



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

**Business, Technical, Vocational Education and Training [BTVET] Sub sector
Reform**



**Assessment and
Training Package
FOR
TERRAZZO WORKER**

Qualification Level: 1

Occupational Cluster: Technology and Design

January 2022

Developed by:

**Qualifications Standards Department
Directorate Of Industrial Training**

Funded by:

Government of Uganda

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Under BTVET Act, 2008, the functions of the Directorate of Industrial Training are:

- (a) To identify the needs of the labour market for occupational competencies that falls under the UVQF.
- (b) To regulate apprenticeship schemes.
- (c) To foster and promote entrepreneurial values and skills, as an integral part of the UVQF.
- (d) To secure adequate and sustainable financing for the efficient operations of the Directorate.
- (e) To accredit training institutions or companies as assessment centres.
- (f) To determine fees payable under the Act.
- (g) To develop, apply, expand and improve the purposeful application of Uganda vocational qualifications defined in the UVQF.
- (h) To assess and award Uganda Vocational Qualifications.
- (i) To promote on-the-job training in industry for apprenticeship, traineeship and indenture training and for other training such as further skills training and upgrading.

To prescribe the procedure for the making of training schemes. Further to the above provisions, there is an established Uganda Vocational Qualifications Framework (UVQF), under part V of the BTVET Act, 2008. It is stated that: The purpose of the UVQF is to;

- (a) Define occupational standards in the world of work.
- (b) Define assessment standards.
- (c) Award vocational qualifications of learners who meet the set standards of different studies.
- (d) Provide guidelines for modular training.

The UVQF shall follow principles of Competence Based Education and Training (CBET) which include:

- (a) Flexible training or learning modules.
- (b) Positive assessment and Certification.
- (c) Assessment of Prior Learning.
- (d) Recognition of formal and non-formal training.
- (e) Self-paced or individual learning.
- (f) Work place learning.

For award and recognition of certificates, the BTVET Act, 2008 provides that:

1. The Directorate and other examination boards established under the Act shall award certificates and diplomas for Business, Technical or Vocational Education and Training under the UVQF.
2. The Certificates and Diplomas to be awarded shall be in the form prescribed by the Minister on the recommendation of the Industrial Training Council.
3. The Certificates and Diplomas awarded under the Act shall be recognized in the Uganda education system and by the labour market.

Under the TVET Implementation Standards 2020, the proposed new mandate of the Directorate of Industrial Training shall be restricted to promoting the highest standards in the quality and efficiency of industrial training in the country and ensuring an adequate supply of properly trained manpower at all levels in the industry and the world of work.

The functions shall include:

- (a) Regulating Industrial Training and Trainers.
- (b) Developing Industrial Training Curricula.
- (c) Harmonizing Curricula and Certificates of competence.
- (d) Assessing Industrial Training.
- (e) Development of Occupational Standards and Assessment and Training Packages (ATPs) for Trade Testing for the industry and world of work.
- (f) Awarding certificates in that respect.

At operational level in the Directorate, the Qualification Standards Department performs development tasks related to concepts, procedures and instruments for establishment of the UVQF in close collaboration with both public and private stakeholders in vocational training.

In particular, the Department organizes and coordinates the development of Assessment and Training Packages for use in competence-based vocational training as well as standards-based assessment and certification.

The Directorate has therefore produced this Assessment and Training Package for use in implementing Competence-Based Education and Training mechanisms.

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Word from Permanent Secretary

The Ministry of Education and Sports (MoES) through the Directorate of Industrial Training conducts Competence Based Assessment.

The foreseen advantages of CBA include improved access, equity and relevance of skills development, reduced unit costs of training, and recognition of Prior Learning (or on-the-job- training), among others.

As the Ministry executes its obligation of ensuring quality in training standards, the public-private partnership is being strengthened to improve occupational competence of the country's workforce without gender bias.

To achieve the set-out targets, the Directorate embarked on the anticipated UVQF design and development piloting its instruments and mechanisms in order to effectively enhance Competence-Based Assessment (CBA) in Uganda.

To date, the Qualifications Standards Department of DIT has produced Assessment and Training Packages (ATP) for various occupations. Each ATP contains 3 parts namely:

- 1.Occupational/job Profile
- 2.Training modules and
- 3.Assessment instruments Banks

The ATP can be used by any training provider and/or those who wish to present themselves for Occupational Assessment and Certification.

Herewith, the Directorate of Industrial Training presents the "Assessment & Training Package (ATP)" for training, assessment and certification of **TERRAZZO WORKER – QUALIFICATION LEVEL 1**.

Finally, I thank all individuals, organizations and development partners who have contributed and/or participated in the review of this noble document.

Ketty Lamaro
Permanent Secretary

Executive Summary

This Assessment and Training Package is a Competence-Based Education and Training (CBET) tool and consists of three major parts

PART I: The “Occupational Profile” (OP) of Terrazzo worker. This Occupational Profile, which was developed by terrazzo workers practicing in the world of work mirrors the duties, and tasks terrazzo workers are expected to perform.

- 0.1. PART II: “Training Modules”** in the form of guidelines to train **terrazzo workers** both on the job as well as in training centers (or combinations of both venues of learning). The Training Modules herein have been developed basing on the Occupational Profile and hence are directly relevant for employment.
- 0.2. PART III: “Assessment Instruments”** in the form of performance (Practical) and written (theory) test items that can and should be used to assess whether a person complies with the requirements of employment as a **Terrazzo worker**. These assessment-based instruments were developed by Job practitioners (Terrazzo workers) based on the occupational profile and training modules.
- 0.3.** While the Occupational Profile (OP) contained in PART I of this document provides the information on **WHAT a person is expected to do** competently in the world of work, the test items, - including performance criteria- of PART III qualify the **HOW and/or HOW WELL a person must do the job.**
- 0.4.** The modular format of the curriculum (PART II) allows learners to acquire job specific skills and knowledge (i.e., competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing flexibility for learners to move directly into an entry level job, go for further modules or advance to higher levels of training. Modular courses allow more learners to access the training system because training centers as well as companies can accommodate more students in a given period of time.
- 0.5.** In addition to improved access, equity and relevance of BTVET, the UVQF will also enable people who are convinced to have acquired competencies laid down in this ATP through prior training and on-the-job experience to access assessment and certification directly; be it on the basis of a single module, a group of modules or all modules pertaining to the occupation at once. This achievement will facilitate Recognition of Prior Learning (RPL).

The parts of this Assessment and Training Package were sequentially developed as follows:

- i Part 1: Occupational Profile: **January 2022**
- ii Part 2: Training Modules: **January 2022**
- iii Part 3: Assessment Instruments: **January 2022**

This ATP (or parts of it) may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

Patrick Byakatonda
Ag. Director DIT

Acknowledgement

The Qualifications Standards Department of DIT wishes to sincerely acknowledge the valuable contributions to the development of this Assessment and Training Package by the following persons, Institutions and organizations:

- Members of the DIT Industrial Training Council;
- The Director and staff of DIT;
- Ministry of Education and Sports;
- The practitioners from the world of work;
- Art and Design Curriculum Specialists from NCDC
- Examination Specialists from UNEB
- The facilitators involved in guiding the review panel in their activities
- The Government of Uganda for financing the review of this ATP

Abbreviations and Acronyms

A&C	Assessment & Certification
ATP	Assessment & Training Packages
BTVET	Business, Technical and Vocational Education and Training
CBA	Competence Based Assessment
CBET	Competency Based Education and Training
DACUM	Develop a Curriculum
DIT	Directorate of Industrial Training
ITC	Industrial Training Council
GoU	Government of Uganda
LWA	Learning-working Assignment
MC	Modular Curriculum
MoES	Ministry of Education and Sports
OP	Occupational Profile
PEX	Practical Exercise
PTI	Performance (Practical) Test Item
QS	Qualification Standards
RPL	Recognition of Prior Learning
TIB	Test Item Bank
TVET	Technical and Vocational Education and Training
UVQ	Uganda Vocational Qualification
UVQF	Uganda Vocational Qualifications Framework
WTI	Written (Theory) Test Item

Key Definitions

Assessment	Assessment is the means by which evidence is gathered and judged to decide if an individual has met the stipulated assessment standards or not. Testing is a form of formal assessment.
Certification	Certification is a formal procedure to issue a certificate (qualification) to an individual that has demonstrated during formal assessment that he/she is competent to perform the tasks specified in the occupational profile.
Competence	Integration of skills, knowledge, attitudes, attributes and expertise in doing/ performing tasks in the world of work to a set standard.
Competency	(Occupational) competency is understood as the ability to perform tasks common to an occupation to a set standard.
CBET	Competence-based education and training means that programmes: <ol style="list-style-type: none">1. have content directly related to work2. focus is on 'doing something well'3. assessment is based upon industry work standards, and4. curricula are developed in modular form
Duty	A Duty describes a large area of work in performance terms. A duty serves as a title for a cluster of related Tasks (see also: TASK).
Learning-Working Assignment (LWA)	LWA are simulated or real job situations / assignments that are suitable for learning in a training environment (e.g. "small projects"). In a working environment LWA are real work situations/assignments.
Modules	Modules are part(s) of a whole curriculum. Modules can be considered as "self-contained" partial qualifications which are described by learning outcomes or competencies and which can be assessed and certified individually.
Occupational Profile (OP)	An Occupational Profile is an overview of the duties and tasks a job incumbent is expected to perform competently in employment. Occupational Profiles developed by practitioners from the world ofwork enhance the relevance of training and learning to the requirements of the world of work.

Occupational Profiles define WHAT a person is supposed to do in performance terms. It also contains generic information regarding related knowledge and skills, attitudes/behaviour, tools, materials and equipment required to perform as well as trends/ concerns in the occupation.

Occupational profiles are the reference points for developing modular curricular and assessment standards

Qualification

A qualification is a formal reward for demonstrating competence, based on formal assessment against set standards and provided to the individual in the form of a certificate specifying the nature of the competence.

Task

Job TASKS represent the smallest unit of job activities with a meaningful outcome. Tasks result in a product, service, or decision. They represent an assignable unit of work and have a definite beginning and ending point. Tasks can be observed and measured. *(see also: Duty)*

ATP-PART I

Occupational Profile for Terrazzo Worker

- 1.1 The OCCUPATIONAL PROFILE (OP) for “**Terrazzo worker**” below defines the **Duties** and **Tasks** a competent **Terrazzo worker** is expected to perform in the world of work (on the job) in Uganda and the East African region today.
- 1.2 Since it reflects the skill requirements of work life, the Occupational Profile is the reference document for the subsequent development of training modules and assessment instruments (test items) which are directly relevant to employment in Ugandan and the East African businesses and industries.
- 1.3 To ensure that the Occupational Profile is relevant for employment in Uganda and East Africa, the DIT used the method of “occupational/job profiling.

This approach involves the brainstorming of a panel of 8 to 12 competent job practitioners guided by trained and experienced facilitators. During a two-day workshop the panellists define the duties and tasks performed in employment, as well as the prerequisite skills, knowledge, attitudes, tools and equipment, and the future trends and concerns in the occupation/job.

- 1.4 The panellists, facilitators and coordinators who participated in developing this Occupational Profile for **Terrazzo workers** are listed on the following page.

‘The DACUM-method was used. DACUM is an acronym for ‘Develop A Curriculum’

Expert Panel

Nabikindu Caroline

MoES

Funa Simon

NCDC

Okello William

UNEB

Tumukuratire Collins

Senior Examiner

Mukwaya Farouk

Namirembe Hillside

Taremwa Raymond

Ntare school

Kafeero Adnan

Lubiri S.S.

Komakech Joseph

Jinja S.S

Nsubuga Francis

Mikigan Construction Ltd

Kizito Jackson Walter

JK Construction Company

Ssonko Alex

Semakokilo construction

Company

Agaba Gilbert

Kwed Construction Ltd

Facilitators

Mushabenta Brendah

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Ongom Augustine

Directorate of Industrial
Training

Co-ordinator

Elizabeth Ruth Mukyala

Directorate of Industrial
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Funded by



THE REPUBLIC OF UGANDA
Ministry of Education and Sports

**Business, Technical, Vocational Education and
Training (BTJET) Sub sector Reform**

Occupational Profile

For

“TERRAZZO WORKER”

**Developed by: Directorate of Industrial Training
(Qualifications Standards)**

Dates of workshop: 10th January - 14th January 2022

NOMENCLATURE –TERRAZZO WORKER

Definition: **Terrazzo worker** is a person who has knowledge and skills in designing, installing and maintaining different Terrazzo patterns

JOB ORGANISATION CHART FOR TERRAZZO WORKER

<ul style="list-style-type: none"> • Site engineer • Project managers • Machine operators • Construction managers 	<p>PEERS</p> <ul style="list-style-type: none"> • Tile installers • Mansons • Civil engineers 	<div style="border: 2px solid black; padding: 5px; display: inline-block;"> <p>TERRAZZO WORKER LEVEL III</p> </div>	<ul style="list-style-type: none"> • Ministry of education and sports • Ministry of works and transport • URA
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Internal Links

Technical Links

External Links

1. **UVQ Level I Terrazzo Worker;** Is a person who has knowledge and skills in mixing ingredients, preparing floor, installing and maintaining simple floor designs
2. **UVQ Level II Terrazzo Worker;** A person who has knowledge and skills in designing patterns, interpretation of work plans, preparation of simple BOQ/BOM, preparation of materials, installation and maintenance of terrazzo floor designs.
3. **UVQ Level III Terrazzo Worker** is a person who has knowledge and skills in training and directing, survey site, making and interpretation of workplans, preparation of BOQ/ BOM, installation and maintenance of terrazzo floor designs.

Duties and Tasks

A. Plan Terrazzo work	A1 Visit site	A2 Study surface nature	A3 Take measurements
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UVQF: Assessment and Training Package (ATP) for TERRAZZO WORKER
QUALIFICATION LEVEL 1 **January 2022**

	A4 Estimate quantities, costs and time scale	A5 Identify tools, equipments and materials	A6 Prepare BOQ/BOM
	A7 Prepare work schedule	A8 Prepare work schedule	A9 Determine mixing ratios

B. Perform Administrative Tasks	B1 Procure equipment and materials	B2 Sign MOU	B3 Recruit workers
	B4 Orient Workers	B5 Hold Meeting	B6 Train Workers
	B7 Assign Work	B8 Keep site records	B9 Prepare weekly Reports
	B10 Mentor workers	B11 Monitor Workers	B12 Appraise Workers
	B13 Manage conflicts	B14 Manage welfare	

C. Prepare Surface	C1 Clean surface	C2 Check cracks	C3 Check floor moisture
	C4 Level surface floor	C5 Design terrazzo layout	C6 Form bays

D. Install Terrazo	D1 Grade terrazzo aggregates	D2 Batch Terrazzo materials	D3 Mix Terrazzo materials
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UVQF: Assessment and Training Package (ATP) for TERRAZZO WORKER
QUALIFICATION LEVEL 1 **January 2022**

	D4 Lay Terrazzo mixture	D5 Level Terrazzo mixture	D6 Cure terrazzo surface
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E. Perform Finishing	E1 Level terrazzo surface	E2 Grind terrazzo surface	E3 Grout terrazzo surface
	E4 Clean terrazzo surface	E5 Polish terrazzo surface	E6 Operate machines

F. Maintain tools, equipment and materials	F1 Collect equipment and tools.	F2 Count tools and equipment	F3 Clean tools and equipment
	F4 Lubricate equipment and machines	F5. Monitor usage of tools and equipment	F6 Store tools and equipment
	F7 Repair tools and equipment		

G. Occupational health, safety and	G1 Wear protective gears	G2 Administer first aid	G3 Manage waste
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environmental protection practices	G4 Display safety signs	G5 Sensitize workers on key health issues	G6 Report defects
	G7 Train workers on the usage of power and hand machines		

Additional Information

Generic Knowledge & Skills

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Counselling 2. ICT 3. Sales skills 4. Communication skills 5. Interpersonal skills 6. Regulations 7. Literacy and numeracy 8. Language 9. Business management 10. Industry trends 11. Market demands 12. Environmental awareness 13. Tools, equipment and materials 14. Pricing 15. Commercialization | <ol style="list-style-type: none"> 16. General construction knowledge 17. Different patterns of Terrazzo 18. Safety and health 19. Knowledge on first aid 20. Contract law 21. Entrepreneurial skills 22. Different types of terrazzo colour 23. Knowledge on quality of Terrazzo 24. Decorating and finishing techniques 25. Human resource management 26. Storage of material and equipment 27. Planning skills 28. Handling of tools and equipment |
|--|--|

Tools, Equipment and materials

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> Stationery Grinder Chissels Hummers Spade Wheel barrow Hoe Bow blades | <ul style="list-style-type: none"> Mixer Computer Tape Measure Water tank Squares Water levels Terrazzo Brush wate | <ul style="list-style-type: none"> Cement Sand axel blades Spirit level Angle grinder Dividers/strips Timber Cutting Machines Nails |
|--|---|--|

Attitudes/Traits/Behaviour	Future Trends and Concerns
1. Honest and transparent	1. Expansion of market

<ol style="list-style-type: none"> 2. Tolerant 3. Active 4. Hard working 5. Punctual 6. Realistic 7. Social 8. Able to predict 9. Organized 10. Respectful 11. Confident 12. Trustworthy 13. Dedicated 14. Team player 15. Disciplined 16. Enthusiastic 17. Adaptive 18. Creative and innovative 19. Resourceful 20. A good listener 21. Result oriented 22. Trainable 23. Strategic 24. Researcher 	<ol style="list-style-type: none"> 2. Use of computers 3. Advanced technology i.e. internet, websites, etc. 4. Use of improved machines 5. Need for training 6. Environmental degradation 7. Lack of capital 8. Taxes
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2.0 ATP – PART II

Training Modules for A TERRAZZO WORKER:

- 2.1 A curriculum is a “guide /plan for teaching and learning” which provides a guide to teachers, instructors and learners. In the envisaged system of competence-based or outcome-oriented education and training (CBET), Curricula are no longer the benchmark against which assessment is conducted. It is rather the Occupational Profile that provides the benchmark for Curriculum development as well as assessment.
- 2.2 This modular format of the curriculum allows learners of a Terrazzo Worker to acquire job specific skills and knowledge (i.e. competencies) module by module. A single module can be accomplished within a relatively short duration of time allowing learners to move directly into an entry level job, do further modules and advance to higher levels of training. Modular courses allow more learners to access the training system because training centres, as well as companies can accommodate more students in a given period of time.
- 2.3 The modules were reviewed jointly by both instructors and job practitioners. They were reviewed using the Occupational Profile as a reference point and taking into account the specifications of training and learning outcomes.
- 2.4 The modules contain “Learning-Working Assignments” (LWAs) and related “Practical Exercises” (PEXs) as key elements.
LWAs are simulated or real job situations/assignments that are suitable for learning in a training environment (e.g. “small projects”). In a working environment, LWAs are real work situations. PEXs are therefore sub-sets of a LWA.
- 2.5 In principle, and following the philosophy of Competence-Based Education and Training (CBET), the modules can be used as a guide for learning in a training Centre, at the workplace; or a combination of both.

WHO IS A TERRAZZO WORKER LEVEL 1?

TERRAZZO WORKER LEVEL1 Is a person who has knowledge and skills in mixing ingredients, preparing floor, installing and maintaining simple floor designs

OVERVIEW MODULES FOR A TERRAZZO WORKER UVQF LEVEL 1

Code	Module Title	Average duration	
		Contact hours	Weeks
UE/TW/M1.1	Perform design and layout	80 hours	2 weeks
UE/TW/M1.2	Perform terrazzo installation	320 hours	8 weeks
UE/TW/M1.3	perform terrazzo maintenance	160 hours	4 weeks
UE/TW/M1.4	Establish and manage terrazzo business	200 hours	5 weeks
Summary	4 modules	760 hours	19 weeks

Note: Average duration is contact time but NOT calendar duration.

It is assumed that:

- 1 day is equivalent to 8 hours of nominal learning and
- 1 month is equivalent to 240hours of nominal learning

Information given on the average duration of training should be understood as a guideline. Quick learners may need less time than indicated or vice versa.

At completion of a module, the learner should be able to satisfactorily perform the included Learning Working Assignments, their Practical exercises and attached theoretical instructions, as the minimum exposure.

Prior to summative assessment by recognized Agencies, the users of these Modules Guides are encouraged to carefully consider continuous assessment using samples of (or similar) performance (practical) and written test items available in part 3 of this ATP for **TERRAZZO WORKER**.

Code	UE/TW/M1.1
Module title	M1.1: Perform design and layout
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (Terrazzo Worker UVQ 1)
Qualification Level	1
Module purpose	At the end of this 6module, a trainee shall be able to perform design and layout
Learning-Working Assignments (LWAs)	<p>LWA 1/1: Visit site LWA 1/2: Prepare workplan LWA 1/3: Prepare design LWA 1/4: Perform layout LWA 1/5: Perform Occupational health, safety and environmental protection practices</p> <p><u>Note:</u> 1. The learning exercises may be repeated till the trainee acquires targeted competences. 2. The trainer is advised to deliver relevant theoretical instructions with demonstrations as required to perform each learning assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 1/1: Visit site PEX 1.1: Study surface PEX 1.2: Take measurements</p> <p>LWA 1/2: Prepare workplan PEX 2.1: Prepare work program PEX 2.2: Identify labour PEX 2.3: Identify tools and equipment PEX2.4: Identify source of materials PEX2.5:Determine work duration PEX2.6: Identify type of materials PEX2.7: Identify possible source of materials</p>
	<p>LWA1/3: Prepare design PEX 3.1: Select tools and equipment PEX 3.2: Take measurements PEX 3.3: Develop working sketch PEX 3.4: Prepare design material</p>

	<p>LWA 1/4: Perform layout PEX 4.1: Clear site PEX 4.2: Prepare slab PEX 4.3: Take Measurements PEX4.4: Develop lay shapes PEX4.5: Form bays.</p> <p>LWA 1.5: Perform Occupational health, safety and environment protection practices. PEX 5.1: Dispose waste PEX5.2: Maintain personal hygiene PEX 5.3: Wear protective gear</p>
	<p>Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs. E.g.wear protective gears</p>
Occupational health and safety	
Pre-requisite modules	
Related knowledge/ theory	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Metric system • Measurement unit • Different drawing instruments • Types of surface
Average duration of learning	<p>80 hours (10 days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 3 day of occupational theory and • 7 days of occupational practice
Suggestions on organization of learning	<p>The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>

Assessment	Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank
Minimum required tools/ equipment/ implements or equivalent	Measuring tape, trowel, spade, brush, hoe, Hammer, spirit level, calculator, sharpener, strings, safety gears
Minimum required materials and consumables or equivalent	Divider strips, stationery, nails, grout
Special notes	

Code	UE/TW/M1.2
Module title	M1.2: Perform terrazzo installation
Related Qualification	<u>Part of</u> Uganda Vocational Qualification
Qualification Level	(Terrazzo Worker UVQ 1)
Module purpose	At the end of this module, a trainee shall be able to perform terrazzo installation and maintenance
Learning-Working Assignments (LWAs)	<p>LWA 2/1: Prepare terrazzo aggregates LWA 2/2: Prepare Terrazzo Mixture LWA 2/3: Lay Terrazzo mixture LWA 2/4: perform finishing LWA 2/5: Perform occupational health safety and environmental protection practices</p> <p><u>Note:</u></p> <p>1. The learning exercises may be repeated till the trainee acquires targeted competence</p> <p>2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment</p>
Related Practical Exercises (PEXs)	<p>LWA 2/1: Prepare terrazzo aggregates PEX 1.1: Select tools, equipment and materials PEX 1.2: Grade terrazzo aggregates PEX 1.3: Clean terrazzo aggregate</p>

	<p>PEX 1.4: sort different colours of terrazzo aggregates</p>
	<p>LWA 2/2: Prepare Terrazzo Mixture PEX 2.1: Select tools equipment and materials PEX 2.2: Batch terrazzo materials PEX 2.3: Mix terrazzo materials</p>
	<p>LWA 2/3: Lay Terrazzo mixture PEX 3.1: Select tools, equipment and materials PEX 3.2: Clean surface PEX 3.3: water surface PEX 3.4: Cast mixture PEX 3.5: Spread mixture PEX 3.6: Compact terrazzo mixture PEX 3.7: Level terrazzo mixture PEX 3.8: Cure terrazzo mixture</p>
	<p>LWA2/4 install skirting PEX 4.1. Take measurements PEX 4.2. Mark skirting height PEX 4.3. Make rough surface PEX4.4: Clean skirting surface PEX 4.5: Sprinkle water</p>
	<p>LWA 2/5: Perform finishing PEX 5.1: Clean surface PEX 5.2: Level terrazzo surface PEX 5.3: Grind terrazzo surface PEX 5.4: Grout terrazzo surface PEX5.5: Polish terrazzo surface</p>
	<p>LWA 2/6: Maintain tools and equipment PEX 6.1: Identify tools and equipment PEX 6.2: Assemble tools and equipment PEX 6.3: Cleantools and equipment PEX 6.4: Service equipment PEX 6.5: Store tools and equipment</p>

	<p>LWA2/7: Perform occupational health, safety and Environment protection Practises.</p> <p>PEX 7.1: Wear Protective gears PEX 7.2: Manage wastes PEX 7.3: Administer first aid PEX 7.4: Sensitize worker on health and safety measures PEX 7.5: Maintain personal hygiene</p>
	<p>Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs</p>
	<p>None</p>
<p>Occupational health and safety</p>	
<p>Pre-requisite modules</p>	
<p>Related knowledge/ theory</p>	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Storage of equipment and tools • Different types of terrazzo • Strage of materials • Quality of terrazzo • Componenets of terrazzo • Expected life span of material • Ingredients of terrazzo • Knowledge of colour collection • Handle tools • Usage of tools • Procedure of laying terrazzo • Knowledge in diffent shapes • Knowledge about the diffent types of cement.

	<ul style="list-style-type: none"> • Knowledge on equipment inspection
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Average duration of learning	320 hours (40 days) of nominal learning suggested to include: <ul style="list-style-type: none"> • 10 days of occupational theory and • 30 days of occupational practice
Suggestions on organization of learning	The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.
Assessment	Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank
Minimum required tools/ equipment/ implements or equivalent	trowels, spades, levels, strings, Grinder, hammer, gloves, google, overall, gumboots, saw blade, roller, ear plugs, hoe, tape measue
Minimum required materials and consumables or equivalent	Strips, string, stationery, brush
Special notes	Be strict on machine usage and safety precautions.

Code	UE/TW/M1.3.
Module title	M1.3: perform terrazzo maintenance
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (TerrazzoWorker UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to perform terrazzo maintenance
Learning-Working Assignments (LWAs)	<p>LWA 3/1: Site visit LWA 3/2: Prepare maintenance workplan LWA 3/3: Perform Repair work LWA 3/4: Maintain tools, equipment and material LWA 3/5: Occupational health, safety and environmental protection practices</p> <p><u>Note:</u> 1. The learning exercises may be repeated till the trainee acquires targeted competences. 2. The trainer is advised to deliver relevant theoretical instructions with demonstrations as required to perform each learning assignment.</p>
Related Practical Exercises (PEXs)	<p>LWA 3/1: Visit Site PEX 1.1: Identify defects PEX 1.2: Take measurements PEX 1.3: Take sketches PEX 1.4: Take records</p>
	<p>LWA 3/2: Prepare maintenance workplan PEX 2.1: Identify tools and equipment PEX 2.2: Prepare work schedule PEX 2.3: Identify workers PEX 2.4: Procure materials</p>

	<p>LWA 3/3: Perform Repair work PEX 3.1: Mark damaged portion PEX 3.2: cut out damaged portion PEX 3.3: Prepare damaged surface PEX 3.4: put strips PEX 3.5: water damaged portion PEX3.6: Prepare mixture PEX 3.7: Cast mixture PEX 3.8: Compact mixture PEX 3.9: Cure terrazzo PEX 3.10 Grind terrazzo surface PEX 3.11: Grout terrazzo surface PEX 3.12: Polish terrazzo surface</p>
	<p>LWA 3/4: Occupational health, safety and environmental protection practices PEX 4.1: Administer first aid PEX 4.2: Display safety signs PEX 4.3: Wear Personal protective equipment PEX 4.4: Manage waste PEX 4.5: Manage usage of tools and equipment PEX 4.6: Sensitize about HIV and other diseases PEX 4.7: Train worker on operation of machines</p>
<p>Occupational health and safety</p>	<p>Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs. E.g.wear protective gears</p>
<p>Pre-requisite modules</p>	<p>None</p>

<p>Related knowledge/ theory</p>	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Storage of equipment and tools • Different types of terrazzo • Storage of materials • Quality of terrazzo • Components of terrazzo • Expected life span of material • Ingredients of terrazzo • Knowledge of colour collection • Hand tools • Usage of tools • Procedure of laying terrazzo • Knowledge in different shapes • Knowledge about the different types of cement. • Knowledge on equipment inspection
<p>Average duration of learning</p>	<p>160 hours (20days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 5 days of occupational theory and • 15 days of occupational practice
<p>Suggestions on organization of learning</p>	<p>The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
<p>Assessment</p>	<p>Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank</p>

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Minimum required tools/ equipment/ implements or equivalent	First aid kit, Trowel, chisel, pick axe, cutters, hammer, trowel, roller, strips, water, water spray pipe, broom, straight edge, tape measure
Minimum required materials and consumables or equivalent	Stationary, detergents, sanitizers, sand, cement, water
Special notes	

Code	UE/TW/M1.4
Module title	M1.5: Establish and manage terrazzo business
Related Qualification	<u>Part of</u> Uganda Vocational Qualification (Terrazzo Worker UVQ 1)
Qualification Level	1
Module purpose	At the end of this module, a trainee shall be able to establish and manage terrazzo business
Learning-Working Assignments (LWAs)	<p>LWA 4/1: study terrazzo market LWA 4/2: set up terrazzo business LWA 4/3: Market Terrazzo business LWA 4/4: Manage Terrazzo business LWA 4/5: Perform occupational Health, Safety and environment protection practices</p> <p>Note: 1. The learning exercises may be repeated till the trainee acquires targeted competence 2. The trainer is advised to deliver relevant theoretical instruction with demonstrations as required to perform each learning assignment</p>
Related Practical Exercises (PEXs)	<p>LWA 4/1: study terrazzo market PEX 1.1: identify potential customers PEX 1.2: Visit suppliers PEX 1.3: visit construction sites PEX 1.4: carry out exhibitions</p> <p>LWA 4/2: set up terrazzo business PEX 2.1: Find business location PEX 2.2: Obtain legal operation documents PEX 2.3: Prepare working space PEX 2.4: Purchase stock</p>

	PEX 2.5: Organise stock PEX 2.6: Label stock PEX 2.7: Display stock
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	LWA 4/3: Market Terrazzo business PEX 3.1: Carry out advertisement PEX 3.2: Make work portfolio PEX 3.3: offer discounts PEX 3.4: offer post instalment services PEX 3.5: Make business cards PEX 3.6: sponsor community programs PEX 3.7: Offer business incentives
	LWA 4/4: Manage Terrazzo business PEX 4.1: Purchase stock PEX 4.2: Keep records PEX 4.3 : supervise business PEX 4.4 : Recruit workers
	LWA 4/5 : Perform occupational Health, safety and environment protection practices PEX 5.1: Manage waste PEX 5.2: Administer first aid PEX 5.3: Wear protective gear PEX 5.4: Practise personal hygiene PEX 5.5: Sensitize workers on health issues
Occupational Health and Safety	Precautions, rules and regulations on occupational health safety and environmental protection included in the listed related knowledge should be observed and demonstrated during LWAs and PEXs
Pre-Requisite Modules	None

Related Knowledge/ Theory	<p><i>For occupational theory suggested for instruction/demonstration, the trainer is not limited to the outline below. In any case related knowledge/ theory may be obtained from various recognised reference materials as appropriate:</i></p> <ul style="list-style-type: none"> • Advertising • Financial knowledge • Customer care • Report writing • Record keeping • Commercial knowledge • Branding • Portfolio making • Rules and regulations/ government policies • Safety, health and environmental knowledge • Conflict resolution • Knowledge on Sales maximization
Average Duration of Learning	<p>200hours (25days) of nominal learning suggested to include:</p> <ul style="list-style-type: none"> • 20 day of occupational theory and • 5 days of occupational practice
Suggestions On Organization of Learning	<p>The acquisition of competencies (Skills, knowledge, attitudes) described in this module may take place at a training centre or its equivalent provided all equipment and materials required for training are in place.</p>
Assessment	<p>Assessment to be conducted according to the established regulations by recognised assessment body using related Practical and written Test Items from Item Bank</p>
Minimum Required Tools/ Equipment/	<p>Computers, furniture, printers, cameras, calculators, weighing scale, grinder, tape measure, spirit level, hummer, generators, mixing tools</p>

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Implements or Equivalent	
Minimum Required Materials and Consumables or Equivalent	Stationary, electricity, sanitizers, first aid kit, internet, stock, packing bags, gloves, face shields, overalls, water,
Special Notes	<ul style="list-style-type: none"> • Customers are always the king therefore customer care is so paramount. • Financial discipline

3.0 ATP- PART III

Assessment Instruments for Terrazzo Worker

- 3.1 Assessment of occupational competence is the procedure by which evidence is gathered and judged to decide if an individual (candidate) has met the stipulated assessment standards.
- 3.2 Assessment of occupational competence should comprise of both practical (performance) testing and written (theory/knowledge) testing.
- 3.3 Based on the Occupational Profile and Training Modules, a combined panel of job practitioners and Instructors reviewed a substantial number of test items for assessing (practical) performance as well as items for assessing occupational knowledge (theory) all stored in an electronic Test Item Bank (TIB) at the Directorate of Industrial Training.
- 3.4 Performance (Practical) Test Items (PTI) are closely related to typical work situations in Ugandan business enterprises. They comprise of a test assignment for candidates and assessment criteria and/or scoring guides for assessors' use.
- 3.5 Written Test items (WTI) for written testing of occupational theory, (knowledge) are presented in different forms which include:
 - Short answer test items.
 - Multiple choice test items
 - Matching test itemsThese WTIs herein focus on functional understanding as well as trouble-shooting typically synonymous with the world of work.
- 3.6 Composition of assessment/test papers will always require good choices of different types of WTI in order to ensure the assessment of relevant occupational knowledge required of candidates to exhibit competence.
- 3.7 The test items contained in the Test Item Bank may be used for continuous/formative assessment during the process of training as well as for summative assessment of candidates who have acquired their competences non-formally or informally
- 3.8 In this document, samples of test items for assessing both performance (practical) and occupational knowledge (theory) of Terrazzo workers included a larger selection of test items can be obtained as electronic or printed copies from the UVQF Secretariat or designated outlet.

3.9 Overview of Test Item Samples Included

No	Type of test Items	Numbers included
1	Written (Theory)- Short Answer	3
2.	Written (Theory)- Multiple Choice	2
3.	Written (Theory)- Matching with generic	1
4.	Written (Theory)- Matching with cause effect	1
5	Written(theory)-Matching with work-sequence	1
6.	Performance (Practical)Test Items	1
Total		9

Test Item Database					
Written (Theory) Test Item- no. 1					
Occupational Title:	Terrazzo Worker				
Competence level:	Level 1				
Code no.					
Test type:	Short answer	√			
	Multiple choice				
	Matching item	Generic	Cause- Effect	Work-sequence	
Complexity level:	C1				
Date of OP:	January 2022				
Related modules:	M1.2				
Time allocation:	4 Minutes				

Test Item	List any four materials used in terrazzo construction
Answer spaces	i. ii. iii. iv.
Expected key (answers)	i. Divider strips ii. Cement iii. Water iv. Colour oxide v. Sand vi. Marble chips vii. Granite

DIT/ QS		Test Item Database			
		Written (Theory) Test Item- no. 2			
Occupational Title:	Terrazzo Worker				
Competence level:	Level 1				
Code no.					
Test Item type:	Short answer	√			
	Multiple choice				
	Matching item	Generic	Cause- Effect	Work-sequence	
Complexity level:	C2				
Date of OP:	January 2022				
Related modules:	M1.4				
Time allocation:	4 minutes				

Test Item	List three ways of marketing Terrazzo product.
Answer spaces	i. ii. iii.
Expected key (answers)	i). Advertising ii). Giving discounts iii). Participating in exhibitions iv). Use of brochures v). Use of business cards vi). Participating in community work

DIT/ QS	Test Item Database			
Written (Theory) Test Item- no. 3				
Occupational Title:	Terrazzo Worker			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer	√		
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
Complexity level:	C2			
Date of OP:	January 2022			
Related modules:	M1.1			
Time allocation:	4 minutes			

Test Item	Suggest any three ways of ensuring safety at the site
Answer spaces	i. ii. iii.
Expected key (answers)	i). Display of sign posts ii). Wearing of protective gears iii). Proper usage of tools iv). Installation of fire fighting equipments v). Create emergency exits vi). Sensitization about safety measures vii). Administer first aid.

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 04			
Occupational Title:	Terrazzo Worker			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Matching item	Generic	Cause-Effect	Work-sequence
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	2 minutes			
Test Itemis the material used in terrazzo installation			
Distracters and correct answer	A. Strips B. Hummers C. Levels D. Grinders			
Key (answer)	A			

DIT/ QS	Test Item Database Written (Theory) Test Item- no. 05			
Occupational Title:	Terrazzo Worker			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice	√		
	Match ng item	Generic	Cause-Effect	Work-sequence
Complexity level:	C1			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	2 minutes			

Test Itemis the mixing ratio of terrazzo mortar
Distracters and correct answer	A. 1:6 B. 1:5 C. 1:2 D. 1:3
Key (answer)	C

DIT/ QS	Test Item Database			
Written (Theory) Test Item- no. 06				
Occupational Title:	Terrazzo worker			
Qualification level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
	√			
Complexity level:	C3			
Date of OP:	January 2022			
Related Module:	M.3			
Time allocation:	6 Minutes			
Test Item	Match the following tools against their uses			

Column (A) [tools]	
A	Rammer
B	Brush
C	Drill
D	Wheel Barrow

Column (B) [Uses]	
1	Mixing mortar
2	Creating holes
3	Spreading mortar
4	Cleaning surfaces
5	Transporting mortar
6	Compacting mortar
7	

Key (answer)	A-6, B-4, C-2, D-5
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DIT/ QS	Test Item Database			
Written (Theory) Test Item- no. 07				
Occupational Title:	Terrazzo Worker			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
			√	
Complexity level:	C3			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	8 Minutes			

Test Item	Match the following causes to their effects in terrazzo installation
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Column (A) [Causes]	
A	Inadequate compaction
B	Inadequate grinding
C	Chemical reaction
D	Inadequate polishing

Column (B) [effects]	
1	Development of stains
2	Loose materials
3	Development of cracks
4	Dampness of the floor
5	Unlevelled surface
6	Development of rough surface

Key (answer)	A-3, B-5, C-1, D-6
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DIT/ QS	Test Item Database			
Written (Theory) Test Item- no. 08				
Occupational Title:	Terrazzo Worker			
Competence level:	Level 1			
Code no.				
Test Item type:	Short answer			
	Multiple choice			
	Matching item	Generic	Cause- Effect	Work-sequence
				√
Complexity level:	C2			
Date of OP:	January 2022			
Related Module:	M1.2			
Time allocation:	10 Minutes			

Test Item	Arrange the following steps of laying terrazzo mixture in their chronological order.
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Column A (Order)		Column B (Steps in wrong order)
1 st	A	water surface
2 nd	B	Cure terrazzo mixture
3 rd	C	Batch materials
4 th	D	Level terrazzo mixture
5 th	E	Compact terrazzo mixture

6 th	F	Spread mixture
7 th	G	Cast mixture
8 th	H	Clean surface

Key (answer)	1 st -C, 2 nd -H, 3 rd -A, 4 th -G, 5 th -F, 6 th -E, 7 th -D, 8 th -B
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DIT/ QS	Test Item Database Performance Test Item- no.01.
Occupational Title:	Terrazzo Worker
Competence level:	1
Code no.	
Test Item:	Prepare 1 square meter working space for terrazzo installation following the details below; Slab thickness of 25mm, bays of 0.5 square meters, a skirt of 100mm height and a mix ratio of 1:2:5
Complexity level:	P2
Date of OP:	January 2022
Related Module:	M1.1
Related skills and knowledge:	
Required tools, materials and equipment:	Cement, Sand ,Aggregates, spade, hoe, trowel, spirit level, water, wheel barrow, builder’s square, watering can, straight edges, tape measure, stationery, Rammer
Time allocation:	6 hours
Preferred venue:	Workshop
Remarks for candidates	Avail protective gear Observe health safety and environment
Remarks for assessors	Provide all the tools equipment and materials listed above

#	Assessment criteria	Scoring guide	Max. Score	
			Process	Result
1	Preparation before task	Wore protective equipment <ul style="list-style-type: none"> • Helmet • Overall • Safety shoes • Gloves • Dust mask 		4
		Selected tools, equipment and materials	2	
		Tools equipment and materials observed at site		2
		Sketched formwork	3	

		Sketch of 1 square meter working space, thickness 25mm floor slab, 100mm height skirt, 90° between floor skirt and wall skirt, 0.5 square metres bays		3
2	Assessment of workability	Cleaned work space	2	
		Cleared work place observed		2
		Transferred measurements from the sketch to the ground <ul style="list-style-type: none"> • 1 square meter working space 	2	
		<ul style="list-style-type: none"> • Slab floor thickness of 25mm 	2	
		<ul style="list-style-type: none"> • 100mm of skirt 	2	
		<ul style="list-style-type: none"> • 0.5 square meters bay 	2	
		Actual measurements observed		3
		Dug the ground	4	
		Removed unstable ground observed		2
		Watered ground observed		2
		Compacted ground	3	
		Firmed ground observed		2
		Levelled ground observed	2	
		1:2:5 ratios of cement:Sand:Aggregate measured	4	

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		Mixed materials for slab	3	
		Uniformly mixed concrete observed		3
		Casted concrete	2	
		Spread concrete	2	
		Evenly spread observed		2
		Levelled concrete	2	
		Gentle slope surface observed		2
		Compacted concrete	2	
		Honey combed concrete observed		2
4	Clean up work area	Collected tools and equipment		2
		Cleaned tools and equipment	2	
		Tools and equipments free of fresh concrete observed		2

		Handed over/stored tools and equipment	3	
		Cleaned work area	2	
		Dirt free work area observed		2
		Process + Results	46	35
	TOTAL (Y)		$\frac{x}{63} \times 100$	
	MAXIMUM SCORE			

4.0 ATP- PART IV

INFORMATION ON DEVELOPMENT PROCESS

4.1 Occupational Profile Reviewed (January 2022)

The Occupational Profile was exclusively developed by job practitioners who were working in the Terrazzo worker occupation. The job expert panel, guided by UVQF Facilitators defined duties and tasks performed and provided additional generic information regarding the occupation.

4.2 Training Module Reviewed (January 2022)

Based on the Occupational Profile for Terrazzo worker of January 2022, Training Modules were developed by job practitioners, guided by UVQF Facilitators.

4.3 Test Item Review (January 2022)

Based on the Occupational Profile for Terrazzo worker of January 2022, and Training Modules, Test Items were developed by combined panels of instructors and job practitioners, guided by UVQF Facilitators.

4.4 Methodology

The rationale for the Assessment and Training Package development was to link Vocational Education and Training to the real world of work by bridging Occupational Standards to Training Standards through industry-led Standards-Based Assessment.

Active participation of both instructors and job practitioners' panels consolidated the development philosophy.

The panelists worked as teams in workshop settings complemented by off-workshop field research and literature review activities including international benchmarking.

4.5 Development Panel

The participating panels of Job Practitioners required at different stages were constituted by members from the following organizations:

No.	Name	Institution/ Organization
1.	Nabikindu Caroline	MoES
2.	Funa Simon	NCDC
3.	Okello William	UNEB
4.	Tumukuratire Collins	Mbarara High School
5.	Mukwaya Farouk	Namirembe Hillside
6.	Kafeero Adnan	Lubiri S.S
7.	Taremwa Raymond	Ntare school
8.	Komakech Joseph	Jinja S.S
9.	Ssonko Alex	Semakokilo Construction Ltd
10.	Nsubuga Francis	Mikigan Investment (U) Ltd
11.	Kizito Jackson Walter	JK Costruction Company
12.	Agaba Gilbert	Kwed Construction Ltd

4.6 Facilitator team

This Assessment and Training Package was developed by a Facilitator team listed below:

1. Team Leader – Mr. Byakatonda Patrick, Ag Deputy Director, DIT
2. Coordinated by - Ms.Mukyala Ruth, Ag.DD/DIT
3. Facilitators - Ms. Mushabenta Brendah and Mr. Ongom Augustine.
4. Data Entrants- Mr. Kasadha Kizire Joel and Mr. Mugaya Ashiraf
5. Complied by- Ms. Mushabenta Brendah

4.7 Reference time:

The Assessment and Training Package was developed in January 2022 and may be periodically revised to match the dynamic trends in the occupation and hence issued in different versions.

References

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- Rizzoli (1990). The terrazzo architecture and design book.
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