Model Curriculum

68 Hours- Bridge Course Mason Tiling

SECTOR: CONSTRUCTION

SUB-SECTOR: REAL ESTATE AND INFRASTRUCTURE

OCCUPATION: CONSTRUCTIONMASONRY

REF. ID: CON/Q0104, VERSION 1.0

NSQF LEVEL: 4







Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

CONSTRUCTION SECTOR SKILLS COUNCIL

MODEL CURRICULUM

Complying to National Occupational Standards of Job Role/ Qualification Pack: 'Mason Tiling 'QP No. 'CON/ Q 0206 NSQF Level 4'

Date of havance:

December 31st, 2015

Valid up to:

March ayd, aguy

* Yalid up to the next review date of the Qualification Pack

Authorised Signatory (Construction Skill Development Council)

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CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Mason Tiling", in the "Construction" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Mason Tilling
Qualification Pack Name & Reference ID.	CON/N0103
Pre-requisites to Training	Preferably 5 th standard
Training Outcomes	 After completing this programme, participants will be able to: Gain insight into the Mason Tiling job role and its career progression: -

This course encompasses 5 out of 5 National Occupational Standards (NOS) of "Mason Tiling" Qualification Pack issued by "Construction Skill Development Council of India".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction to Mason Tiling job role Theory Duration (hh:mm) 04:00 Practical Duration (hh:mm) 00:00 Corresponding NOS Code	 Role description/ functions of the job role Expected personal attributes from the job role Brief description about course content, mode of learning and duration of course Future possible progression and career development provisions on completion of the course 	1. Toilet/Urinals (Separate for gents and Ladies) 2. Projector/Blackboa rd/ White Board
2	Lay and fix tiles both horizontally & vertically on wall and floor and fix Theory Duration (hh:mm) 04:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code CON/N0115	 Theory:- Basic principles of measurement for tiling works How to read and interpret drawing for tiling and cladding works Different type of tools used for cutting and fixing tiles Standard specification of various tools and materials used for tiling work Different types of tiles, their sizes, shapes properties and their use, application for industrial, commercial and residential purpose including: Ceramic (Glazed) tiles Clay tiles Quarry(Unglazed) tiles Porcelain tiles Terrazzo tiles Mosaic tiles Vitrified tiles Natural tiles Basic knowledge of color coding for tiles How to differentiate and identify the correct color, shade of tiles, differentiate between identical shades Different procedure for laying tiles on wall, floor and roof. how to select and use basic tools and tackles for laying tiles such as 	 Work shop for practical assessment Toilet/Urinals (Separate for gents and Ladies) Tool box with lock and key Measuring tape/rule, Masons line Plumb bob Try Square Mortar pan Straight edge (Aluminium) Wood/rubber mallet Corner trowel Pointer trowel Spirit level Water level Square notch trowel Hammers mallets wedges power wet saws tile scribes or hand held tile cutters rubber grout float

Sr. No.	Module	Key Learning Outcomes	Equipment Required
Sr. No.	Module	 Measuring tape/rule, hammers, mallets, wedges, power wet saws, tile scribes or hand held tile cutters. various techniques / procedures for cutting different types of tiles to size and shape as per design requirements basic surface preparation methods for different type of surfaces basic methods and techniques of preparing bed mortar, cement slurry and cement paste as per applicability different type of spacers and method of fixing and removing spacers different types of adhesives (Flexible or waterproof) for different surfaces. Demonstration/ Practical:- Read and interpret working sketches provided for tiling works Selection and use of hand and power tools for measuring, marking, cutting and fixing tiles Selection of PPEs for general safety Check the basic attributes of tiles i.e. color, shape, size, shade, batch number for tiles. Also confirm tile is not damaged. carry out proper marking before cutting tiles to required shape and size cut tiles as per the design /pattern specifications using appropriate tools to fit around obstacles & into odd spaces & corners demonstrate optimum utilization ensuring minimize wastage of tiles Check the base surface for compactness, slope, right angle, hacking on surface and completion of embedded services. Install button marks for levelling of surface 	Equipment Required 24. tile trims/tile strips 25. spacers 26. Mixing plat form (3'x5')
		completion of embedded services.	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		 Demonstrate use of hand/ power tools for preparing bed mortar, cement slurry and cement paste as per applicability. identify the laying position of tiles as per arrow marks on the tile box and maintain consistency of batch number of all tiles prepare a bedding of appropriate thickness to act as base for fixing tiles apply & spread cement mortar, mastic, glue or other adhesives on the base of tile using appropriate tools for fixing tiles install roof tiles by bedding and pointing in cement mortar or by mechanical means Carry out checks for hollowness of tiled surface using wooden mallet Place spacers between tiles (if required) to minimize imperfections Demonstrate fixing of tile trims and strips at corner joints as per requirement Carry out barricading and covering for protecting the tiled area from damage during & after fixing of tiles Carry out checks for line, level and alignment 	
3	Apply grouts and sealants for flooring and cladding works Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code CON/N0116	 Theory:- Basic principles of measurement for tiling works How to read and interpret drawing for tiling and cladding works Different type of tools used for mixing and application of grouts. Standard specification of various tools and materials used for applying grout into the grout lines. Different types of grouts and sealants used for filling voids in tiles, marble, granite and stones including: cement based grout: Sanded / Non Sanded epoxy based grouts different types of process used to prepare the respective grouts for tiles and stones standard procedure applicable for the application of grouts on the vertical or the horizontal surface 	 Work shop for practical assessment Toilet/Urinals (Separate for gents and Ladies) Tool box with lock and key Measuring tape/rule, Masons line Plumb bob Try Square Mortar pan Straight edge (Aluminium) Wood/rubber mallet Corner trowel Pointer trowel Spirit level

Sr. No.	Module	Key Learning Outcomes	Equipment Required
4	Moule official to be to a	 Maintain/ upkeep tools, equipment post using as per manufacturer's guidelines dispose of construction debris & keep workplace safe and tidy for working 	1. Classes are
4	Work effectively in a team to deliver desired results at the workplace Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code CON/N8001	 Method of oral and written communication skills with co-workers, trade seniors while handling and carrying out visual checks on tiles, materials, tools and equipment Reading and interpretation of method statements, formats, permits, protocols, checklists for works How to interpret scope of tiling activities, material/ tools handling by adhering to instructions or consulting with seniors Method of providing instruction to subordinates or reporting to seniors clearly and promptly Seek necessary support and complete assigned tasks within stipulated time duration Keep good relation and maintain well behavior with co-workers Demonstration/ Practical:- The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition Selection of materials, tools or devices for defined purpose under tiling works and providing instructions to subordinates for the same. Handling of tools, equipment and materials for tile measuring, marking ,cutting and fixing works including efficiently communicating with coworkers for desired requirement as per specification Carrying out tiling works while working as a team to ensure optimum utilization of material and resources Carrying out grouting and sealing of tiled surface utilizing the effort of coworkers. Undertaking visual checks to assess the quality of material and check line, level and alignments of work 	 Classroom having seating requirement for 30 people. Toilet/Urinals (Separate for gents and Ladies) Projector Blackboard

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		Selection and handing over of desired/ appropriate tools/ materials while assisting trade senior	
5	Plan and organize work to meet expected outcomes Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 10:00 Corresponding NOS Code CON/N8002	 Theory:- To plan tile cutting and fixing activities within defined scope of work Basic concept of productivity, sequence of working and implementation of safety and organizational norms while working Upkeep, storing and stacking methods of tiles, tools, materials used for tiling works Requisition of resources, reporting for requirement of resources orally and in written to concerned authority - (T/P) Demonstration/ Practical :- The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition Selection of materials, tools or devices for defined purpose in an optimum manner Handling/organizing masonry tools, material, fixtures and device for tiling works Prioritize all works/ activities Planning tiles laying and fixing as per scope and schedule. Carrying out tiling works ensuring optimum utilization of materials. Optimum use of resources while performing task Adherence to stipulated timelines for 	 Classroom having seating requirement for 30 people. Toilet/Urinals (Separate for gents and Ladies) Projector Blackboard
6	Work according to personal health, safety and environment protocol at construction	completion of tiling activities/ tasks Theory:- Types of hazards involved in construction sites Types of hazards involved in masonry tiling	 Safety Helmets Face shield Overalls Knee pads
	site Theory Duration (hh:mm) 03:00 Practical Duration (hh:mm) 10:00 Corresponding NOS	 Types of hazards involved in masonry tiling works Emergency safety control measures and actions to be taken under emergency situation Concept of:- First Aid process Use of fire extinguisher Classification of fires and fire extinguisher Safety drills Types and use of PPEs as per general safety 	 Safety shoes Safety belts Safety harness Safety Gloves Safety goggles Particle masks Ear Plugs Reflective jackets Fire Extinguisher Fire prevention kit First Aid box

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Code CON/N9001	norms Reporting procedure to the concerned authority in emergency situations Standard procedure of handling, storing and stacking material, tools and accessories What is safe disposal of waste, type of waste and their disposal Type of cutting tools, their standards and area of application basic ergonomic principles as per applicability	16. Safety tags 17. Safety Notice board
		 Demonstration/ Practical:- The skills will be developed and practiced while carrying out following trade related activities in a predictable and familiar working condition. Selection of PPEs and use them appropriately as per working need of cutting and fixing tiles operations, handling, storing, stacking and shifting of tiles, tools and devices Selection of PPEs and use them appropriately as per working need of cutting tiles, drilling in walls, fixing tiles. Analysis of hazards involved in cutting and fixing tiles for flooring and cladding works or informing to seniors regarding hazardous conditions Identification of locations, situations/circumstances, malpractices which can be hazardous for works Selection of fire extinguisher based on classification of fire, standard practice of storing & stacking firefighting equipment/materials at work locations Disposal of waste materials as per their nature and effects on weather 	
	Total Duration 68 Hrs. Theory Duration 20 Hrs. Practical Duration 48 Hrs.	Unique Equipment Required: Seating requirement for 30 people, Toilet/Urinals (Schadies), Projector/ Blackboard, Work shop for practic box with lock and key, Measuring tape/rule, Masons Square, Mortar pan, Trowels, Straight edge (Alumini mallet, Corner trowel, Pointer trowel, Line and pins, level, Square notch trowel, Hammers, mallets, wedg tile scribes or hand held tile cutters, rubber grout fle spacers, Mixing plat form (3'x5'), Safety Helmets, Facknee pads, Safety shoes, Safety belts, Safety	cal assessment, Tool is line, Plumb bob, Try um), Wood/rubber Spirit level, Water es ,power wet saws, pat, tile trims/tile strips,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		harness, Safety Gloves, Safety goggles, Particle masks jackets, Fire Extinguisher, Fire prevention kit, First Aid Safety Notice board	_

Grand Total Course Duration: 68 Hours 0 Minutes

Trainer Prerequisites for Job role: "Mason Tiling" mapped to Qualification Pack: "CON/N0104"

Sr. No.	Area	Details	
1	Job Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "CON/Q0104".	
2	Personal Attributes	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field	
3	Minimum Educational Qualifications	10 th standard or equivalent standard in literacy and numeracy	
4a	Domain Certification	Certified for Job Role: "Mason Tiling" mapped to QP: "CON/N0104". Minimum accepted % as per respective SSC guidelines is 70%.	
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "SSC/Q1402". Minimum accepted % as per respective SSC guidelines is 70%.	
5	Experience	 i. Technical Degree holder with minimum Five years of Field & Two years of teaching experience (At least one year each at workers and Engineers level) or, ii. In case of a Diploma Holder Ten years of field & five years of teaching experience (Three years at workers level and two years at Engineers level) having Total experience to 15 yrs. or, iii. In case of specific to trades than should have qualified the Minimum Level- 4 and have Fifteen year of field experience and Three years of Teaching experience or, iv. Graduate or Intermediate should possess at least Level – 4 Certificate and have 12 years of field experience and two years of trade teaching experience or 	

Annexure: Assessment Criteria

Assessment Criteria for Mason Tiling	
Job Role	Mason Tiling
Qualification Pack	CON/Q0104
Sector Skill Council	Construction

Sr. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3	Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on assessment criteria.
5	The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.
6	The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome
7	The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8	After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.
9	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.
10	Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

					Marks Allocation	
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical	
	PC1. read and interpret working sketches prior to laying of tiles	100	2.5	0.5	2	
	PC2. install button marks / level pads as per the tiling requirements using common reference line		1.25	0.25	1	
	PC3. check the basic attributes of the base surface for:		1.25	0.25	1	
	PC4. clean and wet base surfaces with water jets (except wood/vinyl)for better adhesion of tiles		1.25	0.25	1	
CON/N0115: LAY	PC5. soak tiles in water as per manufacturer's specification, if required		1.25	0.25	1	
BOTH HORIZONTALLY & VERTICALLY ON WALL, FLOOR AND ROOF SURFACES	PC6. prepare various surfaces as per requirement for different types of tiles such as: • Masonry plastered surface • Reinforced concrete surface • High Precision Concrete Block • Timber/vinyl surface		2.25	0.5	2	
	PC7. check for basic attributes of the tiles like color, shade, size and squareness before commencement of work		2.5	0.5	2	
	PC8. check batch number of all tiles to be used in order to avoid variations in shade, color or pattern	1.25	0.25	1		
	PC9. ensure that any protective layer on the tiles is removed prior to use		1.25	0.25	1	
	PC10. check for any damages / cracks on the tiles prior to use		2.5	0.5	2	
	PC11. ensure tiles are cleaned appropriately prior to fixing		2.5	0.5	2	
	PC12. carry out proper marking before cutting tiles to required shape and size		5	1	4	
	PC13. cut tiles as per the design /pattern specifications using appropriate tools to fit around obstacles & into odd spaces & corners		10	2	8	
	PC14. minimize wastage of tiles		5	1	4	
	PC15. specify the centre-point or starting point of the surface for tiling as per working drawings/sketches		4	1	3	

					Marks Allocation	
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical	
	PC16. ensure the following is prepared as per specifications / requirements of tiling works: • bed mortar (as per specification) • cement slurry • cement paste • adhesives		4	1	3	
	PC17. identify the laying position of tiles as per arrow marks on the tile box		2.5	0.5	2	
	PC18. maintain consistency of batch number of all tiles		2.5	0.5	2	
	PC19. prepare a bedding of appropriate thickness to act as base for fixing tiles		5	1	4	
	PC20. apply & spread cement mortar, mastic, glue or other adhesives on the base of tile using appropriate tools for fixing tiles		5	1	4	
	PC21. install roof tiles by bedding and pointing in cement mortar or by mechanical means		5	1	4	
	PC22. check for hollowness of tiled surface using wooden mallet		3.5	0.5	3	
	PC23. put spacers between tiles (if required) to minimize imperfections		3.5	0.5	3	
	PC24. protect the tiled area from damage during & after fixing of tiles		1.5	0.5	1	
	PC25. provide tile trims and strips at corner joints as per requirement		3.5	0.5	3	
	PC26. check and provide required level and specified slope prior to and after tiling		5.25	1.25	4	
	PC27. check vertical and horizontal alignment using appropriate tools during and after tiling		10	2	8	
	PC28. set out 90° corners using builders square or 3-4-5 method and check right angle		5	1	4	
		Total	100	20	80	
	PC1. read and interpret the working drawings / sketches prior to commencement of work		3	1	2	
CON/N0116: APPLY GROUTS	PC2. ensure curing of placed stone, marble & granite tiles		1.5	0.5	1	
AND SEALANTS FOR FLOORING	PC3. ensure joints of tiles are free from debris & carry out vacuum cleaning of the grout lines		2.5	0.5	2	
AND CLADDING WORKS	PC4. remove thoroughly old grouting compound with appropriate tools prior to re-grouting on old surface		3.5	0.5	3	
	PC5. prepare different types of grouts as per surface requirements and manufacturer's specifications		4.5	0.5	4	

		Marks Allocation			
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
	PC6. check grout material is of approved color and shade & as per pattern		7.5	1.5	6
	PC7. check that grout material is of approved type (sanded, un sanded,) as per design/pattern requirements		1.5	1.5	6
	PC8. apply the grout between grout lines/joints using appropriate tool		8	4	4
	PC9. press the grout into the joint using appropriate tools and technique		8	4	4
	PC10. handle grout float edge appropriately & prevent it from digging into grout lines		5	1	4
	PC11. use appropriate amount of penetrating sealant on the stones prior to fixing as per applicability		5	1	4
	PC12. remove excess grout from the surface to avoid any grout haze on the surface		5	1	4
	PC13. check & ensure that the grout was cured prior to application of sealant		5	1	4
	PC14. polish the surface after application of grout in case of epoxy grouts for better aesthetics and smoother joints	100	5	1	4
	PC15. add additive to cementations grouts as a substitute for water as per specifications		5	1	4
	PC16. ensure proper care is taken for moisture sensitive and light colored natural stones to prevent strain ingress	-	5	1	4
	PC17. ensure proper protective layer at the corners(tile trims/strips) of tiled surfaces		5	1	4
	PC18. check and provide required level and specified slope PC19. check vertical and horizontal alignment using		10	2	8
	appropriate tools		10	2	8
	DC4 page on work related information/ requirement	Total	100	20	80
	PC1. pass on work related information/ requirement clearly to the team members		10	2	8
CON/N8001:	PC2. inform co-workers and superiors about any kind of deviations from work		5	1	4
WORK EFFECTIVELY IN	PC3. address the problems effectively and report if required to immediate supervisor appropriately		5	1	4
A TEAM TO DELIVER	PC4. receive instructions clearly from superiors and respond effectively on same	100	5	1	4
DESIRED RESULTS AT THE	PC5. communicate to team members/subordinates for appropriate work technique and method		5	1	4
WORKPLACE	PC6. seek clarification and advice as per requirement and applicability		10	2	8
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		30	6	24

					Marks Allocation	
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical	
	PC8. work together with co-workers in a synchronized manner		30	6	24	
		Total	100	20	80	
	PC1. understand clearly the targets and timelines set by superiors		10	2	8	
	PC2. plan activities as per schedule and sequence		10	2	8	
	PC3. provide guidance to the subordinates to obtain desired outcome		10	2	8	
	PC4. plan housekeeping activities prior to and post completion of work		10	2	8	
CON/N8002: PLAN AND	PC5. list and arrange required resources prior to commencement of work		10	2	8	
ORGANIZE WORK TO MEET	PC6. select and employ correct tools, tackles and equipment for completion of desired work		10	2	8	
EXPECTED	PC7. complete the work with allocated resources		10	2	8	
OUTCOMES	PC8. engage allocated manpower in an appropriate manner		10	2	8	
	PC9. use resources in an optimum manner to avoid any unnecessary wastage		5	1	4	
	PC10. employ tools, tackles and equipment with care to avoid damage to the same		5	1	4	
	PC11. organize work output, materials used, tools and tackles deployed		5	1	4	
	PC12. processes adopted to be in line with the specified standards and instructions		5	1	4	
		Total	100	20	80	
	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority		5	1	4	
CON/N9001: WORK	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities		5	1	4	
ACCORDING TO PERSONAL HEALTH, SAFETY	PC3. follow recommended safe practices in handling construction materials including chemical and hazardous material whenever applicable		10	2	8	
AND ENVIRONMENT PROTOCOL AT	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		5	1	4	
CONSTRUCTION SITE	PC5. identify near miss , unsafe condition and unsafe act		5	1	4	
	PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: • Head Protection (Helmets) • Ear protection		10	2	8	

			Marks Allocation		
ASSESSMENT OUTCOME (NOS CODE AND DESCRIPTION)	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
	 Fall Protection Foot Protection Face and Eye Protection, Hand and Body Protection Respiratory Protection (if required) 				
	PC7. handle all required tools, tackles, materials & equipment safely		5	1	4
	PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines		5	1	4
	PC9. install and apply properly all safety equipment as instructed		15	3	12
	PC10. follow safety protocol and practices as laid down by site EHS department		15	3	12
	PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes		10	2	8
	PC12. apply ergonomic principles wherever required		10	2	8