



Model Curriculum

Mason Concrete

SECTOR: Construction
SUB-SECTOR: Real Estate and Infrastructure Construction
OCCUPATION: MASONRY
REF ID: CON/Q0105 Version 2.0
NSQF LEVEL: 4

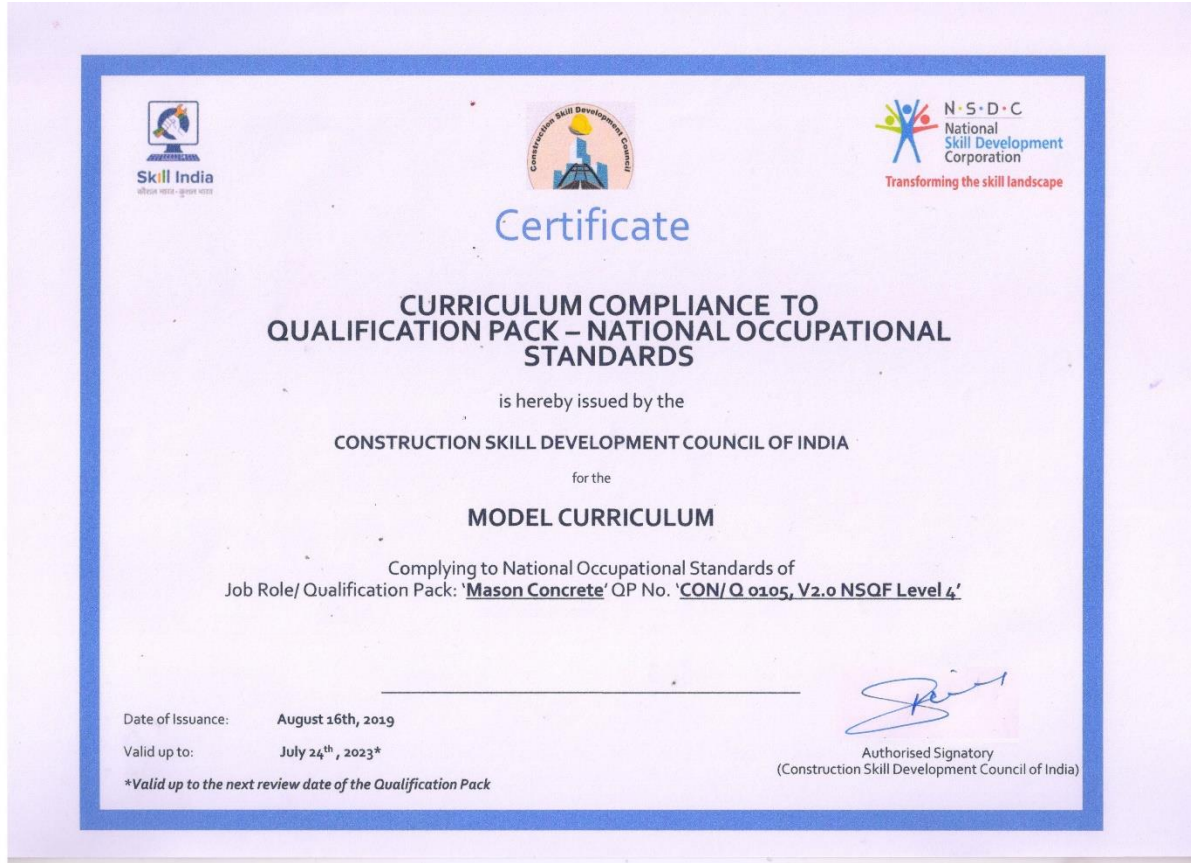




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Mason Concrete

CURRICULUM / SYLLABUS

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

Program Name	Mason Concrete		
Qualification Pack Name & Reference ID. ID	CON/Q0105, Version 2.0		
Version No.	2.0	Version Update Date	24-09-2019
Pre-requisites to Training	Nil		
Training Outcomes	After completing this programme, participants will be able to: <ul style="list-style-type: none">• Carry out Indian Patent Stone (IPS) flooring.• Carry out Tremix flooring.• Explain preparatory work before pouring of concrete in case of manual and machine mixing.• Place, level and finish concrete in various structural elements.• Perform simple repair work on hardened concrete surfaces• Work effectively in a team to deliver desired results at the workplace• Plan and organize work to meet expected outcomes• Work according to personal health, safety and environment protocol at construction site		

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Mason Concrete” Qualification Pack issued by “Construction”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction to masonry occupation</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code Bridge course</p>	<ul style="list-style-type: none"> • Explain the role and responsibilities of mason concrete • Explain expected personal attributes for masonry occupation • Discuss future possible progression and career options for mason concrete 	
2	<p>Carry out Indian Patent Stone (IPS) flooring</p> <p>Theory Duration (hh:mm) 14:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code CON/N0114</p>	<ul style="list-style-type: none"> • Explain standard specifications of all tools and equipment required for IPS flooring works • Explain the different grades of concrete with their usage • Discuss the checks required to ensure the good quality of IPS flooring work • Discuss the method to fix glass, aluminium or brass strip in cement mortar as per proper level and slope. • Discuss the process for providing construction joints and expansion joints as per the requirements. • Demonstrate marking and transfer of levels for required thickness using appropriate tools. • Demonstrate the process of IPS Flooring. • Demonstrate the methods to cure the concrete surfaces. 	<ul style="list-style-type: none"> • Hammer, • Brick chisel • Stone chisel • Comb chisel • Bolster • Masonry hand saw • Steel trowel, Float wooden/metal) • Straight edge (Aluminium) • Wood/rubber mallet, Spade (Phawda) • Mortar pan (Ghamela) • Corner trowel • Pointer trowel • tuck pointing trowel • Line and pins • Screed board • Jointers • Steel lever • Plumb bob • Line string (line Dori) • Try square, • Spirit level • Measuring tape • Steel or wooden scale • Tapered rule • Gauge box • Plate compactor • on Crete vibrator

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			<ul style="list-style-type: none"> • routing machine (Manual) • Groove cutting m • Lifting , appliances (wheel and rope, shackles, sling, belts) • Wheel barrows • Wooden sleepers • Rhombus mesh expanded metal mesh) • Mixing plat form (3'x5')
3	<p>Carry out tremix flooring</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 24:00</p> <p>Corresponding NOS Code CON/N0114</p>	<ul style="list-style-type: none"> • Explain standard specifications for the specialized tools used in tremix flooring • Discuss the checks required to ensure the good quality of tremix flooring work • Demonstrate marking and transferring of levels along the floor area as per required thickness • Discuss the method to fix glass, aluminium or brass strip in cement mortar as per proper level and slope. • Discuss the process for providing construction joints and expansion joints as per the requirements • Demonstrate the process of Tremix Flooring • Demonstrate the process of providing construction joints. • Demonstrate the application of vacuum dewatering machine for concreting • Demonstrate the methods to cure the concrete surfaces. 	<ul style="list-style-type: none"> • Hammer • Brick chisel • Stone chisel • Comb chisel • Bolster • Masonry hand saw • Steel trowel, Float wooden/metal) • Straight edge (Aluminium) • Wood/rubber mallet, Spade (Phawda) • Mortar pan • Corner trowel • Pointer trowel • tuck pointing trowel • Line and pins • Screed board • Jointers • Steel lever • Plumb bob • Line string (line Dori) • Try square, • Spirit level • Measuring tape • Steel or wooden scale • Tapered rule • Gauge box • Plate compactor

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			<ul style="list-style-type: none"> • on Crete vibrator • routing machine (Manual) • Dewatering machine (VDF) • Groove cutting m • Lifting, appliances (wheel and rope, shackles, sling, belts) • Wheel barrows • Wooden sleepers • Rhombus mesh expanded metal mesh) • Mixing plat form (3'x5')
4	<p>Preparatory work before pouring of concrete in case of manual and machine mixing</p> <p>Theory Duration (hh:mm) 8:00</p> <p>Practical Duration (hh:mm) 40:00</p> <p>Corresponding NOS Code CON/N0117</p>	<ul style="list-style-type: none"> • Explain basic properties of concrete which include weight, slump and mix proportions. • Explain grade of cement used for concreting works. • Explain different type of aggregates used for concreting. • Explain effect of water/cement ratio on strength of mix. • Explain different type of finishes of finished concrete (broom finish, trowel finish, stained finish etc.). • Explain releasing agents with their application and purpose • Interpret sketches for extracting information for concreting works • Discuss checks to be carried out for inspection of area prior to concreting • Discuss checks to be performed for assessing the quality and grade of cement, fine aggregate and concrete prior to use. • Demonstrate handling techniques and adjustments for the concrete pouring equipment as per requirement. 	<ul style="list-style-type: none"> • Measuring tape/rule • shovels, rakes • board • Hammer • Brick chisel • Stone chisel • Comb chisel • Bolster • Masonry hand saw • Mortar pan (Ghamela) • Tuck pointing trowel • Line and pins • Jointers • Steel lever • Plumb bob • Line string (line Dori) • Try square, • Spirit level • Measuring tape • Steel or wooden scale • Tapered rule • Gauge box
5	<p>Place, level and finish concrete in various structural elements</p>	<ul style="list-style-type: none"> • Demonstrate pouring of concrete in specified layers for RCC structural elements 	<ul style="list-style-type: none"> • Measuring tape/rule • vibrator • shovels, rakes

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Theory Duration (hh:mm) 44:00</p> <p>Practical Duration (hh:mm) 84:00</p> <p>Corresponding NOS Code CON/N0117</p>	<ul style="list-style-type: none"> • Demonstrate the methods to maintain cover/ level while concreting. • Discuss the different methods for compaction and finishing of concrete surface • Demonstrate the process of making grooves for construction/ expansion joints as per specification • Demonstrate concreting in precast segments ensuring embedded items lay in place during vibrating and concreting 	<ul style="list-style-type: none"> • board • tamping tools (hand, rolling, etc.) • large floating device like bull float • Hammer, • Brick chisel • Stone chisel • Comb chisel • Bolster • Masonry hand saw • Steel trowel, Float wooden/metal) • Straight edge (Aluminium) • Wood/rubber mallet, Spade (Phawda screeding) • Mortar pan (Ghamela) • Corner trowel • Pointer trowel • Tuck pointing trowel • Line and pins • Screed board • Jointers • Steel lever • Plumb bob • Line string (line Dori) • Try square, • Spirit level • Measuring tape • Steel or wooden scale • Tapered rule • Gauge box • Groove cutting machine
6	<p>Perform simple repair work on hardened concrete surfaces</p> <p>Theory Duration (hh:mm) 16:00</p>	<ul style="list-style-type: none"> • Identify the defects (like cracks, honeycomb, and inappropriate cover) and its remedial action in case of hardened concrete surface. • Demonstrate preparation of mortar for rectification of defects. 	<ul style="list-style-type: none"> • Measuring tape/rule • vibrator • shovels, rakes • board • tamping tools (hand, rolling, etc.)

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p>Practical Duration (hh:mm) 48:00</p> <p>Corresponding NOS Code CON/N0117</p>	<ul style="list-style-type: none"> • Discuss the method of applying mortar for filling of the cracks for rectifying the defects. • Demonstrate chipping and grinding of hardened concrete surface for rectification of surface defects. • Demonstrate the process to fill narrow/wide cracks in RCC structure using appropriate filler/ compounds • Demonstrate curing of repaired structure ensuring proper blending with the adjacent structure • Demonstrate how to cure the concrete surfaces. 	<ul style="list-style-type: none"> • Hammer, • Brick chisel • Stone chisel • Comb chisel • Bolster • Masonry hand saw • Steel trowel, Float wooden/metal) • Straight edge (Aluminium) • Wood/rubber mallet, Spade (Phawda screeding) • Mortar pan (Ghamela) • Corner trowel • Pointer trowel • Tuck pointing trowel • Line and pins • Screed board • Jointers • Steel lever • Plumb bob • Line string (line Dori) • Try square, • Spirit level • Measuring tape • Steel or wooden scale • Tapered rule • Gauge box • Plate compactor • Concrete vibrator • Grouting machine (Manual) • Dewatering machine(VDF) • Groove cutting machine
7	<p>Work effectively in a team to deliver desired results at the workplace</p> <p>Theory Duration (hh:mm)</p>	<ul style="list-style-type: none"> • Demonstrate effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Interpret work sketches, formats, permits, protocols, checklists and other 	

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	08:00 Practical Duration (hh:mm) 16:00 Corresponding NOS Code CON/N8001	work-related requirements which are to be conveyed to other team members <ul style="list-style-type: none"> • Demonstrate effective reporting to seniors as per applicable organisational norms. • Explain effects and benefits of timely actions relevant to masonry works with examples • Explain importance of team work and its effects relevant to masonry works with examples • Demonstrate team work skills during assigned task. 	
8	Plan and organize work to meet expected outcomes Theory Duration (hh:mm) 06:00 Practical Duration (hh:mm) 12:00 Corresponding NOS Code CON/N8002	<ul style="list-style-type: none"> • Explain basic concept of productivity, sequencing of activities • Explain how to upkeep, store and stack tools, materials used for domain specific works • Describe requisition of resources, reporting for requirement of resources orally and in written to concerned authority • Select materials, tools or devices for defined purpose of concreting activities • Demonstrate how to prioritize all works/ activities • Demonstrate the planning of assigned tasks as per scope • Demonstrate optimum use of resources while performing concreting activities 	
9	Work according to personal health, safety and environment protocol at construction site Theory Duration (hh:mm) 08:00 Practical Duration (hh:mm) 16:00 Corresponding NOS Code CON/N9001	<ul style="list-style-type: none"> • Explain the types of hazards at the construction sites and identify the hazards specific to the masonry work • Recall the safety control measures and actions to be taken under emergency situation • Explain the classes of fire and types of fire extinguishers • Demonstrate the operation of fire extinguisher. • Demonstrate different methods involved in providing First aid to the affected person. • Explain the importance of participation of workers in safety drills • Demonstrate wearing of various Personal Protective Equipment(PPEs) like helmet, safety shoe, safety belt, safe jackets and other safety equipment relevant to masonry job 	<ul style="list-style-type: none"> • Safety Helmets • Face shield • Overalls • Knee pads • Safety shoes • Safety belts • Safety harness • Safety Gloves • Safety goggles • Particle masks • Ear Plugs • Reflective jackets • Fire Extinguisher • Fire prevention kit • First Aid box • Safety tags

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> • Explain the reporting procedure to the concerned authority in case of emergency situations • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories • Explain different types of waste and their disposal method, which are general to the construction sites • Explain the purpose and importance of vertigo test at construction site • Demonstrate vertigo test • List out basic medical tests required for working at construction Site • Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites • Explain the importance of housekeeping • Demonstrate housekeeping practice followed after masonry works 	<ul style="list-style-type: none"> • Safety Notice board
	<p>Total Duration</p> <p>Theory Duration 120:00 hours</p> <p>Practical Duration 280:00 hours</p>	<p><u>Unique Equipment Required</u> Hammer, Brick chisel, Stone chisel, Comb chisel, Bolster, Masonry hand saw, Steel trowel, Float wooden/metal, Straight edge (Aluminium), Wood/rubber mallet, Spade (Phawda), Mortar pan (Ghamela), Corner trowel, Pointer trowel, Tuck pointing trowel, Line and pins, Screed board, Jointers, Steel lever, Plumb bob, Line string (line Dori), Try square, Spirit level, Measuring tape, Steel or wooden scale, Tapered rule, Gauge box, Plate compactor, Concrete vibrator, Grouting machine (Manual), Dewatering machine(VDF), Groove cutting machine Cement, Sand (Medium), Plasticizers, Common burnt clay brick (2nd class), Coarse aggregates, Rubble stone (Natural stone), Water proofing compound with primer, Glass stiff, Scaffold set (Including all components), Lifting, appliances (wheel and rope, shackles, sling, belts), Wheel barrows, Wooden sleepers, Rhombus mesh, expanded metal mesh) Mixing plat form (3'x5'), Red oxide, Helmet, Face shield, Safety goggles, Safety shoes, Safety belt, Ear defenders, Particle masks, Overalls Knee pad, Reflective jackets, Pencil</p> <p><u>Classroom Aids and other requirements</u> Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board registers and other teaching aids</p>	

Grand Total Course Duration: **400 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by Construction Skill Development Council of India)



Trainer Prerequisites for Job role: “Mason Concrete” mapped to Qualification Pack: “CON/Q0105, Version 2.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ <u>CON/Q0105 Version 2.0</u> ”.
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	ITI/12 th standard pass
4a	Domain Certification	Certified for the job role “ <u>Mason Concrete</u> ” mapped to QP:“ <u>CON/Q0105 Version 2.0</u> ” Minimum accepted score is 80%
4b	Platform Certification	Certified for the job role “Trainer” mapped to QP:“ <u>MEP/Q2601</u> ” Minimum accepted score is 80%
5	Experience	i. Technical Degree holder with minimum three years of Field experience and preferably two years of teaching experience or, ii. In case of a Diploma Holder five years of field experience and preferably two years of teaching experience or, iii. In case of ITI/12 th pass minimum eight years of field experience and preferably two years of teaching Experience.

Note: For the Assessment Criteria please refer to the QP PDF