior labeling</p> <p>6.15 testing understanding</p> <p>6.16 seeking information</p> <p>6.17 Self disclosing</p> <p>6.18Analytic skills</p> <p>6.19 Observing differences between content and process</p> <p>6.20 identifying bargaining information</p> <p>6.21 applying strategies to manage process</p> <p>6.22 Applying steps in negotiating process</p> <p>6.23 Strategies to manage conflict</p>

	<p>6.24 Steps in negotiating process</p> <p>6.25 Options within organization and externally for resolving conflict</p>
7. Non verbal environments	<p>7.1 Friendly reception</p> <p>7.2 Warm and welcoming room</p> <p>7.3 Refreshments offered</p> <p>7.4 Lead in conversation before negotiation begins</p>
8. Active listening	<p>8.1 Attentive</p> <p>8.2 Don't interrupt</p> <p>8.3 Good posture</p> <p>8.4 Maintain eye contact</p> <p>8.5 Reflective listening</p>
9. Questioning techniques	<p>9.1 Direct</p> <p>9.2 indirect</p> <p>9.3 Open-ended</p>

Evidence Guide

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Defined one's unique sense of purpose for working</p> <p>1.2. Clarified and affirmed work values/ethics/concepts consistently in the workplace</p> <p>1.3 Demonstrated work practices satisfactorily and consistently in compliance with industry work ethical standards, organizational policy and guidelines</p> <p>1.4 Demonstrated personal behavior and relationships with co-workers and/or clients consistent with ethical standards policy and guidelines</p> <p>1.5 Used company resources in accordance with company ethical standard, policies and guidelines.</p> <p>1.6 Followed company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior</p> <p>1.7 Demonstrated sufficient knowledge of the factors influencing negotiation to achieve agreed</p>
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	<p>outcome</p> <p>1.8 Participated in negotiation with at least one person to achieve an agreed outcome</p>
2. Underpinning knowledge	<p>2.1 Occupational health and safety</p> <p>2.2 Work values and ethics</p> <p>2.3 Company performance and ethical standards</p> <p>2.4 Company policies and guidelines</p> <p>2.5 Fundamental rights at work including gender sensitivity</p> <p>2.6 Work responsibilities/job functions</p> <p>2.7 corporate social responsibilities</p> <p>2.8 Company code of conduct/values</p> <p>2.9 Balancing work and family responsibilities</p> <p>2.10 Codes of practice and guidelines for the organization</p> <p>2.11 Organization policy and procedures for negotiations</p> <p>2.12 Decision making and conflict resolution strategies procedures</p> <p>2.13 Problem solving strategies on how to deal with unexpected questions and attitudes during negotiation</p> <p>2.14 Flexibility</p> <p>2.14 Empathy</p>
3. Underpinning Skills	<p>3.1 Interpersonal skills to develop report with other parties</p> <p>3.2 Communication skills (verbal and listening)</p> <p>3.3 Self awareness, understanding and acceptance</p> <p>3.4 Application of good manners and right conduct</p> <p>3.5 Observation skills</p> <p>3.6 Negotiation skills</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>

	4.6 Communication with peers and seniors in workplace
4. Resource implications	The following resources MUST be provided: 4.1 Workplace or assessment location 4.2 Case studies/Scenarios 4.3 Room with facilities necessary for the negotiation process 4.5 Human resources (negotiators)
5. Methods of assessment	Competency must be assessed through: 5.1 Portfolio Assessment 5.2 Interview 5.3 Third Party Reports 5.4 Observation/Demonstration and questioning 5.5 Oral and written questioning 5.6 third party report
6. Context of assessment	Competency must be assessed in the actual workplace or in a simulated work place individually by direct observation.
<p>Accreditation Requirements</p> <p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB), 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

National Technical and Vocational Qualifications Framework for Bangladesh**Tile work: NTVQF 3****Unit of Competency**

Unit of Competency	Lead small teams
Unit Code	GN03006A1
Unit Descriptor	This unit covers the knowledge, skills, and attitude required to Demonstrate work values. It includes lead small teams including setting and maintaining team and individual performance standards.
Nominal Hours	18

Element	Performance Criteria Bold italicized words are detailed in the Range of Variables
1. Provide team leadership	1.1 Work requirements are identified and presented to team members 1.2 Reasons for instructions and requirements are communicated to team members 1.3 Team members' queries and concerns are recognized, discussed and dealt with
2. Assign responsibilities	2.1 Duties, and responsibilities are allocated having regard to the skills, knowledge and aptitude required to properly undertake the assigned task and according to company policy 2.2 Duties are allocated having regard to individual preference, domestic and personal considerations, whenever possible
3. Set performance expectations for team members	3.1 Performance expectations are established based on client needs and according to assignment requirements 3.1 Performance expectations are based on individual team members duties and area of responsibility 3.2 Performance expectations are discussed and disseminated to individual team members
4. Supervise team performance	4.1 Monitoring of performance takes place against defined performance criteria and/or assignment instructions and corrective action taken if required 4.2 Team members are provided with <i>feedback</i> , positive support and advice on strategies to overcome any deficiencies

	<p>4.3 <i>Performance issues</i> which cannot be rectified or addressed within the team are referenced to appropriate personnel according to employer policy</p> <p>4.4 Team members are kept informed of any changes in the priority allocated to assignments or tasks which might impact on client/customer needs and satisfaction</p> <p>4.5 Team operations are monitored to ensure that employer/client needs and requirements are met</p> <p>4.6 Follow-up communication is provided on all issues affecting the team</p> <p>4.7 All relevant documentation is completed in accordance with company procedures</p>
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Range of Variables

Variable	Range (Included but not limited to):
1. Work requirements	<p>1.1 Client Profile</p> <p>1.2 Assignment instructions</p>
2. Team member's concerns	2.1 Roster/shift details
3. Monitor performance	<p>3.1 Formal process</p> <p>3.2 Informal process</p>
4. Feedback	<p>4.1 Formal process</p> <p>4.2 Informal process</p>
5. Performance issues	<p>5.1 Work output</p> <p>5.2 Work quality</p> <p>5.3 Team participation</p> <p>5.4 Compliance with workplace protocols</p> <p>5.5 Safety</p> <p>5.6 Customer service</p>

Evidence Guide

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Maintained or improved individuals and/or team performance given a variety of possible scenario</p> <p>1.2 Assessed and monitored team and individual performance against set criteria</p> <p>1.3 Represented concerns of a team and</p>
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	<p>individual to next level of management or appropriate specialist and to negotiate on their behalf</p> <p>1.4 Allocated duties and responsibilities, having regard to individual's knowledge, skills and aptitude and the needs of the tasks to be performed</p> <p>1.5 Set and communicated performance expectations for a range of tasks and duties within the team and provided feedback to team members</p>
2. Underpinning knowledge and attitude	<p>2.1 Company policies and procedures</p> <p>2.2 Relevant legal requirements</p> <p>2.3 How performance expectations are set</p> <p>2.4 Methods of Monitoring Performance</p> <p>2.5 Client expectations</p> <p>2.6 Team member's duties and responsibilities</p>
3. Underpinning Skills	<p>3.1 Communication skills required for leading teams</p> <p>3.2 Informal performance counseling skills</p> <p>3.3 Team building skills</p> <p>3.3 Negotiating skills</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>4.6 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource implications	<p>The following resources MUST be provided:</p> <p>4.1 Access to relevant workplace or appropriately simulated environment where assessment can take place</p> <p>4.2 Materials relevant to the proposed activity or task</p>
5. Methods of assessment	<p>Competency may be assessed through:</p> <p>5.1 Direct observations of work activities of the individual member in relation to the work activities of the group</p> <p>5.2 Observation of simulation and/or role play</p>

	<p>involving the participation of individual member to the attainment of organizational goal</p> <p>5.3 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork</p>
6. Context of assessment	<p>6.1 Competency assessment may occur in workplace or any appropriately simulated environment</p> <p>6.2 Assessment shall be observed while task are being undertaken whether individually or in-group</p>
<p>Accreditation Requirements</p> <p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB), 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

National Technical and Vocational Qualifications Framework for Bangladesh

Tile work: NTVQF 3

Unit of Competency

Unit of Competency	Practice negotiation skills
Unit Code	GN03007A1
Unit Descriptor	This unit covers the knowledge, skills, and attitude required perform routine maintenance. It includes following references, maintaining tools and equipment, following routine of maintenance, inspecting work area, inspecting regulators and gauges, inspecting fittings and connections.
Nominal Hours	24

Element	Performance Criteria
	Italicized terms are elaborated in the Range of variables
1. Plan negotiations	<p>1.1 Information on <i>preparing for negotiation</i> are identified and included in the plan as required.</p> <p>1.2 Information on creating <i>non verbal environments</i> for positive negotiating is identified and included in the plan.</p> <p>1.3 Information on <i>active listening</i> is identified and included in the plan.</p> <p>1.4 Information on different <i>questioning techniques</i> is identified and included in the plan</p> <p>1.5 Information is checked to ensure it is correct and up-to-date.</p>
2. Participate in negotiations	<p>2.1 Criteria for successful outcome are agreed upon by all parties.</p> <p>2.2 Desired outcome of all parties are considered.</p> <p>2.3 Appropriate language is used throughout the negotiation.</p> <p>2.4 A variety of questioning techniques are used for justification.</p> <p>2.5 The issues and processes are documented and agreed upon by all parties.</p>

	<p>2.6 Possible solutions are discussed and their viability assessed.</p> <p>2.7 Areas for agreement are confirmed and recorded.</p> <p>2.8 Follow-up action is agreed upon by all parties.</p>
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Range of Variables

Variables	Range (Included but not limited to):
1.Preparing for negotiation	<p>1.1 Background information on other parties to the negotiation</p> <p>1.2 Good understanding of topic to be negotiated</p> <p>1.3 Clear understanding of desired outcome/s</p> <p>1.4 Personal attributes</p> <p> 1.4.1 self esteem</p> <p> 1.4.2 objectivity</p> <p> 1.4.3 empathy</p> <p> 1.4.4 respect for others</p> <p>1.5 Interpersonal skills</p> <p> 1.5.1 listening/reflecting</p> <p> 1.5.2 non verbal communication</p> <p> 1.5.3 assertiveness</p> <p> 1.5.4 behavior labeling</p> <p> 1.5.5 testing understanding</p> <p> 1.5.6 seeking information</p> <p> 1.5.7 self disclosing</p> <p>1.6 Analytic skills</p> <p> 1.6.1 observing differences between content and process</p> <p> 1.6.2 identifying bargaining information</p> <p> 1.6.3 applying strategies to manage process</p> <p> 1.6.4 applying steps in negotiating process</p> <p> 1.6.5 strategies to manage conflict</p> <p> 1.6.6 steps in negotiating process</p> <p> 1.6.7 options within organization and externally for resolving conflict</p>

2. Non verbal environments	<p>2.1 Friendly reception.</p> <p>2.2 Warm and welcoming room</p> <p>2.3 Refreshments offered</p> <p>2.4 Lead in conversation before negotiation begins</p>
3. Active listening	<p>3.1 Attentive</p> <p>3.2 Don't interrupt</p> <p>3.3 good posture</p> <p>3.4 Maintain eye contact</p> <p>3.5 Reflective listening</p>
4. Questioning techniques	<p>4.1 Direct</p> <p>4.2 Indirect</p> <p>4.3 Human Open-ended</p>

Evidence Guide

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Demonstrated sufficient knowledge of the factors influencing negotiation to achieve agreed outcome</p> <p>1.2 Participated in negotiation with at least one person to achieve an agreed outcome</p>
2. Underpinning knowledge	<p>2.1 Codes of practice and guidelines for the organization</p> <p>2.2 Organization policy and procedures for negotiations</p> <p>2.3 Decision making and conflict resolution strategies procedures</p> <p>2.4 Problem solving strategies on how to deal with unexpected questions and attitudes during negotiation</p> <p>2.5 Flexibility</p> <p>2.6 Empathy</p>
3. Underpinning Skills	<p>3.1 Interpersonal skills to develop rapport with other parties</p> <p>3.2 Communication skills (verbal and listening)</p> <p>3.3 Observation skills</p> <p>3.4 Negotiation skills</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>4.7 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource implications	<p>The following resources must be provided:</p> <p>4.1 Room with facilities necessary for the negotiation process</p> <p>4.2 Human resources (negotiators)</p>
5. Methods of assessment	<p>Competency must be assessed through:</p> <p>5.1 Observation</p> <p>5.2 Portfolio Assessment</p> <p>5.3 Oral and written questioning</p> <p>5.4 Third party report</p> <p>5.5 Demonstration</p>
6. Context of assessment	<p>Competency must be assessed in the actual workplace or in a simulated work place individually by direct observation.</p>
<p>Accreditation Requirements</p> <p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB) , 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

Section 4
Occupation Specific Competencies
National Technical and Vocational Qualifications Framework for Bangladesh

Tile work: NTVQF 3

Unit of Competency

Unit of Competency	Set decorative tile
Unit Code	TW03010A1
Unit Descriptor	This unit covers the knowledge, skills and attitude required to set decorative tiling. It includes plan and prepare for tile work, prepare pattern and materials for tile , form decorative design , prepare substrate, fix tile & grout tile
Nominal Hours	48

Elements	Performance Criteria
	Bold italicized words are detailed in the Range of Variables
1. Plan and prepare for tile work	1.1 PPE is collected and used. 1.1. Information /operational details are obtained, confirmed and applied. 1.2. OHS requirements are followed. 1.3. Signage and barricade requirements are identified and implemented. 1.4. Tools and equipment are selected, checked for serviceability. 1.5 Faults in tools and equipment are rectified or reported prior to commencement. 1.6. Quality requirements are identified and quantity of materials is calculated. 1.7. Materials are identified, obtained, prepared, safely handled and located ready for use. 1.8. Environmental requirements are identified and applied.
2. Prepare pattern and materials for tiling	2.1. Suitable architectural pattern is identified and collected. 2.2. Style, color, shape and type of tile is selected to conform to the elements of design.

3. Set decorative design	<p>3.1 Tiles are set out to required shape and size to conform to pattern and decorative design.</p> <p>3.2 Examples of border, beading and strip returns are laid out.</p> <p>3.3 Tiles are cut, as necessary, to complete the pattern set out.</p> <p>3.4 Wall and floor tile joints are aligned, plumbed and squared and cut tiles are positioned.</p>
4. Prepare substrate	<p>4.1. Substrate surfaces are prepared.</p> <p>4.2. Location of tile is set out or marked directly on to the surface.</p>
5. Fix tile	<p>5.1. Adhesive/mortar is applied to set out area.</p> <p>5.2. Wall tiles are laid from a selected position to ensure correct set out.</p> <p>5.3. Floor tiles are set out and laid from the centre, if necessary, to even set out.</p> <p>5.4. Border tiles are laid and adjusted to suit set out.</p> <p>5.5. Surface is finished.</p>
6. Grout tile	<p>6.1. Tiled surface is cleaned free of dust and adhesive.</p> <p>6.2. Grout is mixed and applied.</p> <p>6.3. Finished surface is cleaned and polished with dry cloth to specifications.</p>
7. Clean the work place	<p>7. 1 Tools and equipment are cleaned</p> <p>7.2 Work place is cleaned</p> <p>7.3Waste materials are disposed in proper place.</p>

Range of Variables

Variable	Range (Include but are not limited to):
1. Information	1.1 Drawing and Sketches 1.2 Instructions Issued By Relevant Authorities 1.3 Safe work procedures relating to decorative tiling 1.3 Verbal, written and graphical instructions 1.4 Work schedules, drawings and specifications.
2. Tools and equipment	2.1 Bucket 2.2 Caulking gun 2.3 Leveling equipment 2.4 Pointed grouter 2.5 Rubber mallet 2.6 Shovel 2.7 Spacer and wedge 2.8 Sponge 2.9 Try Square 2.10 Squeegees 2.11 Straight edge 2.12 String line 2.13 Tile cutter and scribe 2.14 Trowel 2.15 Wooden float/ Metal float 2.16 Steel tape 2.17 Brick cutter hammer 2.18 Plumb bob 2.19 Steel pan 2.20 Mug 2.21 Spade 2.22 Sledge hammer 2.23 Pin and thread 2.24 Rammer 2.25 Spirit Level

	<p>2.26 Wooden Batten (heavy)</p> <p>2.27 Ball pin hammer</p> <p>2.28 Pointed trowel</p>
3. Quality requirements	<p>3.1 Bangladesh standards</p> <p>3.2 Internal company quality policy and standards</p> <p>3.2 Manufacturer's specifications</p> <p>3.3 Workplace operations and procedures.</p>
4 Materials	<p>4.1 Adhesives</p> <p>4.2 Caulking compound</p> <p>4.3 Cement mortar</p> <p>4.4 Grout</p> <p>4.5 Patterns</p> <p>4.6 Tile.</p>
5 Environmental requirements	<p>5.1 Clean-up management</p> <p>5.2 Dust and noise</p> <p>5.3 Vibration</p> <p>5.4 Waste management.</p>
6. Types of tile	<p>6.1 Ceramic</p> <p>6.2 Glass</p> <p>6.3 Porcelain</p> <p>6.4 Stone</p> <p>6.5 Terracotta</p> <p>6.6 Tessellated</p> <p>6.7 Marble</p> <p>6.8 Wooden</p>
7. Substrate surfaces	<p>7.1 Fibre cement sheet</p> <p>7.2 Brick work</p> <p>7.3 Block work</p> <p>7.4 Concrete walls</p> <p>7.5 Rendered surfaces</p> <p>7.6 Other waterproof surfaces</p>

Evidence Guide

1. Critical Aspects of Competency	<ul style="list-style-type: none"> 1.1 Obtained, confirmed and applied information /operational details. 1.2 Followed OHS requirements. 1.3 Identified quality requirements 1.4 Calculated quantity of materials. 1.5 Selected style, colour, shape and type of tile to conform to the elements of design. 1.6 Set out tiles to required shape and size to conform to pattern and decorative design. 1.7 Selected and use of appropriate processes, tools and equipment 1.8 Set out and laid floor tiles from the centre. 1.9 Laid and adjusted border tiles to suit set out. 1.10 Complied with regulations, standards and organizational quality procedures and processes
2. Underpinning knowledge	<ul style="list-style-type: none"> 2.1 General construction terminology 2.2 Work instructions and operational details 2.3 Workplace and equipment safety requirements 2.4 Decorative tiling materials including tiles, adhesives, mortar, grouting 2.5 Substrates, their characteristics, preparation, methods, application and finishing 2.6 Decorative tiling techniques 2.7 Heritage tiles and pattern for tiling 2.8 Materials storage and environmentally friendly waste management

	<p>2.9 Processes for the calculation of material requirements</p> <p>2.10 Quality requirements</p>
3. Underpinning skills	<p>3.1 Interpreted drawings and specifications</p> <p>3.2 Recognizing procedures</p> <p>3.3 Tile cutting method</p> <p>3.4 Preparing appropriate pattern and materials for tiling</p> <p>3.5 Preparing substrate surface for fixing tile</p> <p>3.6 Fixing tile with grouting as decorative works</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>4.8 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource Implications	<p>4.1 Work place</p> <p>4.2 Tools and equipment appropriate to joint and connection process.</p> <p>4.3 Tiles and concrete materials</p>
5. Methods of Assessment	<p>5.1 Direct observation</p> <p>5.2 Oral Questioning</p> <p>5.3 Demonstration</p> <p>5.4 Written test</p>
6. Context of Assessment	Competency may be assessed individually in the actual work place or through institutions by direct observation.
<p>Accreditation Requirements</p> <p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB), 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

Unit of Competency	Lay tile for curved surface
Unit Code	TW03011A1
Unit Descriptor	This unit covers the knowledge, skills and attitude required to lay tile for curved surface. It includes plan and prepare for work, prepare curved wall and floor surfaces, set tile on walls and arches, set tile on a circular column.
Nominal Hours	48

Element	Performance Criteria
	Bold italicized words are detailed in the Range of Variables
1. Plan and prepare for work	1.1. Information /operational details are obtained, confirmed and applied. 1.2. OHS requirements are followed. 1.3. Signage and barricade requirements are identified and implemented. 1.4. Tools and equipment are selected, checked for serviceability. 1.5 Faults in tools and equipment are rectified or reported prior to commencement. 1.6. Quantity of materials is calculated. 1.7. Materials are identified, obtained, prepared, safely handled and located ready for use. 1.8. Environmental requirements are identified

	and applied.
2. Prepare curved wall and floor surfaces.	<p>2.1. Extent of curve is established from site inspection.</p> <p>2.2. Levelling equipment is used for intermediate marking to level line set out around wall.</p> <p>2.3. Template is made to form an accurate curve line for tiled surface around wall/floor.</p> <p>2.4. Mortar and/or adhesive are prepared where applicable to manufacturer specifications.</p> <p>2.5. Minimum voids are maintained in mortar tile beds and tiles are fixed level, plumb (wall), flush and square.</p> <p>2.6. Floor tiles are laid to set out grid with perimeter tiles marked and cut to fit curved wall.</p> <p>2.7. Grout is mixed and applied to joints to provide flush and smooth finish.</p>
3. Set tile on walls and arches	<p>3.1. Template is set out and cut to ensure conformity to tile surface for curve.</p> <p>3.2. Guide boards are positioned accurately and fixed to line, to maintain uniform spacing.</p> <p>3.3. Tiles are marked & fixed on walls, plumbed, maintaining levels and curvature of wall.</p> <p>3.4. Line and curvature are maintained when fixing tiles to archways.</p> <p>3.5. Grout is mixed and applied to joints, and tile surface is finished as per specifications.</p> <p>3.6. Tile surface is polished and clean.</p>
4. Set tile on a circular column	<p>4.1 Surface is checked from protrusions and from plastering imperfections.</p> <p>4.2 Template is prepared for column tiling diameter to specifications.</p> <p>4.3 Mortar is applied evenly to the required tiling diameter thickness and finished to curve.</p> <p>4.4 Guide board is positioned and installed to maintain level line.</p> <p>4.5 Tile is set to column maintaining even</p>

	<p>spacing and level.</p> <p>4.6 Tile grout is mixed with water and applied to tiled surface and tile surface is finished.</p> <p>4.7 Tiled surface is polished and cleaned to specifications and manufacturer's recommendations</p>
5. Clean the work place	<p>5.1 Tools and equipment are cleaned</p> <p>5.2 Work place is cleaned</p> <p>5.3 Waste materials are disposed in proper place.</p>

Range of Variables

Variable	Range (Include but are not limited to):
1. Information	<p>1.1 Drawings and sketches</p> <p>1.2 Instructions issued by authorized officials</p> <p>1.3 Safe work procedures relating to tiling curved surfaces</p> <p>1.4 Signage</p> <p>1.5 Verbal, written and graphical instructions</p> <p>1.6 Work bulletins</p> <p>1.7 Work schedules, plans and specifications.</p>
2. Planning and preparation	<p>2.1 Assessment of conditions and hazards</p> <p>2.2 Determination of work requirements and safety plans and policies</p> <p>2.3 Equipment defect identification</p> <p>2.4 Work site inspection</p>
3. Safety (OHS)	<p>3.1 Emergency procedures</p> <p>3.2 Hazard control and hazardous materials and substances</p> <p>3.3 First aid procedure</p> <p>3.4 PPE.</p> <p>3.5 Safe operating procedures.</p> <p>3.6 Workplace environmental requirements and safety.</p>
4. Tools and equipment:	<p>4.1 Broom</p> <p>4.2 Brush</p> <p>4.3 Bucket</p> <p>4.4 Caulking gun</p>

	<ul style="list-style-type: none"> 4.5 Hose and water spray 4.6 Ladder 4.7 Leveling equipment 4.8 Measuring tape 4.9 Mortar board 4.10 Pointed grouter 4.11 Rubber mallet 4.12 Sanding block/pumic stone 4.13 Scraper 4.14 Shovel 4.15 Spacer and wedge 4.16 Sponge 4.17 Square 4.18 Straight edge 4.19 String line 4.20 Template 4.21 Tile cutter and scribe 4.22 Trowel
5. Quality requirements	<ul style="list-style-type: none"> 5.1 Internal company quality policy and standards 5.2 Manufacturer specifications 5.3 Workplace operations and procedures.
6. Materials	<ul style="list-style-type: none"> 6.1 Adhesives 6.2 Caulking compound 6.3 Cement mortar 6.4 Grout 6.5 Tile
7. Environmental requirements	<ul style="list-style-type: none"> 7.1 Clean-up management 7.2 Dust and noise 7.3 Vibration 7.4 Waste management.
8. Templates	<ul style="list-style-type: none"> 8.1 Hard board 8.2 Ply wood 8.3 Sheet metal.
9. Wall surfaces	<ul style="list-style-type: none"> 9.1 Approved waterproof surfaces 9.2 Block work 9.3 Brick work 9.4 Concrete 9.5 Fibre cement sheet

	9.6 Rendered surfaces 9.7 Timber.
10. Types of tile	10.1 Ceramic 10.2 Glass 10.3 Granite 10.4 Marble 10.5 Porcelain 10.6 Stone 10.7 Terracotta.

Evidence Guide

1. Critical Aspects of Competency	1.1 Selected tools and equipment and checked for serviceability in according to work 1.2 Established extent of curve from site inspection. 1.3 Made template to form an accurate curve line for tiled surface around wall/floor. 1.4 Maintained line and curvature when fixing tile to archways. 1.5 Prepared template for column tiling diameter to specifications. 1.6 Set tile to column maintaining even spacing and level. 1.7 Demonstrated compliance with safety regulations applicable to work site operation
2. Underpinning knowledge	2.1 Leveling equipment 2.2 Waterproof surfaces 2.3 Template preparation 2.4 Method of laying tile 2.5 Prepare template for circular column tiling 2.6 Preparation of curve surface for tiling 2.7 Tile setting in curve surfaces
3. Underpinning skills	3.1 Preparing materials 3.2 Using PPE

	<p>3.3 Working safely</p> <p>3.4 Preparing curve surfaces for tiling</p> <p>3.5 Setting tile on curve surfaces</p> <p>3.6 Setting tile on walls and arches</p> <p>3.7 Setting tile on circular column</p> <p>3.8 Polishing tiled surface</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>4.9 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource Implication	<p>4.1 Work place</p> <p>4.2 Tools and equipment, materials appropriate to process.</p> <p>4.3 Tiles and concrete materials</p>
5. Methods of Assessment	<p>5.1 Direct observation</p> <p>5.2 Oral Questioning</p> <p>5.3 Demonstration</p>
6. Context of Assessment	<p>Competency may be assessed individually in the actual work place or through institutions by direct observation.</p>
<p>Accreditation Requirements</p> <p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB) , 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

Unit of Competency	Fix tile for irregular roof
Unit Code	TW03012A1
Unit Descriptor	This unit covers the knowledge, skills and attitude required to fix tile for irregular roofs. It includes plan and prepare the work, prepare materials, prepare substrate, fix tile to flat surfaces in roof, fix tile to curved surfaces in roof.
Nominal Hours	54

Elements	Performance Criteria Bold italicized words are detailed in the Range of Variables
1. Plan and prepare the work	1.1. Information and/or operational details are obtained, confirmed and applied. 1.2. OHS requirements are followed. 1.3. Signage and barricade requirements are identified and implemented. 1.4. Tools and equipment are selected, checked for serviceability. 1.5 Faults in tools and equipment are rectified or reported prior to commencement. 1.6. Quantity of materials is calculated. 1.7 Scope of work for tiling on irregular roof is determined 1.8. Environmental requirements are identified and applied.
2. Prepare materials.	2.1. Materials are identified, obtained, safely handled and located ready for use. 2.2. Tiles are checked for conformity to size, pattern, color and characteristics. 2.3. Tile is set out to be symmetrical balanced and produce minimum waste. 2.4. Adhesive is selected, prepared and mixed.
3. Prepare substrate	3.1. Substrate surfaces are prepared for application of render. 3.2 Substrate surfaces are rendered to specified thickness, standard and finish. 3.4 Checked and rectified. 3.4. Surface is cleaned free of contaminants and loose material ready for tile application.

4. Fix tile to flat surfaces in roof	<p>4.1. Prepared mosaic sheet or tile is marked.</p> <p>4.2. Appropriate fixing medium is selected</p> <p>4.3. Fixing medium is applied to substrate and mosaic sheet or tile are laid</p> <p>4.4. Mosaic tiles are positioned prior to final set and adjusted to ensure the specified mosaic lines and spaces are consistent.</p> <p>4.5. Surface is finished so that the face of tile is flush and the surface is flat.</p>
5. Fix tile to curved surfaces in roof	<p>5.1. Extent of curve is established from site inspection.</p> <p>5.2. Datum line is set out around wall.</p> <p>5.3. Tiles are set out to determine design balance and to identify any cutting requirement.</p> <p>5.4. Template is made to form the finished curve of the tiled surface.</p> <p>5.5. Tile laying method is determined, and the location of the first tile is identified.</p> <p>5.6. Substrate surfaces are rendered to specified thickness and finished to prepared template.</p> <p>5.7. Mortar / adhesive are prepared to manufacturer specifications.</p> <p>5.8. Tile are fixed level, plumb, flush and square in accordance with specifications.</p> <p>5.9. Horizontally laid tile are set out to grid with perimeter tile marked and cut to fit curve lines.</p>
6. Clean the work place	<p>6.1 Tools and equipment are cleaned</p> <p>6.2 Work place is cleaned</p> <p>6.3 Waste materials are disposed in proper place.</p>

Range of Variables

Variable	Range (Include but are not limited to):
1. Information	<p>1.1 Drawings and sketches</p> <p>1.2 Instructions issued by authorised</p>

	<p>personnel</p> <p>1.3 Safe work procedures relating to tiling curved surfaces</p> <p>1.4 Signage</p> <p>1.5 Verbal, written and graphical instructions</p> <p>1.6 Work bulletins</p> <p>1.7 Work schedules, plans and specifications.</p>
2. Scope of work	<p>2.1 Includes preparation for tiling an irregular roof by sarking and battens and the fixing and finishing of tiles, including their installation, bedding and pointing</p> <p>2.2 Irregular roofs include roofs constructed to irregular shaped plans where corners are not right angled and include ditch hip, turrets, spires, unequal pitch surfaces and cape cod, mansard, bell cast, pyramid, bed and point valleys, and steel framed roof trusses</p> <p>2.3 Openings in irregular roofs include chimneys, roof ventilators, cupolas, dormer windows, two storey inserts, skylights, pipes and flues</p> <p>2.4 Specifications include tile colour, tile profile, type of bond, nailing sequence and wind category</p> <p>2.5 Tiles may be interlocking (terracotta) or non-interlocking (concrete) and conform to the requirements of relevant standards</p> <p>2.6 Types of terracotta tiles include rak, fuwang, chaina band, mir, modhumoti etc</p> <p>2.7 Pointing material may be flexible pointing material or its equivalent.</p>
3. OHS	<p>3.1 Emergency procedures</p> <p>3.2 Handling activities</p> <p>3.3 Hazard control</p> <p>3.4 Hazardous materials and substances, including cement and curing agents</p> <p>3.5 First aid</p> <p>3.6 PPEs</p> <p>3.7 Safe operating procedures, including the conduct of operational risk assessment and treatments associated with:</p> <p>3.8 Earth leakage boxes</p>

	<p>3.9 Lighting</p> <p>3.10 Power cables, including overhead service trays, cables and conduits</p> <p>3.11 Restricted access barriers</p> <p>3.12 Surrounding structures</p> <p>3.13 Traffic control</p> <p>3.14 Trip hazards</p> <p>3.15 Working at heights</p> <p>3.16 Work site visitors and the public</p> <p>3.17 Working in proximity to others</p> <p>3.18 Working safely on roofs</p> <p>3.19 Use of fire fighting equipment</p> <p>3.20 Use of tools and equipment</p> <p>3.21 Workplace environmental requirements and safety.</p>
4. Tools and equipment:	<p>4.1 Air compressor and hose</p> <p>4.2 Blower</p> <p>4.3 Broom</p> <p>4.4 Bucket</p> <p>4.5 Calculator</p> <p>4.6 Chalk</p> <p>4.7 Chisel</p> <p>4.8 Elevator</p> <p>4.9 Scaffold/ Ladder</p> <p>4.10 Fall safety devices</p> <p>4.11 Gutter protector</p> <p>4.12 Hammer</p> <p>4.13 Hand saw</p> <p>4.14 High pressure water cleaner</p> <p>4.15 Measuring tape</p> <p>4.16 Nail gun & nail bag</p> <p>4.17 Pincer</p> <p>4.18 Shovel</p> <p>4.19 Square</p> <p>4.20 String line</p> <p>4.21 Tile cutter</p> <p>4.22 Trowel</p>

	<p>4.23 Block</p> <p>4.24 Break or cutting iron</p> <p>4.25 Slate cutter</p> <p>4.26 Slate reefer</p> <p>4.27 Slater's hammer</p> <p>4.28 Slating knife</p> <p>4.29 Small compressor</p> <p>4.30 Small petrol or diesel engine.</p>
5. Materials:	<p>5.1 Adhesives</p> <p>5.2 Concrete and terracotta tiles</p> <p>5.3 Fastenings and other mechanical fixings</p> <p>5.4 Mortar</p> <p>5.5 Timber and metal battens</p> <p>5.6 Flexible pointing material</p> <p>5.7 Slate</p>
6. Quality requirements	<p>6.1 internal company quality policy and standards</p> <p>6.2 manufacturer specifications</p> <p>6.3 Workplace operations and procedures.</p>
7. Environmental requirements	<p>7.1 clean-up management</p> <p>7.2 dust and noise</p> <p>7.3 stormwater management</p> <p>7.4 vibration</p> <p>7.5 Waste management.</p>

Evidence Guide

1. Critical Aspects of competency	<p>A person who demonstrates competency in this unit must be able to provide evidence of the ability to:</p> <p>1.1 located, interpreted and applied of relevant information, standards and specifications</p> <p>1.2 complied with site safety plan and OHS practices applicable to workplace operations</p> <p>1.3 Used tools, plant and equipment safely and effectively</p> <p>1.4 communicated and work effectively and safely with others</p> <p>1.5 Marked on prepared mosaic sheets or tiles</p>
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	<p>to identify the section of application.</p> <p>1.6 Selected appropriate fixing medium to ensure light colour tiles are not darkened.</p> <p>1.7 Positioned mosaic tiles prior to final set and adjusted to ensure the specified mosaic lines and spaces are consistent</p> <p>1.8 Set out datum line around wall.</p> <p>1.9 Rendered substrate surfaces to specified thickness and finished to prepared template</p>
2. Underpinning knowledge	<p>2.1 Mensuration and trade Mathematics</p> <p>2.2 Technical drawing, plan & specification</p> <p>2.3 Procedures for tiling on irregular roof</p> <p>2.4 Company rules and regulations</p> <p>2.5 Quality of tile & materials</p> <p>2.6 Manufacturer's recommendations and specifications</p>
3. Underpinning skills	<p>3.1 Applying mensuration and trade Mathematics</p> <p>3.2 Interpreting technical drawing, plan and specification</p> <p>3.3 Performing procedures for tiling irregular roof</p> <p>3.5 Complying company rules and regulations</p> <p>3.6 Following manufacturer's specifications and recommendations</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>4.10 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource Implications	<p>4.1 Work place</p> <p>4.2 Tools and equipment appropriate to joint and connection process.</p> <p>4.3 Tiles and concrete materials</p>

5. Methods of Assessment	5.1 Direct observation 5.2 Oral Questioning 5.3 Demonstration
6. Context of Assessment	Competency may be assessed individually in the actual work place or through institutions by direct observation.
Accreditation Requirements	
<p>Training providers must be accredited by Bangladesh Technical Education Board (BTEB) , 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 any national qualification.</p> <p>Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.</p>	

National Technical and Vocational Qualifications Framework for Bangladesh

Tile work: NTVQF 3

Unit of Competency

Unit Competency	Set tile for pools and spas
Unit Code	TW03013A1
Unit Descriptor	<p>This unit covers the knowledge, skills and attitude required to set tiles for pools and spas.</p> <p>It includes: preparing and planning; setting out tiling job; tiling straight lines; lay tiles to tapered and curved sections; and tiling surfaces.</p>
Nominal Hours	60

Elements	Performance Criteria
	Bold italicized words are detailed in the Range of Variables
1. Plan and prepare for work	<p>1.1. Information and/or operational details are obtained, confirmed and applied.</p> <p>1.2. OHS requirements are followed.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. Tools and equipment are selected,</p>

	<p>checked for serviceability.</p> <p>1.5 Faults in tools and equipment are rectified or reported prior to commencement.</p> <p>1.6. Quantity of materials is calculated.</p> <p>1.7. Materials are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.8. Environmental requirements are identified and applied.</p>
2. Set out tiling job	<p>2.1. Levels of pool or spa are identified and established in accordance with specifications.</p> <p>2.2. Size of tile to be used is determined in accordance with curvature of pool or spa.</p> <p>2.3. Pool or spa surface is divided into sectional shapes involving whole tiles and cut tiles.</p> <p>2.4. Sections are determined by considering sheet sizes of tiles and maintaining straight lines where possible.</p> <p>2.5. Cross-centre lines are marked out on pool or spa surface.</p> <p>2.6. Curved surface is set out to form regular shapes running down and through base.</p> <p>2.7. Tapered sections are set out in highly curved and concave areas, whereby tiles are cut leading to and into the base.</p>
3. Make tile straight line and full sheet sections of surface	<p>3.1. Paper patterns are marked and cut to shape of section or layout directed to prepare sheets or tiles.</p> <p>3.2. Spacing is determined and adjusted to ensure minimum cutting in these sections.</p> <p>3.3. Prepared sheets or tiles are marked to identify with section of application.</p> <p>3.4. Specified waterproof adhesive is prepared for application to manufacturer specifications.</p> <p>3.5. Tiles are laid working from coping down, maintaining parallel to cross-centre lines and regular face alignment.</p>

4. Lay tile to tapered sections	<p>4.1. Tapered areas are set out where applicable, to allow for full tile at top.</p> <p>4.2. Tile sizes and shapes are determined and set out.</p> <p>4.3. Shaped tiles are cut to designed set out and to specified tolerance.</p> <p>4.4. Adhesive is applied and tiles are laid maintaining alignment to set out lines and surface of tiles.</p>
5. Lay tile to curved sections	<p>5.1. Template is set out and cut to ensure conformity to tile surface for curve in both dimensions.</p> <p>5.2. Pad tiles are positioned accurately and fixed to line, to maintain uniform spacing and taper.</p> <p>5.3. Adhesive is applied and tiles are laid maintaining alignment to template line and surface of tiles.</p> <p>5.4. Tiles are fixed with Tile fixing medium to walls, plumb, maintaining levels and curvature of wall in both dimensions to specifications.</p>
6. Set tile surface	<p>6.1. Tile spacing's are cleaned and excess adhesive is removed from surface to receive grout.</p> <p>6.2. Specified grout is mixed and applied according to manufacturer specifications.</p> <p>6.3. Tiled surface is cleaned and polished with dry cloth to specifications.</p>
7. Clean the work place	<p>7.1 Tools and equipment are cleaned</p> <p>7.2 Work place is cleaned</p> <p>7.3 Waste materials are disposed in proper place.</p>

Range of Variables

Variable	Range (Include but not limited to):
1. Information	<p>1.1 diagrams or sketches</p> <p>1.2 instructions issued by authorized officials</p>

	<p>1.3 manufacturer specifications and instructions, where specified</p> <p>1.4 memos</p> <p>1.5 safe work procedures relating to tiling pools and spas</p> <p>1.6 signage</p> <p>1.7 verbal, written and graphical instructions</p> <p>1.8 work bulletins</p> <p>1.9 Work schedules, plans and specifications.</p>
2. Planning and preparation	<p>2.1 assessment of conditions and hazards</p> <p>2.2 determination of work requirements and safety plans and policies</p> <p>2.3 equipment defect identification</p> <p>2.4 Work site inspection.</p>
3. OHS	<p>3.1 Emergency procedures</p> <p>3.2 Hazard control</p> <p>3.3 Hazardous materials and substances</p> <p>3.4 First aid</p> <p>3.5 PPEs</p> <p>3.6 Safe operating procedures</p> <p>3.7 Concealed services (water, power and gas)</p> <p>3.8 Lighting</p> <p>3.9 Traffic control</p> <p>3.10 Restricted access barriers</p> <p>3.11 Trip hazards</p> <p>3.12 Work site visitors and the public</p> <p>3.13 Working at heights</p> <p>3.14 Working in confined spaces</p> <p>3.15 Working in proximity to others</p> <p>3.16 Use of fire fighting equipment</p> <p>3.17 Use of tools and equipment</p> <p>3.18 Workplace environmental requirements and safety</p>

4. Tools and equipment	<ul style="list-style-type: none"> 4.1 Broom 4.2 Brush 4.3 Bucket 4.4 Hose and water spray 4.5 Ladder 4.6 Levelling equipment 4.7 Measuring tape 4.8 Pointed grouter 4.9 Rag 4.10 Rubber mallet 4.11 Spacer /wedge 4.12 Spatula 4.13 Sponge 4.14 Square 4.15 Straight edge 4.16 String line 4.17 Template 4.18 Tile cutter and scribe
5. Quality requirements	<ul style="list-style-type: none"> 5.1 Internal company quality policy and standards 5.2 Manufacturer specifications 5.3 Workplace operations and procedures
6. Materials	<ul style="list-style-type: none"> 6.1 Tiles 6.2 Adhesives 6.3 Cement mortar with adhesive additive 6.4 Grout
7. Environmental requirements	<ul style="list-style-type: none"> 7.1 Clean-up management 7.2 Dust and noise 7.3 Vibration 7.4 Waste management.
8. Pool or spa surfaces	<ul style="list-style-type: none"> 8.1 curved in two dimensions 8.2 flat 8.3 tapered

9. Types of tiles	9.1 Ceramic 9.2 Glass 9.3 Granite 9.4 Marble 9.5 Porcelain 9.6 Stone 9.7 Terracotta
10. Templates	10.1 plywood 10.2 hard board 10.3 Sheet metal.
11. Tile fixing medium	11.1 adhesives 11.2 Cement mortar with adhesive additive.

Evidence Guide

1. Critical Aspects of Competency	<p>A person who demonstrates competency in this unit should be able to provide evidence of the ability to:</p> <ul style="list-style-type: none"> 1.1 Located, interpreted and applied relevant information, standards and specifications 1.2 Complied with site safety plan and OHS legislation, regulations and codes of practice applicable to workplace operations 1.3 Complied with organisational policies and procedures including quality requirements 1.4 Divided pool or spa surface into sectional shapes involving whole tiles and cut tiles. 1.5 Marked out cross-centre lines on pool or spa surface. 1.6 Determined spacing and adjusted to ensure minimum cutting in these sections. 1.7 Laid tiles working from coping down, maintaining parallel to cross-centre lines and regular face alignment. 1.8 Cut shaped tiles to designed set out and to specified tolerance. 1.9 Applied adhesive and laid tiles maintaining alignment to set out lines and surface of tiles.
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2. Underpinning knowledge	<p>2.1 job safety analysis and safe work method statements</p> <p>2.2 material safety data sheets (MSDS) and hazards associated with solvents, adhesives and cement or epoxy-based grouts</p> <p>2.3 plans, drawings and specifications</p> <p>2.4 plant, tools and equipment types, characteristics, uses and limitations</p> <p>2.5 pool and spa tiling materials</p> <p>2.6 techniques in tiling pools and spas</p> <p>2.7 tiling curved and tapered surfaces</p>
3. Underpinning Skills	<p>3.1 Applying mensuration and trade Mathematics</p> <p>3.2 Interpreting technical drawings and plans specifications</p> <p>3.3 Performing procedures for tiling tapered curved surfaces in pools and spas</p> <p>3.4 Complying OHS requirements</p> <p>3.5 Complying company rules and regulations</p> <p>3.6 Following manufacturer's specifications and recommendations</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>4.11 Respect for rights of peers and seniors in workplace</p> <p>4.6 Communication with peers and seniors in workplace</p>
4. Resource Implication	<p>4.1 Work place</p> <p>4.2 Tools and equipment appropriate to joint and connection process.</p> <p>4.3 Tiles and concrete materials</p>
5. Methods of Assessment	<p>5.1 Direct observation</p> <p>5.2 Oral Questioning</p> <p>5.3 Demonstration</p>
6. Context of Assessment	Competency may be assessed individually in the actual work place or through institutions by direct observation.
Accreditation Requirements	
Training providers must be accredited by Bangladesh Technical Education	

Board(BTEB) , 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 any national qualification.

Accredited providers assessing against this unit of competency must meet the quality assurance requirements set by BTEB.

Annexes

Annex 1. Competency Map for Tile work

Occupation Specific Competencies	Prepare Surface for Tile work	Perform floor tile work	Perform wall tile work	Perform stone work	Perform pavement tile work	
	1	1	1	1	1	
	Perform Corner tile work	Repair Wall and Floor Tiles	Fix Mosaic Tiles	Perform Mosaic works		
	2	2	2	2		
	Set decorative tile	Lay tile for curved surfaces	Fix tile for irregular roof	Set tile for pools and spas		
	3	3	3	3		

Sector Specific Competencies	Work in the civil construction Sector	Use hand, measuring and power tools				
	1	1				
	Interpret Drawings and Specifications in Construction Manuals	Perform Measurement and Calculations in Construction Sector	Maintain tools and equipment			
	2	2	2			
	3	3	3	3		

Generic Specific Competencies	Use Basic Mathematical Concept	Apply OHS Practices in the work place				
	1	1	1	1	1	
	Communicate in the workplace	Work in a team environment				
	2	2	2	2		
	Demonstrate work values	Lead small team	Practice negotiation skills			
	3	3	3	3		

Annex 2. Bangladesh National Qualifications Framework

TVQF Level	Education Type			Current Qualification Structure	Job Classification
	Pre-Voc	VE	TE		
TVQF 6			Diploma	4-year Diploma	Supervisor/Middle Manager/Sub-Assistant Engineer
TVQF 5		**NSC-V		NSS Master	Highly-Skilled Worker/Supervisor
TVQF 4		**NSC-IV		NSS 1/HSC (Voc) Year 11/12	Skilled Worker
TVQF 3		**NSC-III		NSS 2/SSC (Voc) Year 10	Semi-Skilled Worker
TVQF 2		**NSC-II		NSS 3/SSC (Voc) Year 9	Basic Skilled Worker
TVQF 1		**NSC-I		NSS Basic/Basic Trade Course	Basic Worker
Pre-Voc 2	*NPVC-II			None	Pre-Vocational Trainee
Pre-Voc 1	*NPVC-I			None	Pre-Vocational Trainee

*NPVC – National Pre-Vocational Certificate

**NSC – National Skill Certificate

Annex 3. Qualification Level Descriptors

BTVQF Level	Knowledge	Skill	Responsibility	Job Class
6	Comprehensive actual and theoretical knowledge within a specific study area with an awareness of the limits of that knowledge.	Specialised and restricted range of cognitive and practical skills required to provide leadership in the development of creative solutions to defined problems	Manage a team or teams in workplace activities where there is unpredictable change Identify and design learning programs to develop performance of team members	Supervisor/Middle-Level Manager/Sub Assistant Engineer
5	Very broad knowledge of the underlying, concepts, principles, and processes in a specific study area	Very broad range of cognitive and practical skills required to generate solutions to specific problems in one or more study areas.	Take overall responsibility for completion of tasks in work or study Apply past experiences in solving similar problems	Highly Skilled Worker/ Supervisor (NSC 4)
4	Broad knowledge of the underlying, concepts, principles, and processes in a specific study area	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	Take responsibility, within reason, for completion of tasks in work or study Apply past experiences in solving similar problems	Skilled Worker
3	Moderately broad knowledge in a specific study area.	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	Work or study under supervision with some autonomy	Semi Skilled worker

BTVQF Level	Knowledge	Skill	Responsibility	Job Class
2	Basic underpinning knowledge in a specific study area.	Basic skills required to carry out simple tasks	Work or study under indirect supervision in a structured context	Medium Skilled Worker
1	Elementary understanding of the underpinning knowledge in a specific study area.	Limited range of skills required to carry out simple tasks	Work or study under direct supervision in a structured context	Basic Skilled Worker
Pre-Voc 2	Limited general knowledge	Very limited range of skills and use of tools required to carry out simple tasks	Work or study under direct supervision in a well-defined, structured context.	Pre-Vocation Trainee (NPVC 2)
Pre-Voc 1	Extremely limited general knowledge	Minimal range of skills required to carry out simple tasks	Simple work or study exercises, under direct supervision in a clear, well defined structured context	Pre-Vocation Trainee (NPVC 1)

Annex 4. Key for Coding

Code	Description
Occupational Sector	
RMG	Ready-Made Garments
LEG	Light Engineering
CON	Construction
INF	Informal Sector
Occupation	
MAS	Mason
PLM	Plumbing
PNT	Painter
TW	Tile Work
Competencies	
GN	Generic Competencies

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