





#### QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CONSTRUCTION INDUSTRY

# 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
- 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 Tiling**

**SECTOR: CONSTRUCTION** 

SUB-SECTOR: Real Estate and Infrastructure Construction

**OCCUPATION: MASONRY** 

**REFERENCE ID:** CON/Q0104

**ALIGNED TO: NCO-2004/7132.10** 

The job role carries out tiling works on various surfaces.

**Brief Job Description:** The job role is responsible for identifying, cutting, grinding, shaping, laying, fixing and finishing the tiles on floors, walls using appropriate tools and equipment and as per the specified standards, patterns and within dimensional accuracy.

**Personal Attributes:** The individual is expected to be physically fit and should be able to work across various locations in withstanding extreme weather/site conditions while working at any construction site. The person must be able to perform efficiently within a team and handle the various tiling tools and materials and work responsibly.









Job Details

Qualifications Pack Code	CON/Q0104		
Job Role	Mason - Tiling		
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	ISQC Clearance on 19/05/2015		

Job Role	Mason - Tiling	
Role Description	Responsible for performing tiling works on various surfaces.	
NSQF Level	4	
Minimum Educational Qualifications*	Preferably 5 <sup>th</sup> standard	
Maximum Educational Qualifications*	N.A	
Training (Suggested but not mandatory)	Recommended training period of 8-12 weeks as per QP of Mason Tiling  Normal literacy of reading, writing and understanding	
Minimum Job Entry Age	18 years	
Experience	Desirable:  1. Non trained worker: 8 years site experience in same occupation  2. Trained worker: 2 years site experience as a certified General Mason	
Applicable National Occupational Standards (NOS) `	<ol> <li>Compulsory:         <ol> <li>CON/N0115: Lay and fix tiles both horizontally and vertically on wall and floor</li> <li>CON/N0116: Apply grouts and sealants for flooring and cladding works</li> <li>CON/N8001: Work effectively in a team to deliver desired results at the workplace</li> <li>CON/N8002: Plan and organize work to meet expected outcomes</li> <li>CON/N9001: Work according to personal health, safety and environment protocol at construction site</li> </ol> </li> </ol>	



## Qualifications Pack For Mason - Tiling





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

Keywords / Terms Description



## Qualifications Pack For Mason - Tiling





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.	

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









Lay and fix tiles both horizontally & vertically on wall and floor

# National Occupational Standard



# **Overview**

This NOS covers the skill and knowledge required by a workman to lay and fix natural and processed tiles both horizontally and vertically on wall and floor.









Unit Code	CON/N0115  Lay and fix tiles both horizontally and vertically on wall and floor		
Unit Title (Task)			
Description	This unit describes the skills and knowledge required to lay and fix both natural and processed tiles on floor, wall and roof surfaces.		
Scope	<ul> <li>This scope covers the following:</li> <li>Carry out preparatory work prior to fixing of tiles</li> <li>Check the materials used for tiling</li> <li>Measure &amp; cut tiles as per the design, shape and size requirements.</li> <li>Lay and fix both natural and processed tiles on wall &amp; floors</li> <li>Check for line, level and alignment</li> </ul>		
Performance Criteria (	PC) w.r.t. the Scope		
Element	Performance Criteria		
Carry out preparatory work prior to fixing of tiles	To be competent, the user / individual on the job must be able to:  PC1. read and interpret working sketches prior to laying of tiles  PC2. install button marks / level pads as per the tiling requirements using common reference line  PC3. check the basic attributes of the base surface for:		
Check the materials used for tiling	PC7. check for basic attributes of the tiles like color, shade, size and squareness before commencement of work  PC8. check batch number of all tiles to be used in order to avoid variations in shade, color or pattern		









	PC9. ensure that any protective layer on the tiles is removed prior to use PC10. check for any damages / cracks on the tiles prior to use PC11. ensure tiles are cleaned appropriately prior to fixing
Measure & cut tiles as per the design, shape and size requirements	PC12. carry out proper marking before cutting tiles to required shape and size PC13. cut tiles as per the design /pattern specifications using appropriate tools to fit around obstacles & into odd spaces & corners PC14. minimize wastage of tiles
Lay and fix both natural and processed tiles on wall & floors	PC15. specify the centre-point or starting point of the surface for tiling as per working drawings/sketches  PC16. ensure the following is prepared as per specifications / requirements of tiling works:  • bed mortar (as per specification) • cement slurry • cement paste • adhesives  PC17. identify the laying position of tiles as per arrow marks on the tile box  PC18. maintain consistency of batch number of all tiles  PC19. prepare a bedding of appropriate thickness to act as base for fixing tiles  PC20. apply & spread cement mortar, mastic, glue or other adhesives on the base of tile using appropriate tools for fixing tiles  PC21. install roof tiles by bedding and pointing in cement mortar or by mechanical means  PC22. check for hollowness of tiled surface using wooden mallet  PC23. put spacers between tiles (if required) to minimize imperfections  PC24. protect the tiled area from damage during & after fixing of tiles  PC25. provide tile trims and strips at corner joints as per requirement
Check for line, level and alignment  PC26. check and provide required level and specified slope prior to and af PC27. check vertical and horizontal alignment using appropriate tools during after tiling  PC28. set out 90° corners using builders square or 3-4-5 method and check right angle	
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. standard practices for tiling work  KA2. safety rules and regulation for handling and storing tools, equipments and materials  KA3. personal protection including the use of the related safety gears & safety equipment  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. sketches of the area / surface on which tiles are to be laid  KB2. basic principles of measurement  KB3. different types of tiles, their sizes, shapes properties and their use, application for industrial, commercial and residential purpose including:  Ceramic (Glazed) tiles  Clay tiles  Quarry (Unglazed) tiles  Porcelain tiles  Terrazzo tiles  Mosaic tiles  Vitrified tiles  Natural tiles  Different types of adhesives (Flexible or waterproof) for different surfaces  KB4. how to identify the correct color, shade of tiles, differentiate between identical shades and basic knowledge of color coding  KB5. different procedure / process for laying tile on floor, wall & roof  KB6. standard specification of all tiling tools and equipments and their care and maintenance
Skills (S)	<ul> <li>KB7. how to select and use basic tools and tackles for laying tiles such as <ul> <li>measuring tape/rule, hammers, mallets, wedges, power wet saws, tile scribes or hand held tile cutters.</li> </ul> </li> <li>KB8. various techniques / procedures for cutting different types of tiles to size and shape as per design requirements</li> <li>KB9. basic surface preparation methods for different type of surfaces</li> <li>KB10. basic methods and techniques of preparing bed mortar, cement slurry and cement paste as per applicability</li> <li>KB11. different type of spacers and method of fixing and removing spacers</li> <li>KB12. different types of tile trims/strips &amp; their uses</li> </ul>
- Skills (3)	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 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 one or more language, preferably one of the local language at the		
site		
SA7. listen and follow instructions given by supervisor		
SA8. orally and effectively communicate with team members		
Decision Making		
The user/individual on the job needs to know and understand how to:		
SB1. identify the right tools, tackles & materials for cutting, laying and fixing of		
tiles		
SB2. identify the right patterns / design before laying of the tiles		
SB3. decide on whether workplace is safe for working and also ensure that		
relevant work is not creating hazardous conditions for others		
SB4. decide whether work is adequately defined for the day , work front is clear ,		
and adequate materials and tools are available for performing work		
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		
supervisors		
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		









Lay and fix tiles both horizontally & vertically on wall and floor

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

- SB7. rectify the workability of cement mortar mix
- SB8. ensure minimum cutting & finishing of tiles at the edges as per the size / area

requirement

- SB9. rectify the setting/alignment of tiled surface
- SB10. resolve and solve any conflict within the team

#### **Analytical Thinking**

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

- SB11. ensure that proper openings are kept for electrical / plumbing fittings in advance before the laying of stone tiles (preferably at the edge of the tiles)
- SB12. ensure proper grouting and sealing of tile
- SB13. ensure estimation of starting and finishing levels for day work
- SB14. assess quantity and quality of materials for day work
- SB15. optimize resources efficiently
- SB16. minimize wastage in the workplace
- SB17. reconcile material consumption



#### **Critical Thinking**

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

- SB18. evaluate the complexity while during laying of tiles in the pre-decided size / pattern to determine if any assistance is required from the superiors
- SB19. evaluate the area requirements and ensure minimum cutting of tiles
- SB20. ensure proper marking & cutting of tiles around obstacles
- SB21. fix tile trims/strips at sloped/curved surfaces
- SB22. identify and assess how violation of any safety norms may lead to accidents
- SB23. check for quality of scaffolding/working platform from all aspects of safety









Lay and fix tiles both horizontally & vertically on wall and floor

# **NOS Version Control**

NOS Code	CON/N0115		
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











Apply grouts and sealants for flooring and cladding works

# National Occupational Standard



# **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in using grouts to seal joints for tile, stone, marble and granite for flooring and cladding works.



# National Occupational Standards





CON/N0116

**Unit Code** 

### Apply grouts and sealants for flooring and cladding works

CON/N0116

Unit Title (Task)	Apply grouts and sealants for flooring and cladding works	
Description	This unit describes the skills & knowledge required to check for voids and use of grouts to seal joints for tile, stone, marble and granite for flooring and cladding works	
Scope	<ul> <li>Carry out preparatory work for grouting of tile, stone, marble and granite works</li> <li>Check the materials used for grouting and sealing</li> <li>Apply grout and sealant to seal the void or gap between the tiles, stones, marble &amp; granite</li> <li>Check for line, level &amp; alignment</li> </ul>	
Performance Criteria (	PC) w.r.t. the Scope	
Element	Performance Criteria	
Carry out preparatory work for grouting of tile, stone, marble and granite works	To be competent, the user/individual on the job must be able to:  PC1. read and interpret the working drawings / sketches prior to commencement of work  PC2. ensure curing of placed stone, marble & granite tiles  PC3. ensure joints of tiles are free from debris & carry out vacuum cleaning of the grout lines  PC4. remove thoroughly old grouting compound with appropriate tools prior to re-grouting on old surface  PC5. prepare different types of grouts as per surface requirements and manufacturer's specifications	
Check the materials used for grouting and sealing	PC6. check grout material is of approved color and shade & as per pattern PC7. check that grout material is of approved type (sanded, un sanded, ) as per design/pattern requirements	
Apply grout and sealant to seal the void or gap between the tiles, stones, marble & granite	<ul> <li>PC8. apply the grout between grout lines/joints using appropriate tool</li> <li>PC9. press the grout into the joint using appropriate tools and technique</li> <li>PC10. handle grout float edge appropriately &amp; prevent it from digging into grout lines</li> <li>PC11. use appropriate amount of penetrating sealant on the stones prior to fixing as per applicability</li> <li>PC12. remove excess grout from the surface to avoid any grout haze on the surface</li> <li>PC13. check &amp; ensure that the grout was cured prior to application of sealant</li> <li>PC14. polish the surface after application of grout in case of epoxy grouts for better aesthetics and smoother joints</li> </ul>	









Apply grouts and sealants for flooring and cladding works

PC15. add additive to cementations grouts as a substitute for water as per specification  PC16. ensure proper care is taken for moisture sensitive and light colored natural stones to prevent strain ingress  PC17. ensure proper protective layer at the corners(tile trims/strips) of tiled surfaces  Check for line, level  PC18. check and provide required level and specified slope	
& alignment	PC19. check vertical and horizontal alignment using appropriate tools
Knowledge and Ur	nderstanding (K)
A. Organizational Context (Knowledge of the company / organization and its processes)	<ul> <li>The user/individual on the job needs to know and understand:</li> <li>KA1. standard practices grouting works</li> <li>KA2. safety rules and regulation for handling and storing required grouting tools, equipment and materials</li> <li>KA3. personal protection including the use of related safety gears &amp; equipments</li> <li>KA4. how to request tools and materials as per set procedures</li> <li>KA5. maintenance of tools and equipments</li> </ul>
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. simple sketches for tiling works  KB2. basic principles of measurement  KB3. standard specification of all grouting tools and materials along with their care and maintenance  KB4. manufacturers' instructions on grout suitability, mixing, curing and application to ensure optimum performance  KB5. how to select and use tools and equipment such as:  • measuring tape/rule, trowels, grout floats, surface cleaning sponges  KB6. different types of grouts used for respective tiles /stones including:  • cement based grout: Sanded / Non Sanded  • epoxy based grout  KB7. different types of process used to prepare the respective grouts for tiles and stones  KB8. standard procedure applicable for the application of grouts on the vertical or the horizontal surface  KB9. different types of liquid polymeric additives (mostly blends of acrylics and latex) added to cementations grout and their effect  KB10. how to match grout with approved color and shades, as per design
Skills (S)	
	Writing Skills









Apply grouts and sealants for flooring and cladding works

	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
A. Core Skills/	SA3. read sketches provided by the superior to do grouting work
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 language, preferably one of the local language at the
	site
	SA7. listen and follow instructions communicated by supervisors
	SA8. orally and efficiently communicate with team member
	Decision Making
	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 material and tools are available for performing the work
	Plan and Organise
	The user/individual on the job needs to know and understand how to:
	SB3. plan work & organize required resource in coordination with team members
B. Professional	and superior
Skills	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. rectify the setting/alignment or level of surface post completion of grouting
	works
	SB6. resolve and solve any conflict within the team
	SB7. highlight to the superiors in case any corrective action is required during the
	grouting work
	Analytical Thinking









## Apply grouts and sealants for flooring and cladding works

5110	Apply grouts and scalants for flooring and clauding works
	The user/individual on the job needs to know and understand how to:
	SB8. optimize resources efficiently
	SB9. minimize wastage in the workplace
	SB10. reconcile material consumption
	SB11. assess quantity and quality of materials for day work
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB12. evaluate the complexity of the task and seek assistance and support wherever required
	SB13. bring to the notice of the superiors any requirement of the requisite resources
	SB14. bring to the notice of the superiors violation of any safety norms which
	may lead to accidents









Apply grouts and sealants for flooring and cladding works

# **NOS Version Control**

NOS Code	CON/N0116		
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











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

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.		
The scope covers the following:		
<ul> <li>Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams</li> <li>Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task</li> </ul>		
PC) w.r.t. the Scope		
Performance Criteria		
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		
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		
derstanding (K)		
<ul> <li>The user/individual on the job needs to know and understand:</li> <li>KA1. own roles and responsibilities</li> <li>KA2. importance of effective communication and establishing strong working relationships with co-workers</li> <li>KA3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.</li> <li>KA4. different modes of communication, and its appropriate usage</li> <li>KA5. importance of creating healthy and cooperative work environment among</li> </ul>		









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

В. Т	Гесhnical	The user/individual on the job needs to know and understand:		
K	Knowledge	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		
S	Skills (S) [Optiona			
		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		
А. С	Core Skills/	SA3. read communication from team members regarding work completed,		
C	Generic Skills	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:		
		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-		
		workers regarding team requirements or interfaces during work processes		
		SA6. orally communicate with co-workers regarding support required to		
		complete the respective work		
		Decision Making		
		The user/individual on the job needs to know and understand how to:		
В. Р	Professional	SB1. decide on what information is to be shared with co-workers within the team		
	Skills	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		









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

8001	Work effectively in a team to deliver desired results at the workplace
	Customer centricity
	The user/individual on the job needs to know and understand how to:
	SB3. complete all assigned task in coordination with team members
	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









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

# **NOS Version Control**

NOS Code	CON/N8001		
Credits (NSQF)	TBD	Version number	1.0
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





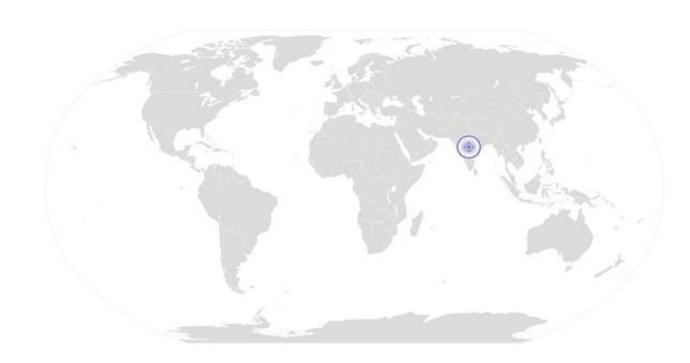






Plan and organize work to meet expected outcomes

# 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			
Uni	t Code	Plan and organize work to meet expected outcomes		
Uni (Ta	t Title sk)			
Des	scription	This unit describes the knowledge and the skills required for an individual to plan and organize own work in order to meet expected outcome.		
		This scope covers the following:		
Sco	ppe	<ul> <li>Prioritize work activities to achieve desired results</li> <li>Organize desired resources prior to commencement of work</li> </ul>		
Per	formance Criteria (	PC) w.r.t. the Scope		
Ele	ment	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		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		
Organize desired resources prior to commencement of work  PC9. use resources in an optimum manner to avoid any unneces PC10. employ tools, tackles and equipment with care to avoid d same  PC11. organize work output, materials used, tools and tackles 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		
	Knowledge and Understanding (K)			
	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		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)		
	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	
A. Core Skills/ Generic 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	
	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	23/03/2015		
Occupation	Masonry	Next review date	23/03/2017		











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	<ul> <li>Follow safety norms as defined by organization</li> <li>Adopt healthy &amp; safe work practices</li> <li>Implement good housekeeping and environment protection process and activities</li> </ul>					
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					









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

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 U	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. 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	









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

	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.
	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
B. Professional	The user/individual on the job needs to know and understand how to:
Skills	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			
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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 RoleMason TilingQualification 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 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/N0115: Lay and fix tiles both horizontally & vertically on wall,	PC1. read and interpret working sketches prior to laying of tiles		2.5	0.5	2
	PC2. install button marks / level pads as per the tiling requirements using common reference line		1.25	0.25	1









floor and roof surfaces	<ul> <li>PC3. check the basic attributes of the base surface for: <ul> <li>compactness</li> <li>squareness or right angle</li> <li>slope or fall (in case of floors)</li> <li>surface plane</li> <li>hacking on surfaces (in case of RCC structure &amp; walls)</li> <li>completion of embedded surfaces (including MEP</li> </ul> </li> </ul>	100	1.25	0.25	1
	PC4. clean and wet base surfaces with water jets (except wood/vinyl )for better adhesion of tiles		1.25	0.25	1
	PC5. soak tiles in water as per manufacturer's specification, if required		1.25	0.25	1
	PC6. prepare various surfaces as per requirement for different types of tiles such as:  • Masonry plastered surface  • Reinforced concrete surface  • High Precision Concrete Block  • Timber/vinyl surface		2.25	0.5	2
	PC7. check for basic attributes of the tiles like color, shade, size and squareness before commencement of work		2.5	0.5	2
	PC8. check batch number of all tiles to be used in order to avoid variations in shade, color or pattern		1.25	0.25	1
	PC9. ensure that any protective layer on the tiles is removed prior to use		1.25	0.25	1
	PC10. check for any damages / cracks on the tiles prior to use		2.5	0.5	2
	PC11. ensure tiles are cleaned appropriately prior to fixing		2.5	0.5	2
	PC12. carry out proper marking before cutting tiles to required shape and size		5	1	4
	PC13. cut tiles as per the design /pattern specifications using appropriate tools to fit around obstacles & into odd spaces & corners		10	2	8
	PC14. minimize wastage of tiles		5	1	4
	PC15. specify the centre-point or starting point of the surface for tiling as per working drawings/sketches		4	1	3
	PC16. ensure the following is prepared as per specifications / requirements of tiling works:  • bed mortar (as per specification)  • cement slurry		4	1	3









	cement paste				
	adhesives				
	dunesives				
	PC17. identify the laying position of tiles as per arrow marks on the tile box		2.5	0.5	2
	PC18. maintain consistency of batch number of all tiles		2.5	0.5	2
	-		2.3	0.5	۷
	PC19. prepare a bedding of appropriate thickness to act as base for fixing tiles		5	1	4
	PC20. apply & spread cement mortar, mastic, glue or other adhesives on the base of tile using appropriate tools for fixing tiles		5	1	4
	PC21. install roof tiles by bedding and pointing in cement mortar or by mechanical means		5	1	4
	PC22. check for hollowness of tiled surface using wooden mallet		3.5	0.5	3
	PC23. put spacers between tiles (if required) to minimize imperfections		3.5	0.5	3
	PC24. protect the tiled area from damage during & after fixing of tiles		1.5	0.5	1
	PC25. provide tile trims and strips at corner joints as per requirement		3.5	0.5	3
	PC26. check and provide required level and specified slope prior to and after tiling		5.25	1.25	4
	PC27. check vertical and horizontal alignment using appropriate tools during and after tiling		10	2	8
	PC28. set out 90° corners using builders square or 3-4-5 method and check right angle		5	1	4
		Total	100	20	80
	PC1. read and interpret the working drawings / sketches prior to commencement		3	1	2
	of work  PC2. ensure curing of placed stone, marble & granite tiles		1.5	0.5	1
CON/N0116:	PC3. ensure joints of tiles are free from debris & carry out vacuum cleaning of the grout lines		2.5	0.5	2
Apply grouts and sealants for flooring and	PC4. remove thoroughly old grouting compound with appropriate tools prior to re-grouting on old surface		3.5	0.5	3
cladding works	PC5. prepare different types of grouts as per surface requirements and manufacturer's specifications		4.5	0.5	4
	PC6. check grout material is of approved color and shade & as per pattern		7.5	1.5	6
	PC7. check that grout material is of approved type (sanded, un sanded, ) as per design/pattern requirements		1.5	1.5	6









	PC8. apply the grout between grout lines/joints using		8	4	4
	appropriate tool		δ	4	4
	PC9. press the grout into the joint using appropriate		8	4	4
	tools and technique		O	4	4
	PC10. handle grout float edge appropriately & prevent				
	it from digging into grout		5	1	4
	lines				
	PC11. use appropriate amount of penetrating sealant		5	1	4
	on the stones prior to fixing as per applicability		3		7
	PC12. remove excess grout from the surface to avoid		5	1	4
	any grout haze on the surface				,
	PC13. check & ensure that the grout was cured prior		5	1	4
	to application of sealant	100			·
	PC14. polish the surface after application of grout in	100			
	case of epoxy grouts for better aesthetics and		5	1	4
	smoother joints				
	PC15. add additive to cementations grouts as a		5	1	4
	substitute for water as per specifications				
	PC16. ensure proper care is taken for moisture		_	1	4
	sensitive and light colored natural		5	1	4
	stones to prevent strain ingress				
	PC17. ensure proper protective layer at the corners(tile trims/strips) of tiled surfaces		5	1	4
	PC18. check and provide required level and specified				
	slope		10	2	8
	PC19. check vertical and horizontal alignment using			_	_
	appropriate tools		10	2	8
		Total	100	20	80
	PC1. pass on work related information/ requirement		10	2	8
	clearly to the team members				
	PC2. inform co-workers and superiors about any kind		5	1	4
	of deviations from work				
	PC3. address the problems effectively and report if		5	1	4
CON/N8001:	required to immediate supervisor appropriately		_		
Work effectively	PC4. receive instructions clearly from superiors and		5	1	4
in a team to	respond effectively on same	100		-	
deliver desired results at the	PC5. communicate to team members/subordinates for appropriate work technique and method		5	1	4
workplace	PC6. seek clarification and advice as per requirement				
workhiace	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			<u> </u>	
	manner		30	6	24
		Total	100	20	80
CON/N8002: Plan	PC1. understand clearly the targets and timelines set				
and organize	by superiors		10	2	8
work to meet					









ovnostod	DC2 plan activities as per schedule and sequence				
expected outcomes	PC2. plan activities as per schedule and sequence		10	2	8
outcomes	PC3. provide guidance to the subordinates to obtain				
	desired outcome		10	2	8
	PC4. plan housekeeping activities prior to and post		40	2	0
	completion of work		10	2	8
	PC5. list and arrange required resources prior to		10	2	8
	commencement of work		10	2	0
	PC6. select and employ correct tools, tackles and		10	2	8
	equipment for completion of desired work			_	
	PC7. complete the work with allocated resources		10	2	8
	PC8. engage allocated manpower in an appropriate		10	2	8
	manner		10		
	PC9. use resources in an optimum manner to avoid		5	1	4
	any unnecessary wastage				
	PC10. employ tools, tackles and equipment with care		5	1	4
	to avoid damage to the same  PC11. organize work output, materials used, tools and				
	tackles deployed		5	1	4
	PC12. processes adopted to be in line with the				
	specified standards and instructions		5	1	4
		Total	100	20	80
	PC1. identify and report any hazards, risks or breaches	1 0 00.1			
	in site safety to the appropriate authority				
			5	1	4
	PC2. follow emergency and evacuation procedures in		5	1	4
	case of accidents, fires, natural calamities		,	1	+
	PC3. follow recommended safe practices in handling				
	construction materials including chemical and		10	2	8
	hazardous material whenever applicable				
CON/N9001:	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills,		5	1	4
Work according to personal	conducted at site		3	1	4
health, safety and	PC5. identify near miss , unsafe condition and unsafe				
environment	act		5	1	4
protocol at	PC6. use appropriate Personal Protective Equipment				
construction site	(PPE) as per work requirements including:				
	Head Protection (Helmets)				
	Ear protection				
	Fall Protection		10	2	8
	Foot Protection				
	Face and Eye Protection,				
	Hand and Body Protection				
	Respiratory Protection (if required				
	PC7. handle all required tools, tackles, materials &		5	1	4
	equipment safely				









PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS		5	1	4
guidelines				
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