





QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CONSTRUCTION INDUSTRY

What are Occupational Standards(OS)?

- Solution 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

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Introduction

Qualifications Pack - Mason Concrete

SECTOR: CONSTRUCTION

SUB-SECTOR: Real Estate and Infrastructure Construction

OCCUPATION: MASONRY

REFERENCE ID: CON/Q0105

ALIGNED TO: NCO-2015/7114.9900

Brief Job Description: This individual 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.





Qualifications Pack Code	CON/Q0105		
Job Role	Mason- Concret	e	
Credits(NSQF)	TBD	Version number	2.0
Sector	Construction	Drafted on	07/03/2015
Sub Sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Masonry	Next review date	24/07/2023
NSQC Clearance on	22/08/2019		

Job Role	Mason - Concrete
Role Description	Responsible for performing routine concreting works in various structural elements
NSQF Level Minimum Educational Qualifications* Maximum Educational Qualifications*	4 5 th standard N.A
Prerequisite License or Training	
Minimum Job Entry Age	18 years
Experience	Non trained worker: 5 years site experience in same occupation Trained worker: 2 years site experience as a certified Assistant Mason
Applicable National Occupational Standards (NOS) `	 COM/N0114: Carry out IPS / Tremix flooring works CON/N0117: Place, level and finish concrete in various structural elements including repair works CON/N8001: Work effectively in a team to deliver desired results at the workplace CON/N8002: Plan and organize work to meet expected outcomes CON/N9001: Work according to personal health, safety and environment protocol at construction site
Performance Criteria	As described in the relevant OS units





Qualifications Pack For Mason – Concrete





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 specify the standards of performance an individual must achieve when
(OS)	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	NOS are Occupational Standards which apply uniquely in the Indian context.
Standards (NOS)	
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
Karalada a ad	critical impact on the quality of performance required.
Knowledge and	Knowledge and Understanding are statements which together specify the
Understanding	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
Tashnigal Knewledge	of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific
Core Skills / Generic Skills	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.
	Skills that are applicable to most job roles.

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









Carry out IPS / Tremix flooring works

National Occupational Standard



Overview

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







CON/I	NO114	Carry out IPS / Tremix flooring works
	Unit Code	CON/N0114
ndaro	Unit Title (Task)	Carry out IPS / Tremix flooring works
al Sta	Description	This unit describes the skills and knowledge required to work on IPS & Tremix flooring
National Occupational Standard	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
Na	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









Carry out IPS / Tremix flooring works

	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		
	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		
Carry out Tremix /	PC26. ensure floater work within green concrete surface		
VDF flooring	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 Ur	nderstanding (K)		
A. Organizational	The user/individual on the job needs to know and understand:		
Context	KA1. standard practices for masonry work		
(Knowledge of	KA2. safety rules and regulations for handling & storing required masonry tools &		
the company /	materials		
organization and	KA3. personal protection including the use of related safety gears & equipments		
its processes)	KA4. how to request tools and materials as per set procedures		
	KA5. maintenance of tools and equipments		
B. Technical			
D. Teeminean	The user/individual on the job needs to know and understand:		
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		
Knowledge			
Knowledge	KB1. how to use all masonry tools along with some specialized tools for Tremix		
Knowledge	KB1. how to use all masonry tools along with some specialized tools for Tremix flooring such as :		
Knowledge	 KB1. how to use all masonry tools along with some specialized tools for Tremix flooring such as : Vacuum de-watering Pump 		
Knowledge	 KB1. how to use all masonry tools along with some specialized tools for Tremix flooring such as: Vacuum de-watering Pump Floater Machine 		
Knowledge	 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 		
Knowledge	 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 		
Knowledge	 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 		
Knowledge	 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 		
Knowledge	 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 		









Carry out IPS / Tremix flooring works

	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)				
	Writing Skills			
	The user/ individual on the job needs to know and understand how to:			
	SA1. 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:			
	SA2. read in one or more languages, preferably the local language at the site			
A. Core Skills/	SA3. read sketches provided by the superior to do IPS /Tremix flooring works			
Generic Skills	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 languages, preferably one of the local language at the			
	site			
	SA7. listen and follow instructions given by the superior			
	SA8. communicate orally with team member			
B. Professional	Decision Making			
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			









Carry out IPS / Tremix flooring works

creating hazardous condition for others	creating	hazardous	condition	for	others	
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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









Carry out IPS / Tremix flooring works

NOS Version Control

NOS Code	CON/N0114		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Masonry	Next review date	24/07/2023











Place, level and finish concrete in various structural elements including repair works

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.



National Occupational Standards





CON/N0117

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 in case of manual and machine mixing	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			









	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 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









	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			
Carry out simple	PC41. prepare a suitable mortar for filing the air holes/voids			
repair work on	PC42. apply the mortar and rub using carborundum stone to obtain a flushed &			
hardened concrete	smooth surface			
surfaces	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 Ur	nderstanding (K)			
Timo Tribugo una Or				
A. Organizational	The user/individual on the job needs to know and understand:			
Context	KA1. standard practices for concreting work			
(Knowledge of	KA2. safety rules and regulations for handling and storing required concreting			
the company /	tools, equipments and materials			
organization and	KA3. personal protection including the use of related safety gears & equipments			
its processes)	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	The user/individual on the job needs to know and understand:			
Knowledge	KB1. simple sketches related to concreting/ pre casting and repairing works			
Kilowicuge	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			
	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			









KB8.	sequence of	f 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)	Skills (S)		
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:		
0.000	SA2. read in one or more or more languages, preferably the local language at the		
A. Core Skills/ Generic Skills	site SA3. read sketches provided by the supervisor If required		
Generic Skills	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. communicate orally and effectively with subordinates and coworkers		
	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,		
B. Professional	and adequate materials and tools are available for performing work		
Skills	SB3. discontinue pouring of concrete in area of excess pour to level concrete		
	uniformly		
	SB4. identify and decide the appropriate compacting equipment		
	Plan and Organise		
	The user/individual on the job needs to know and understand how to:		
	SB5. plan work and organize resources in coordination with team members and		
	superiors		









Place, level and finish concrete in various structural elements including repair works

Customer centricity

The user/individual on the job needs to know and understand how to:

SB6. complete work as per the agreed time schedule & quality

Problem solving

The user/individual on the job needs to know and understand how to:

- SB7. notify superiors any changes that may be required in formwork or reinforced bars placed prior to concreting
- SB8. avoid segregation of concrete
- SB9. resolve and solve any conflict within the team

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. reconcile material consumption
- SB13. assess quantity and quality of materials for day work
- SB14. 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:

- SB15. evaluate the complexity of the task and seek assistance and support wherever required
- SB16. bring to the notice of the superiors any requirement of the requisite material and resources
- SB17. check for quality of scaffolding/working platform from all aspects of safety
- SB18. report to superiors in case of violation of any safety norms which may lead to accidents









Place, level and finish concrete in various structural elements including repair works

NOS Version Control

NOS Code	CON/N0117		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Masonry	Next review date	24/07/2023











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

National Occupational Standard



Overview

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



National Occupational Standards





CON/N8001

Work effectively in a team to deliver desired results at the workplace

Unit Code	CON/N8001 Work effectively in a team to deliver desired results at the workplace This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.	
Unit Title (Task)		
Description		
Scope	 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 effectively with coworkers, superiors and sub-ordinates across different teams	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, superiors and sub- ordinates within the team and across interfacing teams to ensure effective execution of assigned task	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)









Work effectively in a team to deliver desired results at the workplace

A. O	rganizational			
	ontext	KA1. own roles and responsibilities		
	Knowledge of	KA2. importance of effective communication and establishing strong working		
	ne company /	relationships with co-workers		
	rganization and	KA3. risks of a failure in teamwork in terms of effects on project outcomes,		
ILS	s processes)	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		
R. Te	echnical	The user/individual on the job needs to know and understand:		
	nowledge	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		
Sk	kills (S)			
		Writing Skills		
		The user/ individual on the job needs to know and understand how to:		
		SA1. 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:		
		SA2. read in one or more languages, preferably the local language at the site		
	ore Skills/ eneric Skills	SA3. read communication from team members regarding work completed,		
G	eneric Skills	materials used, tools and tackles used, support required		
Oral Communication (Listening a				
		Oral Communication (Listening and Speaking skills)		
		Oral Communication (Listening and Speaking skills) The user/ individual on the job needs to know and understand how to:		
		The user/ individual on the job needs to know and understand how to:		
		The user/ individual on the job needs to know and understand how to: SA4. speak in one or more languages, preferably one of the local language at the		
		The user/ individual on the job needs to know and understand how to: SA4. speak in one or more languages, preferably one of the local language at the site		
		The user/ individual on the job needs to know and understand how to: SA4. speak in one or more languages, preferably one of the local language at the site SA5. listen and follow instructions / communication shared by superiors/ co-		









Work effectively in a team to deliver desired results at the workplace

	Decision Making
	The user/individual on the job needs to know and understand how to:
	SB1. 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:
	SB2. 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:
B. Professional	SB3. complete all assigned task in coordination with team members
Skills	Problem solving
	The user/individual on the job needs to know and understand how to:
	SB4. 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:
	SB5. ensure best ways of coordination among team members
	SB6. communicate with co-workers considering their educational / social
	background
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB7. evaluate the complexity of task and determine if any guidance is required
	from superiors









Work effectively in a team to deliver desired results at the workplace

NOS Version Control

NOS Code	CON/N8001		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/03/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Masonry	Next review date	24/07/2023











Plan and organize work to meet expected outcomes

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 Standards





CON/N8002

Plan and organize work to meet expected outcomes

	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 		
1	Performance Criteria (PC) w.r.t. the Scope		
	Element	Performance Criteria		
Organize desired resources prior to commencement of work PC6. select and employ correct tools, tackles and equipment for completing 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 was PC10. employ tools, tackles and equipment with care to avoid damage to the same PC11. organize work output, materials used, tools and tackles deployed,		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		
		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		
	Knowledge and Un	derstanding (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 its processes)		KA1. importance of proper housekeeping		
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 r minimize wastages or damage		KB1. standard practices of work to be adopted for assigned task KB2. how to use available resources in a judicious and appropriate manner to		









Plan and organize work to meet expected outcomes

Skills (S)	Skills (S)		
	Writing Skills		
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more languages, preferably the local language at the site SA2. list out the assigned works and targets		
	Reading Skills		
A. Core Skills/ Generic Skills	The user/ individual on the job needs to know and understand how to: SA3. read in one or more languages, 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 languages, 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		
	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		
B. Professional	Customer centricity		
Skills	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		









Plan and organize work to meet expected outcomes

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











Plan and organize work to meet expected outcomes

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	24/07/2019		
Occupation	Masonry	Next review date	24/07/2023		











Work according to personal health, safety and environment protocol at construction site

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 Standards





CON/N9001

Work according to personal health, safety and environment protocol at construction site

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 the 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. select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline PC6. identify near miss , unsafe condition and unsafe act
Adopt healthy & safe work practices	PC7. 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) PC8. handle all required tools, tackles, materials & equipment safely PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines PC10. install and apply properly all safety equipment as instructed
	PC11. follow safety protocol and practices as laid down by site EHS department



National Occupational Standards





CON/N9001

Work according to personal health, safety and environment protocol at construction site

	PC12. undertake and pass height pass test as per EHS guideline			
Implement good housekeeping and environment protection process and activities	PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes PC14. apply ergonomic principles wherever required			
Knowledge and Ur	nderstanding (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. use of appropriate personal protective equipment to be used based on various working conditions KB3. importance of handling tools, equipment and materials as applicable KB4. health and environmental 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. types of fire KB9. Procedure of operating different types of fire extinguishers KB10. safety relevant to tools, tackles, & requirement as per applicability KB11. 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 languages, preferably in the local language of the site SA2. fill safety formats for near miss, unsafe conditions and safety suggestions Reading Skills			









Work according to personal health, safety and environment protocol at construction site

	The user/ individual on the job needs to know and understand how to: SA3. read in one or more languages, preferably in the local language of 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 languages, preferably in one of the local language of 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.
	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. maintain safe conditions for others SB2. keep the workplace clean and tidy
	Plan and Organise
	N.A
	Customer centricity
	N.A
B. Professional	Problem solving
B. Professional Skills	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









Work according to personal health, safety and environment protocol at construction site

NOS Version Control

NOS Code	CON/N9001					
Credits (NSQF)	TBD	Version number	1.4			
Industry	Construction	Drafted on	07/03/2015			
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019			
Occupation	Masonry	Next review date	24/07/2023			







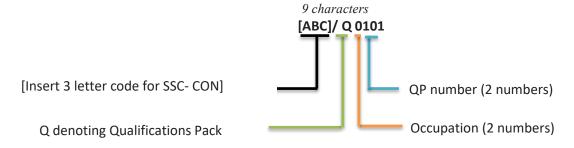




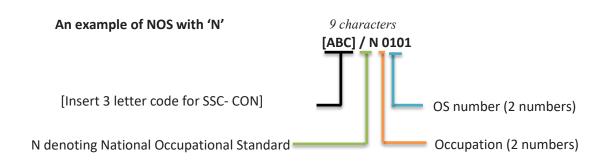
Annexure

Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Real Estate and Infrastructure	1-35
Rural Infrastructure Construction	36-50
Scope for new Sub-Sectors	51-99

Sequence	Description	Example
Three letters	Construction Skill Development Council of India	CON
Slash	/	/
Next letter	Whether Q P or NOS	Q
Next two numbers	Occupation code	12
Next two numbers	OS number	01









CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Mason Concrete

Qualification PackCON/Q0104Sector Skill CouncilConstruction

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 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 NOSs, the trainee is eligible to take subsequent assessment on the balance NOSs 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 PC2. ensure surface is prepared appropriately and report any deviation in slope and alignment in PCC	100			









	PC3. report any gaps in formwork to avoid leakage				
-	PC4. report any misalignment in		10	3	7
	formwork/reinforcement and ensure proper cover				
	for reinforcement is provided				
	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		10	3	7
	level dots at specified intervals for ensuring required				
	slope				
	PC7. check the grade of cement prior to use in case of manual mixing				
	PC8. ensure fine aggregate is sieved as per grade		10	2	7
	requirement		10	3	7
	PC9. check that concrete is mixed in appropriate				
	proportion				
	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		18	6	12
	allocated location				
	PC13. check that panels prepared are of specified size				
	and type				
	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		27	_	40
	and to the required finish with a wooden float / trowel		27	8	19
	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				
	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		25	7	18
		Total	100	30	70
CON/N0117: Place, level and finish concrete, both RCC and	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		10	3	7
PCC, in various structural elements – in situ and pre cast	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	100	10	3	7
	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		20	4	16









PC14. apply vibrator within influence depth and as per				
standard procedures				
PC15. ensure that the vibrator does not touch the				
reinforcement or is not applied to the face of the form				
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		10	3	7
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	<u> </u>			
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		10	3	7
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				
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				
concreting			<u> </u>	









	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 PC38. identify the type of defect on the concrete surface such as:		40	12	28
		Total	100	30	70
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 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	100	60	18	42



National Occupational Standards





	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		40	12	28
		Total	100	30	70
CON/N8002: Plan and organize work to meet expected outcomes	PC1. understand clearly the targets and timelines set by superiors	100	40	12	28
	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				
	PC5. list and arrange required resources prior to commencement of work PC6. select and employ correct tools, tackles and		60	18	42
	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				
		Total	100	30	70
CON/N9001: Work according	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				
to personal	hazardous material whenever applicable				
health, safety and	PC4. participate in safety awareness programs like	100	30	9	21
environment	Tool Box Talks, safety demonstrations, mock drills,				
protocol at construction site	conducted at site				
	PC5. select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline				
	PC6. identify near miss , unsafe condition and unsafe act				









	Total	100	30	70
PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes PC14.apply ergonomic principles wherever required	-	20	6	14
as instructed PC11.follow safety protocol and practices as laid down by site EHS department PC 12. undertake and pass height pass test as per EHS guidelines	_	50	15	35
 Respiratory Protection (if required) PC8. handle all required tools, tackles, materials & equipment safely PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines PC10. install and apply properly all safety equipment 				
PC7. 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				