Republic of Rwanda
Ministry of Education

RTB | RWANDA TVET BOARD

PLASTERING OF STRUCTURE ELEMENTS

BDCPS301

PERFORM PLASTERING OF STRUCTURE ELEMENTS

Competence

RQF Level: 3

Learning Hours 40

Credits: 4

Sector: Construction and Building Services

Trade: Building construction

Module Type: Specific

Curriculum: CBSBDC3001- TVET Certificate 3 in Building Construction

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Purpose statement	This is a core module which describes the skills, knowledge and attitude to be acquired by the learner to perform good work by preparing the working area and applying different coats in plastering in order to provide protection and good appearance of the wall at construction site and remove defects which may appear on the plastered walls. The learner deemed competent to this module may work at construction site in finishing stages under minimum supervision.
Leaning assumed to be in place	Safety, Health and environment at workplace; Construction basic technical drawing; Building Set out; Fundamentals of building materials; Construct stones structures; Elect bricks & blocks masonry wall.

Delivery modality

Training delivery		100%	Assessment		Total 100%
Theoretical content		30%	Formative assessment	30%	50%
Practical work:		70%		70%	
• Group project and presentation	20%				
• Individual project /Work	50%				
			Summative Assessment		50%

Elements of Competency and Performance Criteria

Elements of competency	Performance criteria
1. **Select tools, equipment and materials**	1.1. Appropriate tools are selected according to the work to be performed.
	1.2. Appropriate equipment are selected according to the work to be performed.
	1.3. Adequate materials are selected according to the standard.
2. **Prepare working area**	2.1. Adequate mixing place is prepared as work specification.
	2.2. Relevant storage spaces are identified according to types of construction materials.
	2.3. Appropriate safety equipment, signs and posts are positioned according to the location of working area.

3. **Prepare mortar**	3.1. Right mixing ratio is identified according to the type of work.
	3.2. Mixing batches are prepared correctly with reference to the mixing ratio.
	3.3. Precise ingredients are quantified according to the mixing ratio.
	3.4. Convenient mortar mixing method is used according to the standard.
4. **Apply plastering coats**	4.1. Type of plaster are properly identified according to the standards and work requirements.
	4.2. Sufficient layers of screeds are strategically applied on the wall at regular intervals.
	4.3. Plastering mortar is systematically applied according to the type of plaster.
	4.4. Finishing is adequately done in accordance with plaster types.
	4.5. Jamb is finished according to the direction of wall end.
	4.6. Working area is properly cleaned in accordance with work specification.

Course content	
Learning outcomes	**At the end of the module the learner will be able to:** 1. **Select tools, equipment and materials** 2. **Prepare working area** 3. **Prepare mortar** 4. **Apply plastering coats**
Learning outcome 1: **select tools, equipment and materials**	**Learning hours: 5**
Indicative content	
• **Identification of tools used for plastering** ➢ The use of cement pavement tools ➢ The maintenance of cement pavement tools • **Identification of equipment for plastering** • **Identification of materials used in plastering** ➢ Types of materials used for plastering ➢ Properties of Materials	
Resources required for the learning outcome	
Equipment	RS 175: wheelbarrow specifications, ISO 18650-1: Building construction machinery and equipment-contrete mixers-part1: commercial specifications, ISO 19711-1: Truck mixers-part 1: terminologies and commercial specifications, RS EAS 1021: Steelhead hammer-specifications, RS EAS 1020: Shovels and spades specifications, RS ISO 3310-1: Test Sieves-Technical requirements and testing
Materials	Cement, Fine aggregate, Coarse aggregate, Water, Stone, Bricks, Internet, handouts, RS 107 : Building sand from natural sources — Specification, RS ARS 1304 : Guidelines for use of various types of cement, RS EAS 18-1 : Cements — Part 1 : Composition, specification and conformity criteria for common cements.
Tools	Trowel, Spirit level, Squares, Building line, Tape measure, Wheelbarrow, Roller brush, Hand brush, Scrapper, Tray , Steel float, Sand paper, Pan/bucket, Extension pole, Mixing stick, Strings (Road marking line), Brushes, Paint Scrapper, Roller, Roller tray and Bucket/pan
Facilitation techniques	• Group discussion • Trainer guided • Matching questions • Multiple choice • Sentence completion • Short questions • Essay

	• Open ended questions
Formative assessment methods	• Written assessment • Performance assessment

Learning outcome 2: **Prepare working area**	**Learning hours: 5**
Indicative content	
• **Requirements of mixing area** • **Types of storage** ➢ Internal storage ➢ External storage • **Requirements of storage** • **PPE** • **Types of sign post**	
Resources required for the indicative content	
Equipment	RS 175: wheelbarrow specifications, ISO 18650-1: Building construction machinery and equipment-contrete mixers-part1: commercial specifications, ISO 19711-1: Truck mixers-part 1: terminologies and commercial specifications, RS EAS 1021: Steelhead hammer-specifications, RS EAS 1020: Shovels and spades specifications, RS ISO 3310-1: Test Sieves-Technical requirements and testing
Materials	Cement, Fine aggregate, Coarse aggregate, Water, Stone, Bricks, Internet, handouts, RS 107: Building sand from natural sources — Specification, RS ARS 1304 : Guidelines for use of various types of cement, RS EAS 18-1 : Cements — Part 1 : Composition, specification and conformity criteria for common cements.
Tools	Trowel, Spirit level, Squares, Building line, Tape measure, Wheelbarrow, Roller brush, Hand brush, Scrapper, Tray , Steel float, Sand paper, Pan/bucket, Extension pole, Mixing stick, Strings (Road marking line), Brushes, Paint Scrapper, Roller, Roller tray and Bucket/pan
Facilitation techniques	• Group discussion • Trainer guided • Matching questions • Multiple choice • Practical exercises • Short questions • Essay • Open ended questions
Formative assessment	• Written assessment

methods	• Performance assessment • Product based assessment

Learning outcome 3: Prepare mortar	Learning hours: 5
Indicative content	
• **Meaning of mixing ratio** • **Proportion of mixing ratio** • **Application of mixing ratio** • **Methods of batching** ➢ Volumetric batching ➢ Weigh batching • **Calibration of instruments.** • **Ingredients of plastering mortar** • **Measuring method** ➢ Manual ➢ Electro-mechanical • **Types of mortar** • **Qualities of good mortar** • **Method of mixing mortar** ➢ Manual ➢ Mechanical ➢ Electro-mechanical	
Resources required for the indicative content	
Equipment	RS 175: wheelbarrow specifications, ISO 18650-1: Building construction machinery and equipment-contrete mixers-part1: commercial specifications, ISO 19711-1: Truck mixers-part 1: terminologies and commercial specifications, RS EAS 1021: Steelhead hammer-specifications, RS EAS 1020: Shovels and spades specifications, RS ISO 3310-1: Test Sieves-Technical requirements and testing
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Tools	Trowel, Spirit level, Squares, Building line, Tape measure, Wheelbarrow, Roller brush, Hand brush, Scrapper, Tray , Steel float, Sand paper, Pan/bucket, Extension

	pole, Mixing stick, Strings (Road marking line), Brushes, Paint Scrapper, Roller, Roller tray and Bucket/pan
Facilitation techniques	• Lectures • Demonstration and simulation • Individual and group work • Practical exercise • Individualized • Trainer guided • Group discussion
Formative assessment methods	• Written assessment • Performance assessment • Product based assessment • Project based assessment

Learning outcome 4: Apply plastering coats	**Learning hours: 25**
Indicative content	
• **Types of plaster** • **Use of plaster types** • **Process of screed** • **Surface humidification** • **Plastering Methods** • **Coats of plaster** • **Types of plaster finishes** • **Parts of opening:** • **Method of Cleaning** ➢ Manual ➢ Mechanical	
Resources required for the indicative content	
Equipment	RS 175: wheelbarrow specifications, ISO 18650-1: Building construction machinery and equipment-contrete mixers-part1: commercial specifications, ISO 19711-1: Truck mixers-part 1: terminologies and commercial specifications, RS EAS 1021: Steelhead hammer-specifications, RS EAS 1020: Shovels and spades specifications, RS ISO 3310-1: Test Sieves-Technical requirements and testing
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Tools	Trowel, Spirit level, Squares, Building line, Tape measure, Wheelbarrow, Roller

	brush, Hand brush, Scrapper, Tray , Steel float, Sand paper, Pan/bucket, Extension pole, Mixing stick, Strings (Road marking line), Brushes, Paint Scrapper, Roller, Roller tray and Bucket/pan
Facilitation techniques	• Lectures • Demonstration and simulation • Individual and group work • Practical exercise • Individualized • Trainer guided • Group discussion
Formative assessment methods	• Written assessment • Performance assessment • Product based assessment • Project based assessment

Integrated/Summative assessment (For specific module)

Integrated situation

Saint Andre centre Kabgayi has launched an offer of execution of plastering for three remaining walls in the kitchen, conference hall, and restaurant. Each wall has 3m2 ; mix ratio is 1 :5 and the thickness of 2.5mm. BENCCO Ltd has signed a contract to accomplish this work. As mason of ECOMEM Ltd you have to complete this work within three hours each and all materials and tools are available on the site.

Perform Wall plastering in the kitchen
Perform Wall plastering in conference hall
Perform Wall plastering in restaurant

Resources

Tools	Wood floater, Steel floater, Tape measure, Spirit level, Spades, Steel squares, Trowel, Notch trowel, Steel ruler, Hammer, Scraper, Straight edge, Mason's line, Mortar pan, Stones, Dampy level, Calibrated Gauge Box, Wheelbarrow
Equipment	PPE, concrete mixer
Materials/ Consumables	Sand, Cement, Water, Lime, Lime, Nails

Assessable outcomes	Assessment criteria (Based on performance criteria)	Indicator	Observation		Marks allocation
			Yes	No	
Learning outcome 1: 1. **Select tools,**	1.1. Appropriate tools are selected according to the work to be performed.	Tools are selected			3

equipment and materials (10%)	1.2. Appropriate equipment is selected according to the work to be performed.	Equipment is selected			3
	1.3. Adequate materials are selected according to the standard	Materials are properly selected			4
Learning outcome 2: **Prepare the working area** **(10%)**	2.1. Adequate mixing place is prepared as work specification.	mixing place is prepared			3
	2.2. Relevant storage spaces are identified according to types of construction materials.	storage spaces are identified			3
	2.3. Appropriate safety equipment, signs and posts are positioned according to the location of working area	safety equipment, signs and posts are positioned			4
Learning outcome 3: **Prepare mortar** **(10%)**	3.1. Right mixing ratio is identified according to the type of work.	mixing ratio is identified			2
	3.2. Mixing batch are prepared correctly with reference to the mixing ratio.	Mixing batch are prepared			2
	3.3. Precise ingredients are quantified according to the mixing ratio.	ingredients are quantified			2
	3.4. Convenient mortar mixing method is used according to the standard.	mortar mixing method is used			4
Learning outcome 4: **Apply plastering coats (70%)**	4.1. Type of plaster are properly identified according to the standards and work requirements.	Type of plaster are identified			10
	4.2. Sufficient layers of screeds are strategically applied on the wall at regular intervals	layers of screeds are applied			15
	4.3. Plastering mortar is systematically applied according to the type of plaster	Plastering mortar is applied			15
	4.4. Finishing is adequately done in accordance with plaster types.	Finishing is adequately done			10
	4.5. jamb is finished according to the direction of wall end.	. jamb is finished			15
	4.5. Working area is properly	Working area is cleaned			5

	cleaned in accordance with work specification.				
Total marks					**100**
Percentage Weightage					**100%**
Minimum Passing line % (Aggregate): 70%					

References:

1. Black & Decker the Complete Guide to Finishing Walls & Ceilings: Includes Plaster, Skim-coating and Texture Ceiling Finishes (Black & Decker Complete Guide) Kindle Edition, by Tom Lemmer (Author)
2. The Complete Guide to Finishing Walls & Ceilings: Includes Plaster, Skim-coating And Texture Ceiling Finishes (Black & Decker Complete Guide) Paperback – November 1, 2006, by Tom Lemmer (Author)
3. https://www.amazon.com/Black-Decker-Complete-Finishing-Ceilings-ebook/dp/B0075ISFLQ (accessed on 07.10.2021)
4. https://www.wickes.co.uk/how-to-guides/decorating/plaster-a-wall (accessed on 07.10.2021)
5. https://www.remodelista.com/posts/plaster-walls-what-to-know-pros-cons (accessed on 07.10.2021)