

QUALIFICATIONS PACK- OCCUPATIONAL STANDARDS FOR PLUMBING

What are Occupational Standards(OS)?

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

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Introduction

Qualifications Pack – Plumber (Welder)

SECTOR: PLUMBING INDUSTRY

SUB-SECTOR: Contractors

OCCUPATION: Plumbing

REFERENCE ID: PSC/Q0105

ALIGNED TO: NCO-2004/7212.10

Plumber (Welder): Plumber (Welder) is an important job role in welding activities related to plumbing systems in 'contractors' segment.

Brief Job Description: A Plumber (Welder) is responsible for welding activities related to plumbing works in housing, commercial and institutional setups.

Personal Attributes: He should be able to work independently on his assignment. He should be comfortable in performing laborious work. He should be a good listener. He should be good at taking and following instructions. He should be a good team player. He should be result oriented and positive in attitude.

Job Details	Qualifications Pack Code	PSC/Q0105		
	Job Role	Plumber (Welder)		
	Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	0.1
	Sector	Plumbing	Drafted on	30/08/13
	Sub-sector	Contractors	Last reviewed on	12/09/13
	Occupation	Plumbing	Next review date	31/03/14

Job Role	Plumber (Welder)
Role Description	Responsible for welding activities related to plumbing works in housing, commercial and institutional setups.
NVEQF/NVQF level	3
Minimum Educational Qualifications*	5 th (To be revised to 10 th post 31 st December, 2017)
Maximum Educational Qualifications*	N.A.
Training (Suggested but not mandatory)	On-the-job training.
Experience	In lieu of minimum qualification the employee has worked as a semi-skilled helper for minimum 2 years in the same role.
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> PSC/ N 0114 (Joining piping materials and fixtures by using different welding techniques) PSC/ N 0108 (Coordinating with the senior and other working team) PSC/ N 0109 (Maintain a healthy, safe and secure working environment) <p>Optional:</p> <ol style="list-style-type: none"> N.A.
Performance Criteria	As described in the relevant OS units

Definitions

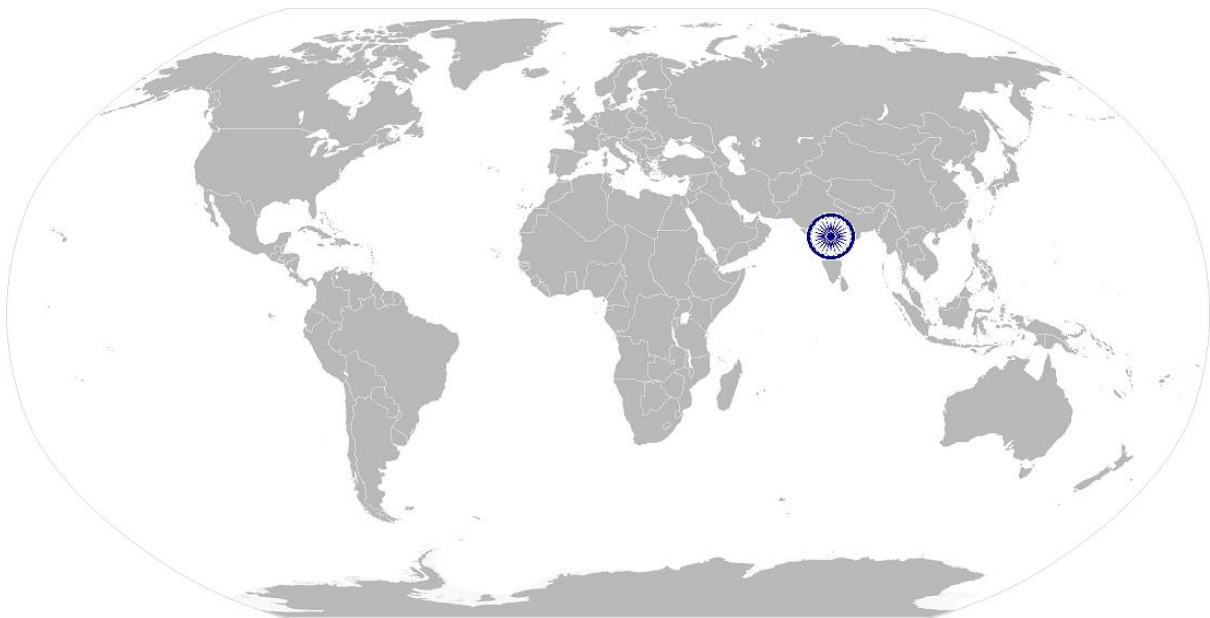
Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further 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.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
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 that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an Occupational Standard , which is denoted by an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
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 or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.

Acronyms	Keywords /Terms	Description
	IPSC	Indian Plumbing Skills council
	NOS	National Occupational Standards
	NSQF	National Skills Qualification Framework
	NVEQF	National Vocational Educational Qualification Framework
	NVQF	National Vocational Qualification Framework
	OS	Occupational Standards
	PC	Performance Criteria
	QP	Qualification Pack
SSC	Sector Skills Council	



PSC/N0114 Joining piping materials and fixtures by using different welding techniques

National Occupational Standard



Overview

This unit is about carrying out welding tasks in plumbing projects.



PSC/N0114 Joining piping materials and fixtures by using different welding techniques

National Occupational Standard

Unit Code	PSC/N0114
Unit Title (Task)	Joining piping materials and fixtures by using different welding techniques
Description	This OS unit is about carrying out welding tasks in plumbing projects
Scope	<p>This unit/task covers the following:</p> <p>Pre-welding activity</p> <ul style="list-style-type: none"> planning of activities required for the task activities related to assembling of materials, tools and equipment <p>Welding activity</p> <ul style="list-style-type: none"> positioning of piping, fittings and valves for welding joining piping, fittings and valves using a welding equipment <p>Post-welding activity</p> <ul style="list-style-type: none"> shutting down of the equipment clearing the work area and disposition of waste
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Pre-welding	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. follow the relevant joining procedure</p> <p>PC2. check that joint preparation is as per the specification</p> <p>PC3. assemble welding and jointing tools and equipment</p> <p>PC4. prepare or assemble material required for the task</p>
Welding	<p>PC5. make the joints as specified using the appropriate welding technique</p> <p>PC6. produce joints of the required quality</p> <p>PC7. produce joints of specified dimensional accuracy</p>
Post-welding	<p>PC8. shut down the equipment to a safe condition on completion of the task</p> <p>PC9. clear the work area and dispose the waste appropriately</p>
Knowledge and Understanding (K)	
A. Organizational Context	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's policies on: quality standards, weld standards, weld inspection, safety and hazards, integrity, dress code, etc.</p> <p>KA2. importance of the individual's role in the work flow</p> <p>KA3. risk and impact of not following defined procedures/work instructions</p> <p>KA4. how to handover/ takeover of the equipment / work area as per the instructions</p>



PSC/N0114 Joining piping materials and fixtures by using different welding techniques

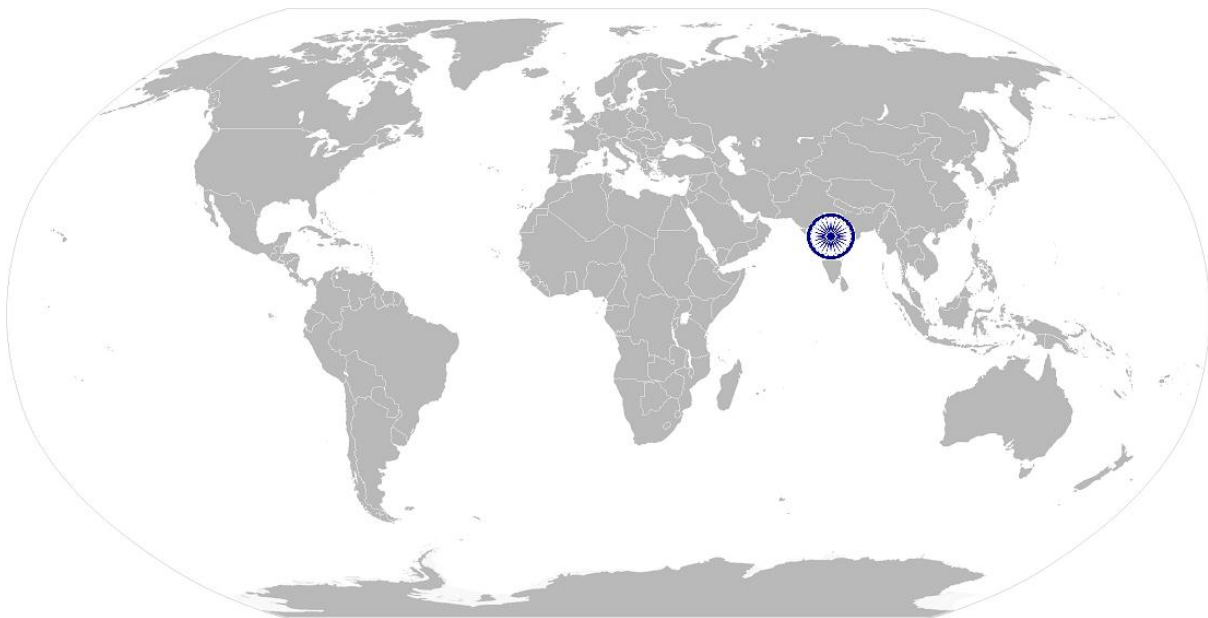
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. workplace and equipment safety requirements</p> <p>KB2. units of measurements</p> <p>KB3. basic terminology used in sanitary welding</p> <p>KB4. manual welding process selected and basic awareness of the different types of welding equipment</p> <p>KB5. consumables associated with the chosen welding process</p> <p>KB6. how to extract required information from drawings and welding procedure specifications</p> <p>KB7. how to calculate material requirements</p> <p>KB8. types and features of welded joints (single and multi-run welds, welding positions, weld quality, etc.)</p> <p>KB9. material disposal procedure and its importance</p> <p>KB10. safety procedure for electrical / welding activities</p> <p>KB11. post welding quality testing techniques</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Communication skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. communicate in Hindi / regional language</p> <p>Measurement/positioning skills</p> <p>SA2. perform simple mathematical calculations</p> <p>SA3. measure and mark positions as per instructions/specifications</p> <p>Teamwork</p> <p>SA4. share work load as required</p> <p>SA5. accept and interpret instructions and requirements correctly</p> <p>SA6. co-ordinate with co-workers and sub-ordinates</p>
<p>B. Professional Skills</p>	<p>Use of tools and machines</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. identify and use tools and equipment like Welding sets, Welding Electrodes, Gas Cylinders, Welding & Cutting Implements, Goggles, Light duty welding gloves, Tip cleaners, Pliers, Spark lighter, Safety glasses, Ear Plugs, etc.</p> <p>SB2. maintain and repair tools and equipment</p> <p>Welding techniques</p> <p>SB3. carry out pre-welding work as per requirement/ specifications</p> <p>SB4. stack and store required materials and equipment appropriately at task site</p> <p>SB5. carry out welding work as per requirement/ specification/ instruction</p> <p>SB6. test jointed fittings and fixtures for proper functioning</p>



PSC/N0114 Joining piping materials and fixtures by using different welding techniques

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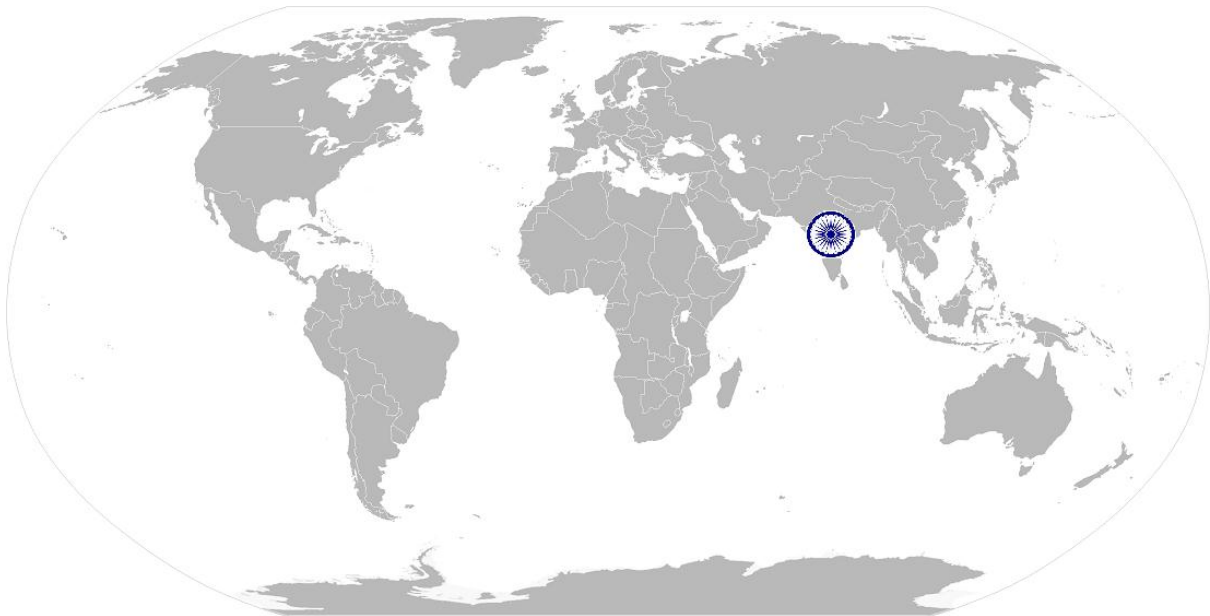
NOS Code	PSC /N0114		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	0.1
Industry	Plumbing	Drafted on	01/09/13
Industry Sub-sector	Contractors	Last reviewed on	30/10/13
		Next review date	30/04/14





PSC/N0108 Coordinating with the senior and other working team

National Occupational Standard



Overview

This unit is about team work and level of communication with colleagues or clients. It determines the ability to work as a team member, share work and multi-task in order to achieve the deliverables on schedule.




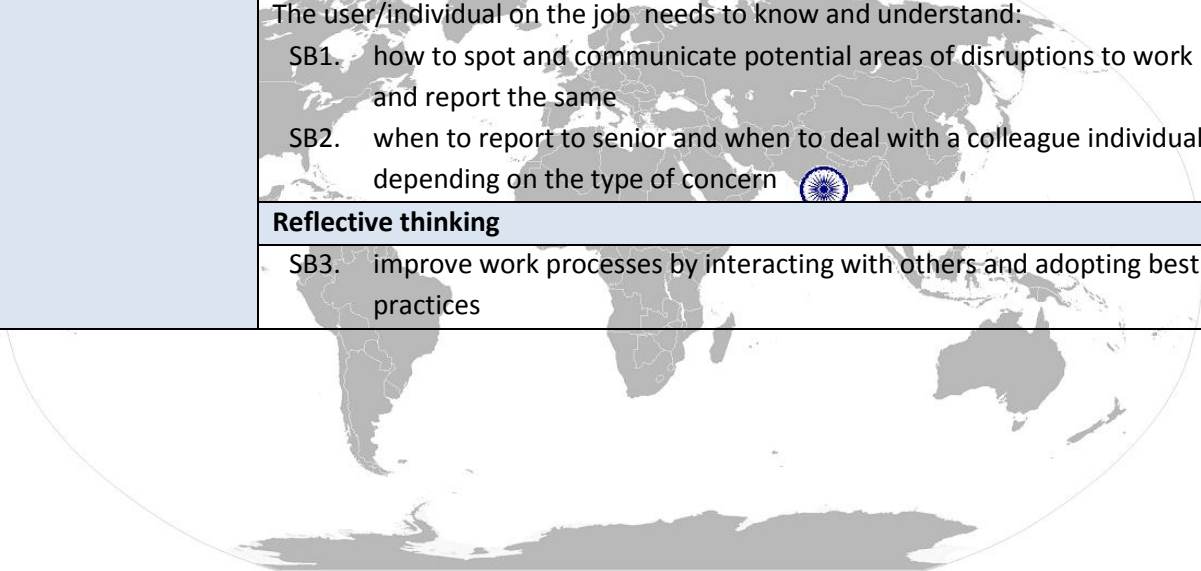
PSC/N0108 Coordinating with the senior and other working team

National Occupational Standard	Unit Code	PSC/N0108
	Unit Title (Task)	Coordinating with the senior and other working team
	Description	This OS unit is about communicating with colleagues and seniors in order to achieve smooth and hazard free work flow
	Scope	<p>This unit/task covers the following:</p> <p>Interact with senior</p> <ul style="list-style-type: none"> • receive work instructions, discuss task status and receive feedback <p>Interact with colleagues within and outside the team</p> <ul style="list-style-type: none"> • communicate and discuss work flow, problems faced, possible solutions and pass on the learning within and outside the team
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Interaction with senior	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. receive work instructions and raw materials from reporting senior</p> <p>PC2. communicate to reporting senior about task status, repairs and maintenance of tools and equipment as required</p> <p>PC3. communicate any potential hazards and expected process disruptions</p> <p>PC4. handover completed task to reporting senior</p> <p>PC5. receive feedback from reporting senior</p> <p>PC6. report any anticipated reasons for delays</p>
	Interact with colleagues within and outside the team	<p>PC7. work as a team with colleagues and share work as per the work load and skills</p> <p>PC8. work with colleagues of other teams</p> <p>PC9. communicate and discuss work flow related difficulties in order to find solution with mutual agreement</p> <p>PC10. taking instructions from the reporting senior</p> <p>PC11. report problem/incident etc.</p> <p>PC12. put team over individual goals</p> <p>PC13. resolve conflicts</p>
	Knowledge and Understanding (K)	
	A. Organizational Context	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's policies on: preferred language of communication, quality delivery standards and personnel management</p> <p>KA2. reporting structure</p>



PSC/N0108 Coordinating with the senior and other working team

B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. effective ways of communication KB2. building team co-ordination
Skills (S)	
A. Core Skills/ Generic Skills	Communication skills
	The user/individual on the job needs to know and understand how to: SA1. communicate in Hindi / regional language
	Teamwork
	SA2. share work load as required SA3. accept and interpret instructions and requirements correctly SA4. co-ordinate with co-workers and sub-ordinates
B. Professional Skills	Decision making
	The user/individual on the job needs to know and understand: SB1. how to spot and communicate potential areas of disruptions to work process and report the same SB2. when to report to senior and when to deal with a colleague individually, depending on the type of concern 
	Reflective thinking
	SB3. improve work processes by interacting with others and adopting best practices

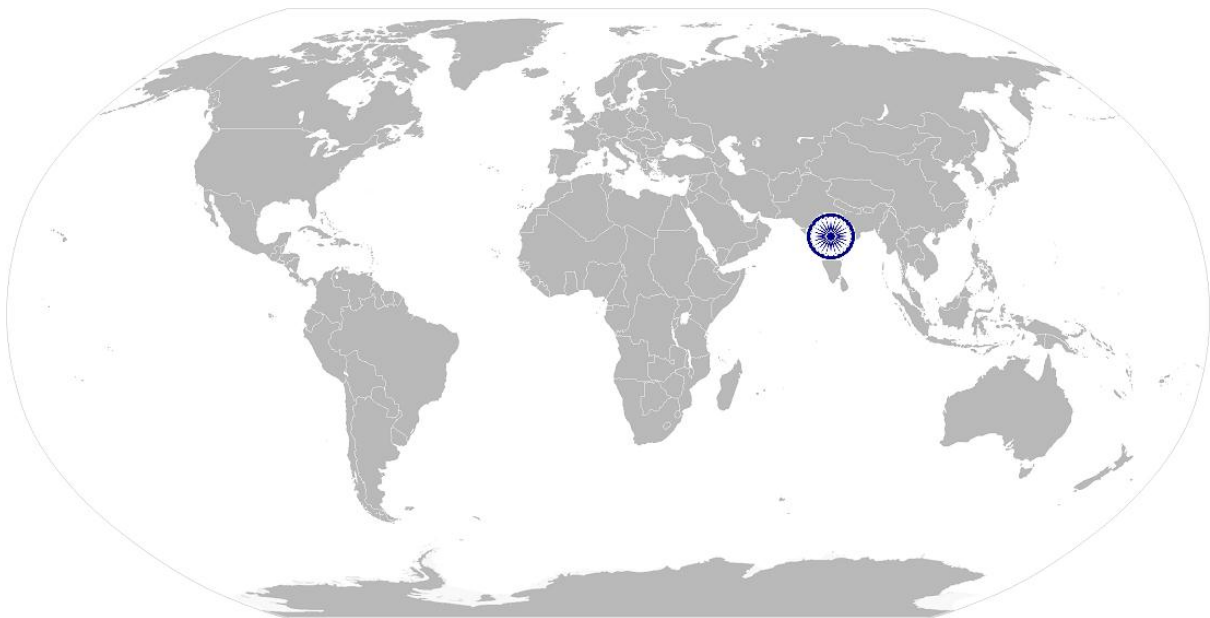




PSC/N0108 Coordinating with the senior and other working team

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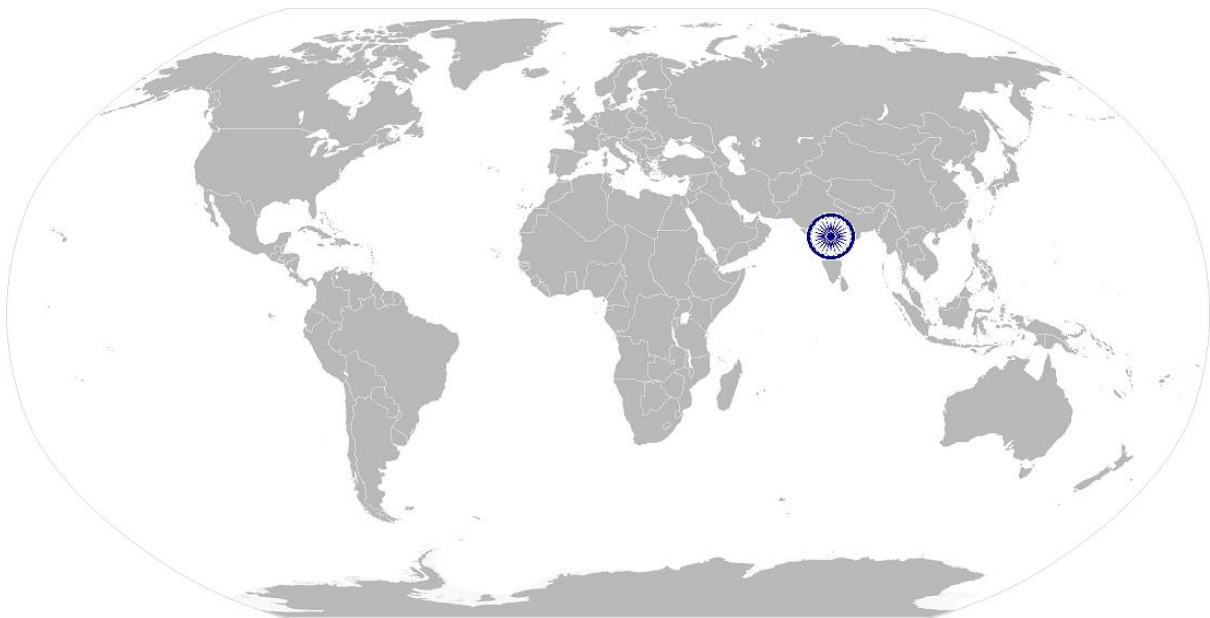
NOS Code	PSC/N0108		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	0.1
Industry	Plumbing	Drafted on	15/07/13
Industry Sub-sector	Contractors	Last reviewed on	30/07/13
		Next review date	31/01/14





PSC/N0109 Maintain a healthy, safe and secure working environment

National Occupational Standard



Overview

This unit is about being aware of, communicating and taking steps towards minimizing potential hazards and dangers of accidents on the job and maintaining occupational health and safety.



PSC/N0109 Maintain a healthy, safe and secure working environment

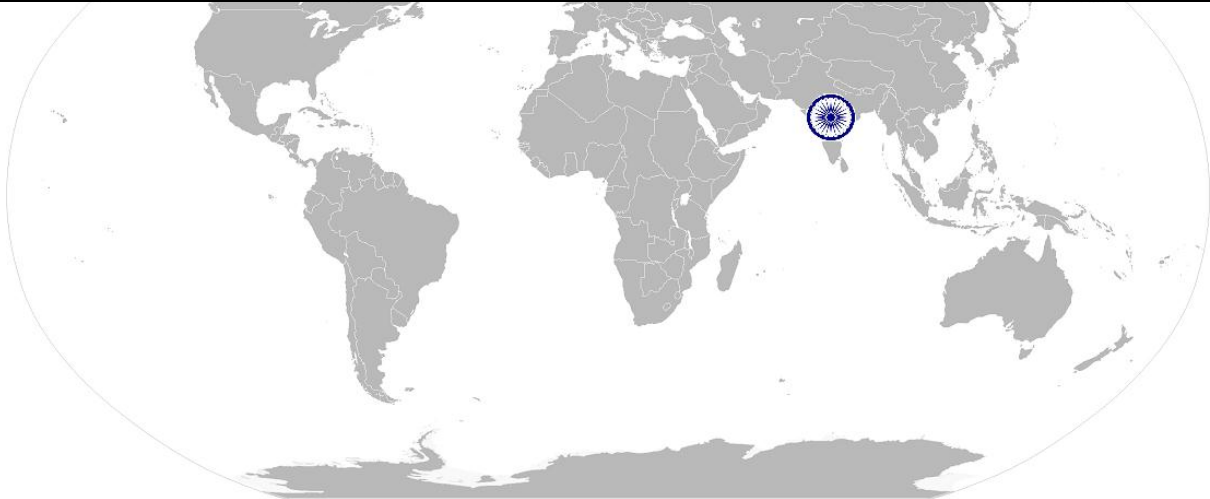
National Occupational Standard

Unit Code	PSC/N0109
Unit Title (Task)	Maintain a healthy, safe and secure working environment
Description	This OS unit is about monitoring your working environment and making sure it meets requirements for health and safety
Scope	<p>This unit/task covers the following:</p> <p>Communicate to reporting senior about</p> <ul style="list-style-type: none"> • process flow improvements that can reduce anticipated or repetitive hazards • mishandling of tools and equipment • electrical or any other problem at the construction site that could result in accident
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Communicating potential accident points	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. to avoid accidents related to use of sharp tools and equipment</p> <p>PC2. attend and actively participate in the health and safety campaigns organized by the company or any other authority</p>
Using safety gear and following healthy practices	<p>PC3. use or wear safety gear (helmet, gloves, goggles, safety shoes, ear plugs, etc.) as per the rules of the company</p> <p>PC4. attend fire drills or any other safety drills organized by the company or any other authority</p> <p>PC5. learn first-aid procedure</p> <p>PC6. use insect repellents and safe drinking water</p> <p>PC7. use site toilets and follow other hygienic practices</p> <p>PC8. understand the evacuation and emergency procedures</p>
Knowledge and Understanding (K)	
A. Organizational Context	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's policy on: safety and hazards and personnel management</p> <p>KA2. reporting structure</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. how to use tools and equipment without suffering any physical harm</p> <p>KB2. first-aid procedure</p> <p>KB3. diseases caused due use of unsafe water, biting of insects and following unhygienic practices</p> <p>KB4. evacuation and emergency procedures</p>



PSC/N0109 Maintain a healthy, safe and secure working environment

Skills (S)	
A. Core Skills/ Generic Skills	Communication skills
	The user/individual on the job needs to know and understand how to: SA1. effectively communicate the danger
	Organising skills
	SA2. keep all the tools in an organised manner so as to avoid accidents SA3. keep the work environment safe and clean
B. Professional Skills	Decision making
	The user/individual on the job needs to know and understand how to: SB1. report potential sources of danger SB2. follow prescribed procedure in the event of an accident SB3. wear appropriate safety gear to avoid an accident
	Reflective thinking
	SB4. learn from past mistakes regarding use of hazardous tools and equipment

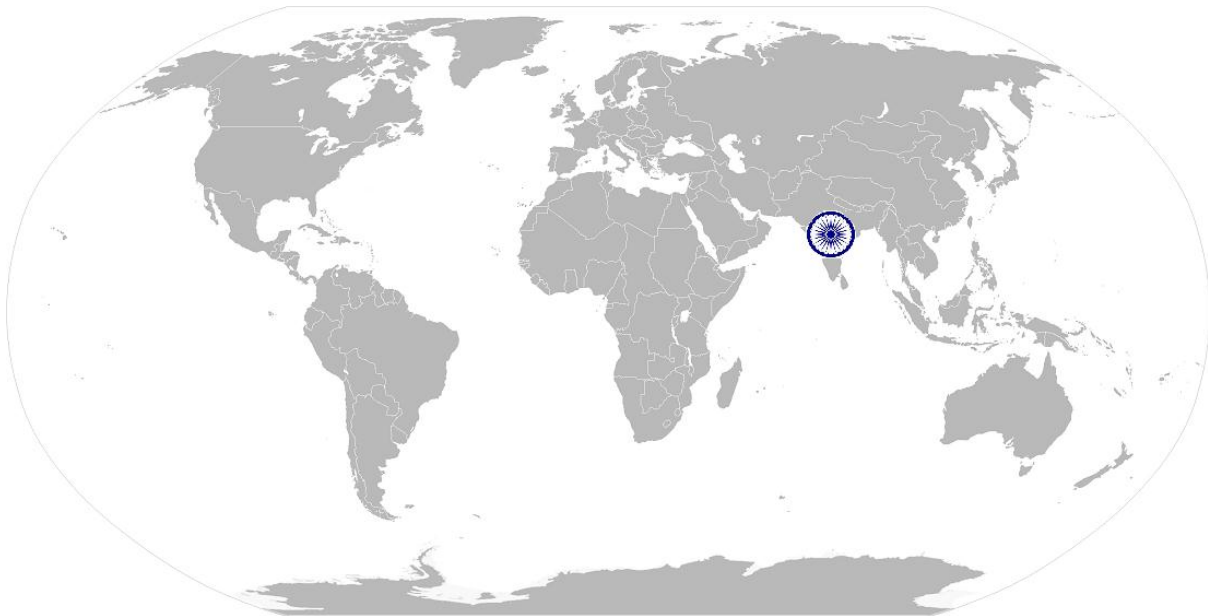




PSC/N0109 Maintain a healthy, safe and secure working environment

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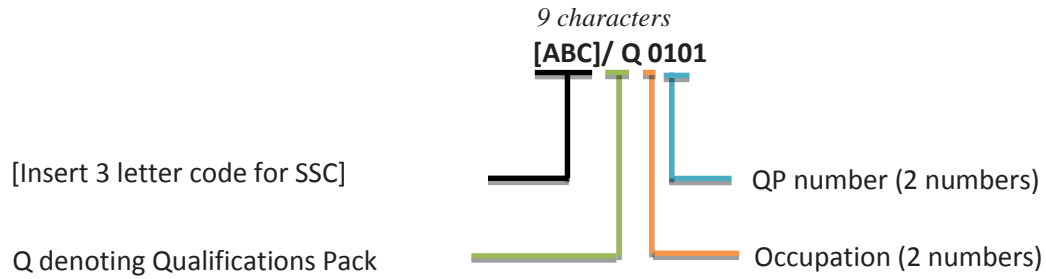
NOS Code	PSC /N0109		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	0.1
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Industry Sub-sector	Contractors	Last reviewed on	30/07/13
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Annexure

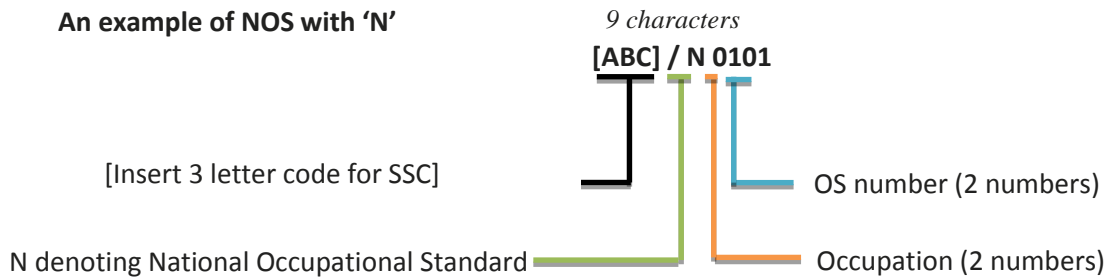
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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

Sub-sector	Range of Occupation numbers
Contractors	01-10
Consultants	11-20
Manufacturers	21-30

Sequence	Description	Example
Three letters	Industry name	PSC
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01