What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Contents

Introduction

Qualifications Pack – Mason Concrete

SECTOR: CONSTRUCTION

SUB-SECTOR: Real Estate and Infrastructure Construction

OCCUPATION: MASONRY

REFERENCE ID: CON/Q0105

ALIGNED TO: NCO-2004/7123.90

The job role is responsible for performing routine concreting works in various structural elements.

Brief Job Description: The job role is responsible for placing, leveling and finishing both RCC and PCC in various structural elements, in situ and in pre cast units. This also includes repairing of concrete and carrying out IPS/Tremix flooring.

Personal Attributes: This job role requires the individual to be physically fit and should be able to work across various locations withstanding extreme weather/site conditions while working at the construction site or in a casting yard. The person must be able to perform efficiently within a team and handle the various concreting tools and materials and work responsibly.

Job Details

Qualifications Pack Code	**CON/Q0105**		
Job Role	**Mason- Concrete**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Sector	**Construction**	**Drafted on**	**07/03/2015**
Sub Sector	**Real Estate and Infrastructure Construction**	**Last reviewed on**	**23/03/2015**
Occupation	**Masonry**	**Next review date**	**23/03/2017**
NSQC Clearance on	**19/05/2015**		

Job Role	**Mason - Concrete**
Role Description	Responsible for performing routine concreting works in various structural elements
NSQF Level	3
Minimum Educational Qualifications*	Preferably 5th standard
Maximum Educational Qualifications*	N.A
Training (Suggested but not mandatory)	Recommended training period of 8-12 weeks as per QP of Mason Concrete Normal literacy of reading, writing and understanding
Minimum Job Entry Age	18 years
Experience	Desirable: 1. Non trained worker : 5 years site experience in same occupation 2. Trained worker: 2 years site experience as a certified Assistant Mason
Applicable National Occupational Standards (NOS) `	**Compulsory:** 1. **CON/N0114:** Carry out IPS / Tremix flooring 2. **CON/N0117:** Place, level and finish concrete in various structural elements including repair works 3. **CON/N8001:** Work effectively in a team to deliver desired results at the workplace 4. **CON/N8002:** Plan and organize work to meet expected outcomes 5. **CON/N9001:** Work according to personal health, safety and environment protocol at construction site

	Optional: **N.A**
Performance Criteria	As described in the relevant OS units

Definitions

Keywords / Terms	Description
Sector	Sector is conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-Sector	Sub-Sector is derived from a further breakdown based on the characteristics and interests of its components
Occupation	Occupation is a set of job roles, which perform similar/related set of

	functions in an industry
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet the standard consistently. Occupational Standards are applicable both in the Indian contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack (QP)	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualification Pack is assigned a unique qualification pack code
Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a qualifications pack.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills / Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.

Acronyms

Keywords /Terms	Description
CON	Construction
NSQF	National Skill Qualifications Framework
QP	Qualification Pack
OS	Occupational Standards
TBD	To Be Decided

National Occupational Standard

Overview

This unit covers the skills and knowledge for an individual to be proficient in executing IPS and Tremix flooring works.

National Occupational Standard

Unit Code	**CON/N0114**
Unit Title (Task)	**Carry out IPS / Tremix flooring works**
Description	This unit describes the skills and knowledge required to work on IPS & Tremix flooring
Scope	The scope covers the following: • Carry out preparatory work prior to IPS / Tremix flooring • Check for line, level and alignment. • Check the materials used for IPS / Tremix flooring in case of manual mixing • Check the materials used for IPS / Tremix flooring in case of machine mixing • Carry out IPS flooring • Carry out Tremix / VDF flooring
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Carry out preparatory work prior to IPS / Tremix flooring	To be competent, the user / individual on the job must be able to: PC1. inspect the work area prior to concreting, ensure leveling incase of any undulations observed on the surface prior to concreting PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment in PCC PC3. report any gaps in formwork to avoid leakage PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided
Check for line, level and alignment	PC5. mark reference level on the wall &transfer this marking to all floor locations using appropriates tools PC6. mark flooring thickness level and provide dummy level dots at specified intervals for ensuring required slope
Check the materials used for IPS / Tremix flooring in case of manual mixing	PC7. check the grade of cement prior to use in case of manual mixing PC8. ensure fine aggregate is sieved as per grade requirement PC9. check that concrete is mixed in appropriate proportion
Check the materials used for IPS/Tremix flooring in case of machine mixing	PC10. visually assess the concrete mix for usability and workability PC11. notify superiors for detrimental quality of concrete PC12. ensure specified concrete mix is used at allocated location PC13. check that panels prepared are of specified size and type
Carry out IPS Flooring work	PC14. fix the glass, aluminum or brass strip in cement mortar with their tops at appropriate level and according to slope PC15. ensure panels are made as per specified size PC16. ensure concrete is poured in alternate panels/specified panels as per

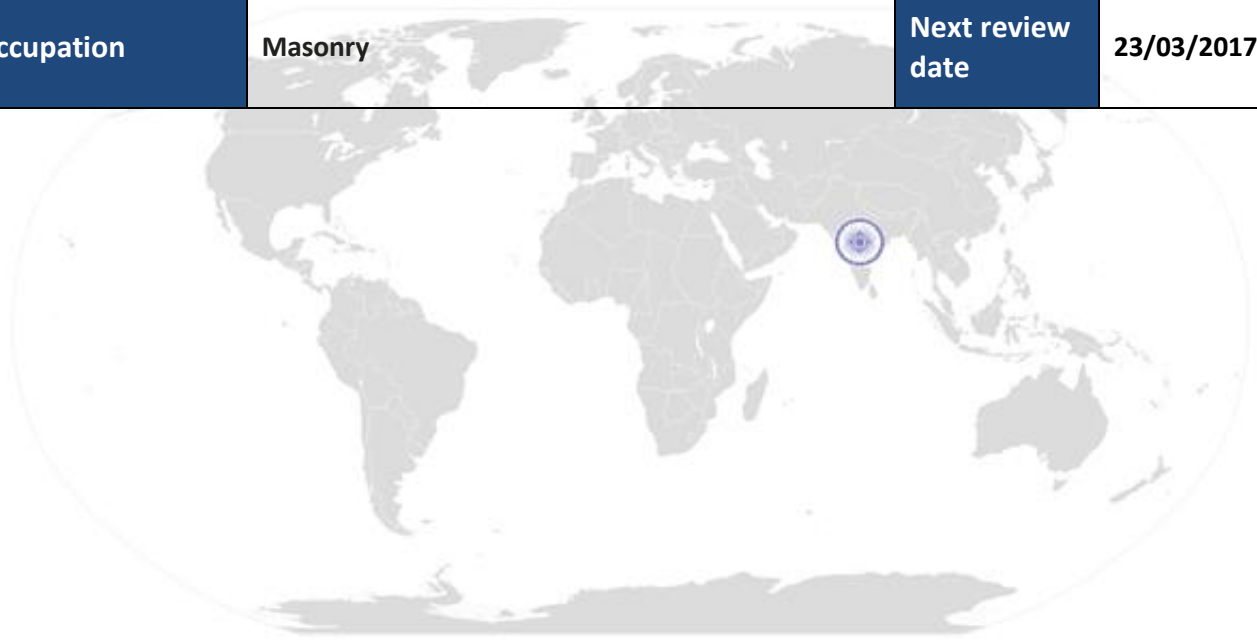
	requirement PC17. remove excess cement slurry and any marks on the surface PC18. level the concrete surface with a straight edge and to the required finish with a wooden float / trowel PC19. spread cement punning over the IPS concrete for smooth finish surface and allow it to soak into the concrete, as per requirement PC20. provide construction joints and expansion joints as per requirement PC21. level poured concrete to the specified levels maintaining required slope PC22. ensure curing of the finished floor surface for the specified time
Carry out Tremix / VDF Flooring work	PC23. level the surface and lay stone soling / boulder soling layer PC24. lay the floor with slope maintained in PCC work above the stone soling PC25. remove excess water from the top layer of wet concrete without removing cement of sand particles through vacuum de-watering machines PC26. ensure floater work within green concrete surface PC27. carry out Tremix flooring in specified panel on RCC floors ensuring intactness of rebar and cover PC28. cut grooves on concrete at specified intervals for construction joints PC29. provide expansion joints as per requirement PC30. carry out curing of finished concrete as per specifications PC31. ensure finished levels have required slope
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. standard practices for masonry work KA2. safety rules and regulations for handling & storing required masonry tools & materials KA3. personal protection including the use of related safety gears & equipments KA4. how to request tools and materials as per set procedures KA5. maintenance of tools and equipments
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. how to use all masonry tools along with some specialized tools for Tremix flooring such as : • Vacuum de-watering Pump • Floater Machine • Double beam Screen Vibrator KB2. process to prepare the sub-base by watering and ramming KB3. provide for adequate slope in PCC (Plain Cement Concrete) in a base course KB4. how to make reference levels and transfer the markings to all locations where

	flooring is to be done KB5. various type and grade of cement used, affect of water /cement ratio and type of aggregates KB6. different mix proportion/grade of concrete KB7. sequence of concrete pouring and placing KB8. manual mixing of concrete and nominal mix proportions KB9. cover to reinforcement with respect to size of reinforcement KB10. how to pour concrete in alternate panels KB11. how to avoid shrinkage cracks in concrete KB12. various admixtures used in concreting KB13. different type of vibrators, their influence area and use KB14. construction and expansion joints KB15. cutting tools for providing joints KB16. final toweling process before the concrete is hardened KB17. excess water removal process using Vacuum dewatered machine KB18. use of screed vibrator KB19. hardener usage along with floater machine (if required) at the time of finishing the floor surface to increase abrasion resistance of the floor KB20. how to provide for space for narrow passage for operating float vibrator along a wall
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more language, preferably the local language at the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read in one or more language, preferably the local language at the site SA3. read sketches provided by the superior to do IPS /Tremix flooring works SA4. read instructions, guidelines, sign boards, safety rules and safety tags SA5. read instructions and exit routes during emergency
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA6. speak in one or more language, preferably one of the local language at the site SA7. listen and follow instructions given by the superior SA8. orally communicate with team member
	Decision Making

B. Professional Skills	The user/ individual on the job needs to know and understand how to: SB1. decide whether work place is safe for working and also relevant task is not creating hazardous condition for others SB2. decide whether work is adequately defined for the day , work front is clear , and adequate materials and tools are available for performing the work
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan work and organize required recourses in co-ordination with team members and superiors
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB4. complete work as per agreed time schedule and quality
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB5. resolve and solve any conflict within the team SB6. bring any noticeable issues faced (related to the flooring) to the attention of the superiors in a timely manner SB7. assess quantity and quality of materials for day work SB8. check quality of scaffolding / working platform from all aspects of safety SB9. dispose of construction debris & keep workplace safe and tidy for working
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB10. optimize resources efficiently SB11. minimize wastage in the workplace SB12. starting and finishing levels for day work SB13. reconcile material consumption
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB14. evaluate the complexity of the task and seek assistance and support wherever required SB15. bring to the notice of the superiors any requirement of the requisite resources SB16. bring to the notice of the superiors violation of any safety norms which may lead to accidents

NOS Version Control

NOS Code	**CON/N0114**		
Credits (NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Construction**	**Drafted on**	**07/03/2015**
Industry Sub-sector	**Real Estate and Infrastructure Construction**	**Last reviewed on**	**23/03/2015**
Occupation	**Masonry**	**Next review date**	**23/03/2017**



National Occupational Standard

Overview

This NOS covers the skills and knowledge required by a workman for placing, leveling and finishing of concrete on various structural elements including repair work on concrete.

CON/N0117 *Place, level and finish concrete in various structural elements including repair works*

National Occupational Standard

Unit Code	**CON/N0117**
Unit Title (Task)	**Place, level and finish concrete in various structural elements including repair works**
Description	This unit describes the skills and knowledge required to place, level and finish concrete, both RCC and PCC, in various structural elements – in situ and pre cast .This also includes repair works on concrete.
Scope	This unit/task covers the following: • Carry out preparatory work before pouring of concrete in case of manual and machine mixing • Check material used for concreting in case of manual mixing • Place and compact concrete on PCC & RCC structural elements • Screed and level wet concrete • Finish and cure concrete • Carry out concreting in pre cast segments • Carry out simple repair work on hardened concrete surfaces

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Carry out preparatory work before pouring of concrete manually & by machine	To be competent, the user/individual on the job must be able to: PC1. inspect the area for completion of housekeeping works and remove any undulations on the surface prior to concreting PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment PC3. report any gaps in formwork to avoid leakage PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided PC5. notify superiors for detrimental quality of concrete PC6. visually assess the concrete mix for usability and workability
Check material used for concreting in case of manual mixing	PC7. check the type , grade of cement and visual soundness of cement prior to use PC8. check and ensure sieved fine aggregate prior to use PC9. instruct and ensure that mixing of concrete is in specified ratio
Place and compact concrete on PCC & RCC structural elements	PC10. handle and adjust the pouring equipments as per requirements PC11. ensure standard pouring height for concrete is maintained throughout pouring PC12. ensure pouring of concrete takes place in specified layers PC13. pour concrete to maintain specified levels & cover for steel reinforcement PC14. apply vibrator within influence depth and as per standard procedures

CON/N0117 *Place, level and finish concrete in various structural elements including repair works*

	PC15. ensure that the vibrator does not touch the reinforcement or is not applied to the face of the form
Screed and level wet concrete	PC16. screed the concrete as per requirements using appropriate tools and technique PC17. push the excess concrete towards the formwork for easy removal PC18. float the concrete using appropriate tools PC19. level the edges and corners as per requirements using appropriate tools for semi-finished concrete PC20. provide construction/ control joints in concrete surface at pre-defined locations PC21. cut construction joints as per specification and requirements
Finish and cure concrete	PC22. smoothen the surface using appropriate tools, to ensure a consistent and durable final finish PC23. apply a final finish on the surface as per requirements using any of the following major techniques: • Stamped concrete finish • Stenciling concrete finish • Broom finish • Rock salt finish PC24. provide shear key /vertical construction joint or cut construction joint as per requirement PC25. ensure cleaning and removal of spilled concrete is carried out after work PC26. ensure proper curing of concrete by marking and monitoring of the curing time PC27. ensure proper barricading of the concrete area and prevent any damage to the poured concrete
Carry out concreting in pre cast segment	PC28. inspect the area for completion of housekeeping works and remove any debris from the surface prior to concreting PC29. report any gaps in formwork/moulds to avoid leakage PC30. report any misalignment in formwork/reinforcement PC31. check that cover for reinforcement is provided properly PC32. point out any inadequacy in application of release agent. PC33. comply with the sequence of pour during concreting PC34. pour concrete appropriately and as per system requirements in pre cast moulds PC35. carry out vibration of the concrete using internal/external vibrators as per applicability PC36. ensure all embedded parts are intact during vibration PC37. ensure pre cast segment surface is finished as per specification

Carry out simple repair work on hardened concrete surfaces	PC38. identify the type of defect on the concrete surface such as: • air holes/voids • bulges • offset between joints • honeycombing PC39. notify superiors for type of defect and repair required PC40. ensure repair work is carried out only under the knowledge of superiors PC41. prepare a suitable mortar for filing the air holes/voids PC42. apply the mortar and rub using carborundum stone to obtain a flushed & smooth surface PC43. carry out chipping of the surface to remove bulges and offsets as per requirement PC44. carry out surface grinding to remove bulges and irregularities in concrete surface using sander / grinder PC45. ensure grinding is performed within acceptable levels PC46. fill narrow / wide cracks in concrete using appropriate filler / compounds PC47. ensure proper curing of repaired structure along with proper blending with the adjacent structure
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. standard practices for concreting work KA2. safety rules and regulations for handling and storing required concreting tools, equipments and materials KA3. personal protection including the use of related safety gears & equipments KA4. precautions and measures required while working in wet concrete areas KA5. request procedures for tools and materials KA6. maintenance of tools and equipments
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. simple sketches related to concreting/ pre casting and repairing works KB2. basic principles of measurement KB3. basic properties of concrete including weight, slump & mix proportions KB4. standard specifications of all masonry concreting tools and their upkeep and repair KB5. how to select and use basic tools, tackles and equipments such as: • measuring tape/rule, vibrator, shovels, rakes, etc. • screeding board / tools and tamping tools (hand, rolling, etc.) • large floating device like bull float KB6. various type and grade of cement used, affect of water /cement ratio and type of aggregates

	KB7. different mix proportion/grade of concrete KB8. sequence of concrete pouring and placing KB9. manual mixing of concrete and nominal mix proportions KB10. cover to reinforcement with respect to size of reinforcement KB11. how to pour concrete in alternate panels KB12. how to avoid shrinkage cracks in concrete KB13. various admixtures used in concreting KB14. different type of vibrators, their influence area and use KB15. construction and expansion joints KB16. cutting tools for providing joints KB17. vibration in congested area KB18. appropriate technique for pouring of concrete in the form of layers as per the specification KB19. appropriate technique for vibrating of concrete in a staggered manner as per of the site requirements KB20. various types of vibrators used in concreting KB21. influence depth of vibrator / specifications of vibrator KB22. technique to avoid air pockets or voids while concreting KB23. appropriate technique for screeding of concrete KB24. appropriate technique for floating of concrete surface KB25. appropriate technique and extent to which construction joints must be provided KB26. importance of finishing concrete after initial setting of concrete/semi finished stage KB27. various major techniques of finishing and their respective application: • Float and trowel finish • Stamped concrete finish • Stenciling concrete finish • Broom finish • Rock salt finish KB28. importance and use of releasing agents on the formwork KB29. materials required for pre cast systems like tie bars, dowel bars, joint filers and sealing compounds KB30. curing process as per the specification / based on type of concreting works KB31. how to protect concrete surface from direct contact with sun and prevent damage KB32. basic details of pre cast systems like element thickness, element geometry and need for joint matching to ensure that the pre casted segments are as per requirement

	KB33. cleaning of moulds in precast KB34. various types of embedded parts like anchor cone, pipe sleeves, insert plates, and bolts KB35. importance of repairing concrete KB36. different type of defects in concrete KB37. different procedures for concrete repair KB38. appropriate technique for grinding of concrete surface for smooth finish KB39. tools used for grinding of concrete KB40. appropriate technique for patching of concrete for repair KB41. different patching mortars and their mix proportions KB42. various admixtures and mortars present for repairing concrete
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write in at least one language, preferably the local language at the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read in one or more or more language, preferably the local language at the site SA3. read sketches provided by the supervisor If required SA4. read instructions, guidelines, sign boards, safety rules and safety tags SA5. read instructions and exit routes during emergency
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA6. speak in at least one language, preferably one of the local language at the site SA7. listen and follow instructions given by the superiors SA8. orally and effectively communicate with subordinates and coworkers
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. decide whether the work place is safe for working and also relevant task is not creating hazardous condition for others SB2. decide whether work is adequately defined for the day , work front is clear , and adequate materials and tools are available for performing work SB3. discontinue pouring of concrete in area of excess pour to level concrete uniformly SB4. identify and decide the appropriate compacting equipment

CON/N0117 *Place, level and finish concrete in various structural elements including repair works*

	Plan and Organise
	The user/individual on the job needs to know and understand how to: SB1. plan work and organize resources in coordination with team members and superiors
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB2. complete work as per the agreed time schedule & quality
	Problem solving
	The user/individual on the job needs to know and understand how to: SB3. notify superiors any changes that may be required in formwork or reinforced bars placed prior to concreting SB4. avoid segregation of concrete SB5. resolve and solve any conflict within the team
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB6. optimize resources efficiently SB5. minimize wastage in the workplace SB6. reconcile material consumption SB7. assess quantity and quality of materials for day work SB7. ensure estimation of starting and finishing levels for day work
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB8. evaluate the complexity of the task and seek assistance and support wherever required SB9. bring to the notice of the superiors any requirement of the requisite material and resources SB8. check for quality of scaffolding/working platform from all aspects of safety SB10. report to superiors in case of violation of any safety norms which may lead to accidents

NOS Version Control

NOS Code	CON/N0117		
Credits (NSQF)	TBD	Version number	1.0
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/03/2015
Occupation	Masonry	Next review date	23/03/2017

National Occupational Standard

Overview

This NOS covers the skill and knowledge required to work effectively within a team to achieve the desired results.

CON/N8001 *Work effectively in a team to deliver desired results at the workplace*

National Occupational Standard

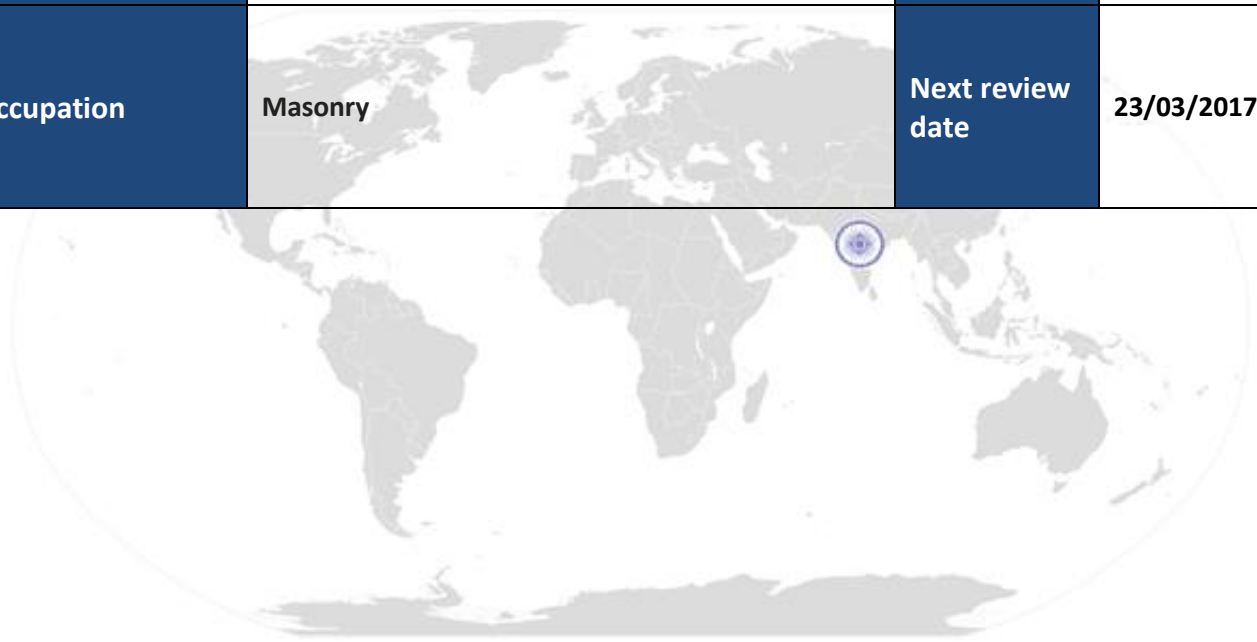
Unit Code	**CON/N8001**
Unit Title (Task)	**Work effectively in a team to deliver desired results at the workplace**
Description	This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.
Scope	The scope covers the following: • Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams • Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Interact and communicate in effective and conclusive manner	To be competent, the user / individual on the job must be able to: PC1. pass on work related information/ requirement clearly to the team members PC2. inform co-workers and superiors about any kind of deviations from work PC3. address the problems effectively and report if required to immediate supervisor appropriately PC4. receive instructions clearly from superiors and respond effectively on same PC5. communicate to team members/subordinates for appropriate work technique and method PC6. seek clarification and advice as per requirement and applicability
Support co-workers to execute project requirements	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams PC8. work together with co-workers in a synchronized manner
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. own roles and responsibilities KA2. importance of effective communication and establishing strong working relationships with co-workers KA3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc. KA4. different modes of communication, and its appropriate usage KA5. importance of creating healthy and cooperative work environment among the gangs of workers

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. different activities within his work area where an interaction with other workers is required KB2. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co- workers might need as per the requirement KB3. importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timelines, safety, risks at the construction project site KB4. importance and need of supporting co-workers facing problems for smooth functioning of work
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA9. write in one or more languages, preferably the local language at the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA10. read in one or more languages, preferably the local language at the site SA11. read communication from team members regarding work completed, materials used, tools and tackles used, support required
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA12. speak in one or more languages, preferably one of the local language at the site SA13. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes SA14. orally communicate with co-workers regarding support required to complete the respective work
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB11. decide on what information is to be shared with co-workers within the team or from interfacing gang of workers
	Plan and Organise
	The user/individual on the job needs to know and understand how to: SB12. plan work and organize required resources in coordination with team members

	Customer centricity
	The user/individual on the job needs to know and understand how to: SB13. complete all assigned task in coordination with team members
	Problem solving
	The user/individual on the job needs to know and understand how to: SB14. take initiative in resolving issues among co-workers or report the same to superiors
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB15. ensure best ways of coordination among team members SB16. communicate with co-workers considering their educational / social background
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB17. evaluate the complexity of task and determine if any guidance is required from superiors

NOS Version Control

NOS Code	**CON/N8001**		
Credits (NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Construction**	**Drafted on**	**07/03/2015**
Industry Sub-sector	**Real Estate and Infrastructure Construction**	**Last reviewed on**	**23/03/2015**
Occupation	**Masonry**	**Next review date**	**23/03/2017**



National Occupational Standard

Overview

This NOS covers the skills and knowledge required to plan and organize work in order to meet expected quality in established time frame.

National Occupational Standard

Unit Code	**CON/N8002**
Unit Title (Task)	**Plan and organize work to meet expected outcomes**
Description	This unit describes the knowledge and the skills required for an individual to plan and organize own work in order to meet expected outcome.
Scope	This scope covers the following: • Prioritize work activities to achieve desired results • Organize desired resources prior to commencement of work
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Prioritize work activities to achieve desired results	To be competent, the user / individual on the job must be able to: PC1. understand clearly the targets and timelines set by superiors PC2. plan activities as per schedule and sequence PC3. provide guidance to the subordinates to obtain desired outcome PC4. plan housekeeping activities prior to and post completion of work
Organize desired resources prior to commencement of work	PC5. list and arrange required resources prior to commencement of work PC6. select and employ correct tools, tackles and equipment for completion of desired work PC7. complete the work with allocated resources PC8. engage allocated manpower in an appropriate manner PC9. use resources in an optimum manner to avoid any unnecessary wastage PC10. employ tools, tackles and equipment with care to avoid damage to the same PC11. organize work output, materials used, tools and tackles deployed, PC12. processes adopted to be in line with the specified standards and instructions
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. importance of proper housekeeping KA2. policies, procedures and work targets set by superiors KA3. roles and responsibilities in executing the work for subordinates and self
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. standard practices of work to be adopted for assigned task KB2. how to use available resources in a judicious and appropriate manner to minimize wastages or damage

Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more language, preferably the local language at the site SA2. list out the assigned works and targets
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA3. read in one or more language, preferably the local language at the site SA4. read communication from co-workers, superiors and notices from other departments as per requirement of the level
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA5. speak in one or more language, preferably one of the local language at the site SA6. listen and follow communication shared by co-workers regarding standard work processes, resources available, timelines, etc. SA7. communicate effectively with co-workers and subordinates
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. decide on what sequence is to be adopted for execution of work
	Plan and Organise
	The user/individual on the job needs to know and understand how to: SB2. plan and organize the materials, tools, tackles and equipment required to execute the work
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. complete all assigned task with proper planning and organizing
	Problem solving
	The user/individual on the job needs to know and understand how to: SB4. arrange or seek help to arrange for material, tools and tackles in case of shortfall
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. analyze areas of work which could result in a delay of work, wastage of

	material or damage to tools and tackles
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB6. evaluate potential solutions to minimize avoidable delays and wastages at the construction site

NOS Version Control

NOS Code	**CON/N8002**		
Credits (NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Construction**	**Drafted on**	**07/03/2015**
Industry Sub-sector	**Real Estate and Infrastructure Construction**	**Last reviewed on**	**23/03/2015**
Occupation	**Masonry**	**Next review date**	**23/03/2017**

National Occupational Standard

Overview

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site.

National Occupational Standard

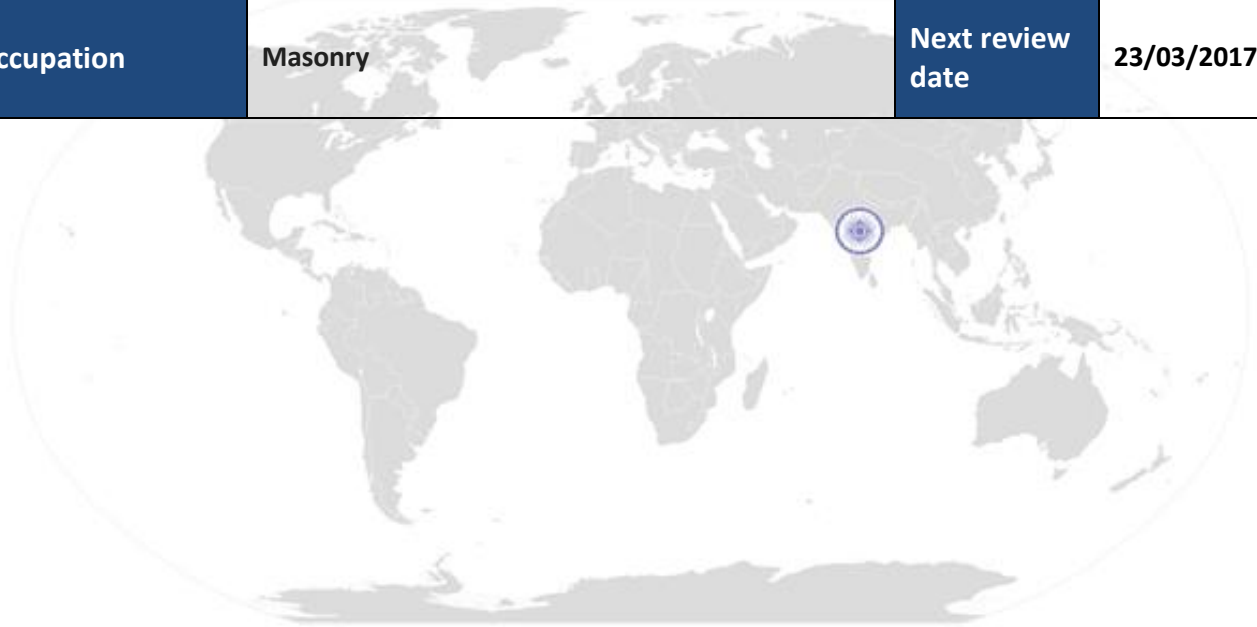
Unit Code	**CON/N9001**
Unit Title (Task)	**Work according to personal health, safety and environment protocol at construction site**
Description	This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site
Scope	The scope covers the following: • Follow safety norms as defined by organization • Adopt healthy & safe work practices • Implement good housekeeping and environment protection process and activities
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Follow safety norms as defined by organization	To be competent, the user / individual on the job must be able to: PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site PC5. identify near miss , unsafe condition and unsafe act
Adopt healthy & safe work practices	PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: • Head Protection (Helmets) • Ear protection • 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 PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines PC9. install and apply properly all safety equipment as instructed PC10. follow safety protocol and practices as laid down by site EHS department

Implement good housekeeping practices	PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes PC12. apply ergonomic principles wherever required
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines KA2. types of safety hazards at construction sites KA3. basic ergonomic principles as per applicability
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. the procedure for responding to accidents and other emergencies at site KB2. appropriate personal protective equipment to used based on various working conditions KB3. importance of handling tools, equipment and materials as per applicable KB4. health and environments effect of construction materials as per applicability KB5. various environmental protection methods as per applicability KB6. storage of waste including the following at appropriate location: • non-combustible scrap material and debris • combustible scrap material and debris • general construction waste and trash (non-toxic, non-hazardous) • any other hazardous wastes • any other flammable wastes KB7. how to use hazardous material, in a safe and appropriate manner as per applicability KB8. safety relevant to tools, tackles, & requirement as per applicability KB9. housekeeping activities relevant to task
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more language, preferably the local language at the site SA2. fill safety formats for near miss, unsafe conditions and safety suggestions
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA3. read in one or more language, preferably the local language at the site SA4. read sign boards, notice boards relevant to safety

	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA5. speak in one or more language, preferably one of the local language at the site SA6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk SA7. communicate reporting of site conditions, hazards, accidents, etc.
B. Professional Skills	**Decision Making**
	The user/individual on the job needs to know and understand how to: SB1. not create unsafe conditions for others SB2. keep the workplace clean and tidy
	Plan and Organise
	N.A
	Customer centricity
	N.A
	Problem solving
	The user/individual on the job needs to know and understand how to: SB3. identify safety risks that affect the health, safety and environment for self and others working in the vicinity, tackle it if within limit or report to appropriate authority
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB4. assess and analyze areas which may affect health, safety and environment protocol on the site
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB5. ensure personal safety behavior SB6. respond to emergency

NOS Version Control

NOS Code	**CON/N9001**		
Credits (NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Construction**	**Drafted on**	**07/03/2015**
Industry Sub-sector	**Real Estate and Infrastructure Construction**	**Last reviewed on**	**23/03/2015**
Occupation	**Masonry**	**Next review date**	**23/03/2017**



CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role	Mason Concrete
Qualification Pack	CON/Q0104
Sector Skill Council	Construction

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 center based on assessment criteria.
5. The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% 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		
		Total Mark	**Out Of**	**Theory**	**Skills Practical**
CON/N0114: Carry out IPS / Tremix flooring works	PC1.inspect the work area prior to concreting, ensure leveling in case of any undulations observed on the surface prior to concreting	**100**	2.5	0.5	2
	PC2. ensure surface is prepared appropriately and report any deviation in slope		2.5	0.5	2

	and alignment in PCC				
	PC3. report any gaps in formwork to avoid leakage		2.5	0.5	2
	PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided		2.5	0.5	2
	PC5. mark reference level on the wall &transfer this marking to all floor locations using appropriates tools		5	1	4
	PC6. mark flooring thickness level and provide dummy level dots at specified intervals for ensuring required slope		5	1	4
	PC7. check the grade of cement prior to use in case of manual mixing		2.5	0.5	2
	PC8. ensure fine aggregate is sieved as per grade requirement		2.5	0.5	2
	PC9. check that concrete is mixed in appropriate proportion		5	1	4
	PC10. visually assess the concrete mix for usability and workability		5	1	4
	PC11. notify superiors for detrimental quality of concrete		5	1	4
	PC12. ensure specified concrete mix is used at allocated location		5	1	4
	PC13. check that panels prepared are of specified size and type		2.5	0.5	2
	PC14. fix the glass, aluminum or brass strip in cement mortar with their tops at appropriate level and according to slope		2.5	0.5	2
	PC15. ensure panels are made as per specified size		2.5	0.5	2
	PC16. ensure concrete is poured in alternate panels/specified panels as per requirement		5	1	4
	PC17. remove excess cement slurry and any marks on the surface		2.5	0.5	2
	PC18. level the concrete surface with a straight edge and to the required finish with a wooden float / trowel		2.5	0.5	2
	PC19. spread cement punning over the IPS concrete for smooth finish surface and allow it to soak into the concrete, as per requirement		2.5	0.5	2
	PC20. provide construction joints and expansion joints as per requirement		2.5	0.5	2
	PC21. level poured concrete to the specified levels maintaining required slope		5	1	4
	PC22. ensure curing of the finished floor surface for the specified time		2.5	0.5	2
	PC23. level the surface and lay stone soling / boulder soling layer		2.5	0.5	2

	PC24. lay the floor with slope maintained in PCC work above the stone soling		2.5	0.5	2
	PC25. remove excess water from the top layer of wet concrete without removing cement of sand particles through vacuum de-watering machines		5	1	4
	PC26. ensure floater work within green concrete surface		2.5	0.5	2
	PC27. carry out Tremix flooring in specified panel on RCC floors ensuring intactness of rebar and cover		2.5	0.5	2
	PC28. cut grooves on concrete at specified intervals for construction joints		2.5	0.5	2
	PC29. provide expansion joints as per requirement		2.5	0.5	2
	PC30. carry out curing of finished concrete as per specifications		2.5	0.5	2
	PC31. ensure finished levels have required slope		2.5	0.5	2
		Total	**100**	**20**	**80**
CON/N0117: Place, level and finish concrete, both RCC and PCC, in various structural elements – in situ and pre cast	PC1. inspect the area for completion of housekeeping works and remove any undulations on the surface prior to concreting	**100**	1.25	0.25	1
	PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment		2.5	0.5	2
	PC3. report any gaps in formwork to avoid leakage		2.5	0.5	2
	PC4. report any misalignment in formwork/reinforcement and ensure proper cover for reinforcement is provided		1.25	0.25	1
	PC5. notify superiors for detrimental quality of concrete		1.25	0.25	1
	PC6. visually assess the concrete mix for usability and workability		1.25	0.25	1
	PC7. check the type , grade of cement and visual soundness of cement prior to use		2.5	0.5	2
	PC8. check and ensure sieved fine aggregate prior to use		2.5	0.5	2
	PC9. instruct and ensure that mixing of concrete is in specified ratio		5	1	4
	PC10. handle and adjust the pouring equipments as per requirements		2.5	0.5	2
	PC11. ensure standard pouring height for concrete is maintained throughout pouring		2.5	0.5	2
	PC12. ensure pouring of concrete takes place in specified layers		2.5	0.5	2
	PC13. pour concrete to maintain specified levels & cover for steel reinforcement		5	1	4

	PC14. apply vibrator within influence depth and as per standard procedures		4	1	3
	PC15. ensure that the vibrator does not touch the reinforcement or is not applied to the face of the form		3.5	0.5	3
	PC16. screed the concrete as per requirements using appropriate tools and technique		2.25	.25	2
	PC17. push the excess concrete towards the formwork for easy removal		1.25	.25	1
	PC18. float the concrete using appropriate tools		1.5	.5	1
	PC19. level the edges and corners as per requirements using appropriate tools for semi-finished concrete			.25	1
	PC20. provide construction/ control joints in concrete surface at pre-defined locations		2.5	.5	2
	PC21. cut construction joints as per specification and requirements		1.25	.25	1
	PC22. smoothen the surface using appropriate tools, to ensure a consistent and durable final finish		1.25	.25	1
	PC23. apply a final finish on the surface as per requirements using any of the following major techniques: • Stamped concrete finish • Stenciling concrete finish • Broom finish • Rock salt finish		3.75	.75	3
	PC24. provide shear key /vertical construction joint or cut construction joint as per requirement		1.25	.25	1
	PC25. ensure cleaning and removal of spilled concrete is carried out after work		1.25	.25	1
	PC26. ensure proper curing of concrete by marking and monitoring of the curing time		1.25	.25	1
	PC27. ensure proper barricading of the concrete area and prevent any damage to the poured concrete		1.25	.25	1
	PC28. inspect the area for completion of housekeeping works and remove any debris from the surface prior to concreting		1.5	0.5	1
	PC29. report any gaps in formwork/moulds to avoid leakage		1.5	0.5	1
	PC30. report any misalignment in formwork/reinforcement		1.5	0.5	1
	PC31. check that cover for reinforcement is provided properly		1.25	0.25	1
	PC32. point out any inadequacy in application of release agent		1.25	0.25	1
	PC33. comply with the sequence of pour during concreting		2.5	0.5	2

	PC34. pour concrete appropriately and as per system requirements in pre cast moulds		2.5	0.5	2
	PC35. carry out vibration of the concrete using internal/external vibrators as per applicability		3.5	0.5	3
	PC36. ensure all embedded parts are intact during vibration		2.25	0.25	2
	PC37. ensure pre cast segment surface is finished as per specification		2.25	0.25	2
	PC38. identify the type of defect on the concrete surface such as: • air holes/voids • bulges • offset between joints • honeycombing		3.5	0.5	3
	PC39. notify superiors for type of defect and repair required		1.25	0.25	1
	PC40. ensure repair work is carried out only under the knowledge of superiors		1.25	0.25	1
	PC41. prepare a suitable mortar for filing the air holes/voids		2.25	0.25	2
	PC42. apply the mortar and rub using carborundum stone to obtain a flushed & smooth surface		2.5	0.5	2
	PC43. carry out chipping of the surface to remove bulges and offsets as per requirement		2.5	0.5	2
	PC44. carry out surface grinding to remove bulges and irregularities in concrete surface using sander / grinder		2.5	0.5	2
	PC45. ensure grinding is performed within acceptable levels		1.5	0.5	1
	PC46. fill narrow / wide cracks in concrete using appropriate filler / compounds		1.5	0.5	1
	PC47. ensure proper curing of repaired structure along with proper blending with the adjacent structure		1.25	0.25	1
		Total	**100**	**20**	**80**
CON/N8001: Work effectively in a team to deliver desired results at the workplace	PC1. pass on work related information/ requirement clearly to the team members	**100**	10	2	8
	PC2. inform co-workers and superiors about any kind of deviations from work		5	1	4
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		5	1	4
	PC4. receive instructions clearly from superiors and respond effectively on same		5	1	4
	PC5. communicate to team members/subordinates for appropriate work technique and method		5	1	4
	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
	PC8. work together with co-workers in a synchronized manner		30	6	24
		Total	**100**	**20**	**80**
CON/N8002: Plan and organize work to meet expected outcomes	PC1. understand clearly the targets and timelines set by superiors	**100**	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
	PC5. list and arrange required resources prior to commencement of work		10	2	8
	PC6. select and employ correct tools, tackles and equipment for completion of desired work		10	2	8
	PC7. complete the work with allocated resources		10	2	8
	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**
CON/N9001: Work according to personal health, safety and environment protocol at construction site	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authoritys	**100**	5	1	4
	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities		5	1	4
	PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable		10	2	8
	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		5	1	4
	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)		10	2	8

	• Ear protection • 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
		Total	**100**	**20**	**80**