



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
- 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 – Assistant Construction Fitter

SECTOR: CONSTRUCTION

SUB-SECTOR: Real Estate and Infrastructure Construction

OCCUPATION: FABRICATION

REFERENCE ID: CON/Q1202

ALIGNED TO: NCO-2015/7214.0800

Brief Job Description: Assistant Construction Fitter provides assistance in fitup activities by placing, positioning and fixing different components after conducting proper measurements, markings and edge preparation under the supervision of trade senior.

Personal Attributes: The individual should be physically fit and mentally alert and safety conscious to be able to work across various locations in extreme weather/site conditions, preferably not suffering from any respiratory disorder, vision defects and skin allergies due to exposure to light and heat. The person must be able to perform efficiently within a team, handle the various fabrication tools and materials.

Job Details	Qualifications Pack Code	CON/Q1202		
	Job Role	Assistant Construction Fitter		
	Credits (NSQF)	TBD	Version number	2.0
	Sector	Construction	Drafted on	07/06/2015
	Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	06/07/2017
	Occupation	Fabrication	Next review date	06/07/2021
	NSQC Clearance on	22/08/2019		

Job Role	Assistant Construction Fitter
Role Description	To work as an Assistant Construction Fitter by identifying and using tools, tackles, consumables for fit-up of components to be fabricated, providing assistance and supporting in preparatory activities, and positioning of sections for fit-up under supervision.
NSQF level	3
Minimum Educational Qualifications	10 th standard
Maximum Educational Qualifications	Not Applicable
Prerequisite License or Training	
Minimum Job Entry Age	18 years
Experience	Non trained worker : 0-2 years site experience of working in fitup works Trained worker: 0-1 year site experience as a certified Helper – Fabrication
Applicable National Occupational Standards (NOS)	Compulsory: <ol style="list-style-type: none"> CON/N1203: Identify and mark structural elements to assist in the fitup of the same CON/N1204: Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components CON/N1205: Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up CON/N8001: Work effectively in a team to deliver results at a construction site CON/N9001: Work according to personal health, safety and environment protocol at construction site
Performance Criteria	As described in the relevant OS units

Definitions

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

Acronyms

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

CON/N1203

Identify and mark structural steel elements to assist in fit-up of the same

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in identifying and marking structural steel elements to assist in fit-up of the same

CON/N1203

Identify and mark structural steel elements to assist in fit-up of the same

National Occupational Standard

Unit Code	CON/N1203
Unit Title (Task)	Identify and mark structural steel elements to assist in fit-up of the same
Description	This unit describes the skills and knowledge required to identify and mark structural steel elements to assist in fit-up of the same
Scope	The scope covers the following: <ul style="list-style-type: none"> Identify the structural steel material for measurement and marking of fit-up
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Identify the structural steel material for measurement and marking of fit-up	To be competent, the user / individual on the job must be able to: <ul style="list-style-type: none"> PC1. identify and distinguish the materials based on their shape, size and thickness PC2. select materials as per requirements and instructions PC3. conduct liner measurements like length, width, diameter, using proper measuring tools like tapes, rulers, calipers etc. PC4. read and understand hand sketches to interpret fit up requirements PC5. place the sections, plates, pipes or tubes in position as per instructions PC6. mark on the surface of sections the position of bolts, plates or sections for fit up as per instructions PC7. recheck the markings w.r.t hand sketches to confirm its correctness PC8. report any undulations or bends encountered during measurements to superiors
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. request procedure for tools & materials KA2. housekeeping & other administrative rules KA3. information flow hierarchy and appropriate modes of communications as applicable on site
B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. different types of sections, plates etc. KB2. identification and use of different measuring instruments KB3. read and understand hand sketches/ drawings KB4. how to handle heavy materials KB5. safety hazards while working with heavy materials KB6. methods of measuring and marking KB7. correct procedures of tools and equipment usage for the grinding operations KB8. effect of different types and grades of grinding achievable by various tools to achieve required surface finish

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Identify and mark structural steel elements to assist in fit-up of the same

	KB9. personal protective equipment (PPE) and clothing that must be worn during the grinding activity and from where can it be obtained
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
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read one or more language, preferably in the local language of the site SA3. read instructions, guidelines, sign boards, safety rules & safety tags instruction related to exit routes during emergency at the workplace
	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 in one of the local languages of 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
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. decide upon the measuring instruments to be used for carrying out given set of measurements
	Plan and Organize
	The user/ individual on the job needs to know and understand how to: SB2. identify and use relevant tools effectively
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. complete work as per agreed time and quality
	Problem solving
	N.A
	Analytical Thinking
The user/individual on the job should know and understand how to: SB4. identify the marking to be checked in the hand sketch and refer the same	

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Identify and mark structural steel elements to assist in fit-up of the same

	<p>while checking the actual marking</p> <p>SB5. observe the gap between tape, line dori etc. and the metal surface during measurement to identify and locate any undulations</p>
	<p>Critical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p style="text-align: center;">N.A</p>

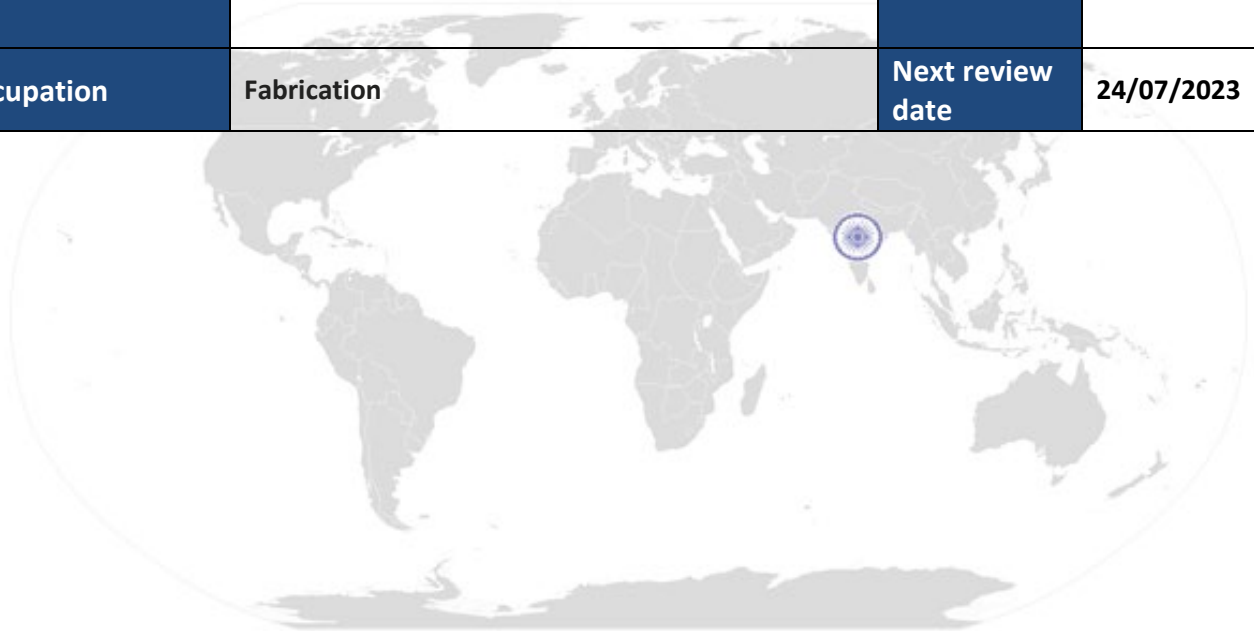


CON/N1203

Identify and mark structural steel elements to assist in fit-up of the same

NOS Version Control

NOS Code	CON/N1203		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/06/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Fabrication	Next review date	24/07/2023



CON/N1204 Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in identifying and using various tools, tackles and handling heavy materials used in fit-up of fabricated components.

CON/N1204 Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components

National Occupational Standard

Unit Code	CON/N1204
Unit Title (Task)	Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components
Description	This unit describes the skills and knowledge required to identify and use various tools, tackles and handle heavy materials used in fit-up of fabricated components
Scope	<p>The scope covers the following:</p> <ul style="list-style-type: none"> • Work according to standard health and safety requirements • Identify and use of tools & tackles to be used in fit-up • Shift structural steel sections to instructed locations
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Work according to standard health and safety requirements	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. identify any potential hazard in the work area related to own work and report the same to appropriate authority</p> <p>PC2. avoid any unsafe act by self particularly while working at site</p> <p>PC3. avoid wearing any loose clothing and preferably wear the yard jumpsuit or any other uniform issued at site</p> <p>PC4. select and correctly use personnel protective equipment as per work requirement</p> <p>PC5. dispose of any unwanted material from the work area as per instructions</p> <p>PC6. participate in safety drills organized at site</p> <p>PC7. participate in prep talks and tool box talks organized at site</p>
Identify and use of tools & tackles to be used in fit-up	<p>PC8. identify and use correct tools and tackles required for marking like scribes, dividers, punches etc.</p> <p>PC9. identify and use correct tool and tackle for liner and angular measurements like steel rule, tapes, angle gauges etc.</p> <p>PC10. identify and use correct tool and tackle for holding and tightening the metal pieces such as wrenches, vices, different types of clamps etc.</p> <p>PC11. identify and use correct tool for cutting and striking metal such as file, chisels, hammers etc.</p> <p>PC12. identify and use different types of lifting and shifting arrangements such as chain pulley blocks, trolleys etc.</p> <p>PC13. carry out basic upkeep of all hand tools and tackles</p>
Shift structural steel sections to instructed locations	<p>PC14. identify the material to be shifted</p> <p>PC15. check the access for any obstructions and report to concerned authority</p> <p>PC16. perform visual checks for good working condition of hand tools like sling, rope, clamp hook etc.</p> <p>PC17. anchor the structural member in its right position during lifting to avoid accidents, overturning of lifting machines</p>

CON/N1204 Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components

	<p>PC18. control position of suspended objects when being shifted by means of mobile hydraulic lifting equipment</p> <p>PC19. stack heavy objects appropriately as per standard practice</p>
Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. standard practices of construction fitting works</p> <p>KA2. safety rules and regulation for handling and storing required construction fitting tools, equipment and materials</p> <p>KA3. personal protection including the use of related safety gears & equipment</p> <p>KA4. how to request tools and materials as per set procedures</p> <p>KA5. maintenance of tools and equipment</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different hand and power tools available in market for fabrication activity</p> <p>KB2. application of commonly used hand and power tools used in fabrication shop</p> <p>KB3. selection and correct use of different tools and tackles as per the work requirement</p> <p>KB4. how to use the tools in optimized manner</p> <p>KB5. how to carry out basic maintenance of different hand and power tools</p> <p>KB6. tolerance limits and range of operation for all common hand and power tools</p> <p>KB7. ergonomic principles to carry loads</p> <p>KB8. tools and tackles to be used in basic rigging work</p> <p>KB9. standard practices regarding heavy material lifting and shifting</p> <p>KB10. safety measures to be taken while object to be shifted is in mobility</p> <p>KB11. correct posture of lifting equipment during lifting and shifting an object</p> <p>KB12. load lifting capacity of lifting equipment</p> <p>KB13. basic maintenance of load lifting equipment</p> <p>KB14. different hazards associated with fabrication activities</p> <p>KB15. types of fires and different fire safety equipment used</p> <p>KB16. safety evacuation points</p> <p>KB17. safety guidelines for working in a fabrication yard</p> <p>KB18. How to identify and dispose waste and scrape materials from the workplace</p>
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. write in at least one language, preferably in the local language of the site</p>
	<p>Reading Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. read in at least one language, preferably in the local language of the site</p>

CON/N1204 Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components

	SA3. read instructions, guidelines, sign boards, safety rules and safety tags SA4. 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: SA5. speak in one or more languages, preferably in one of the local languages of the site SA6. listen and follow instructions communicated by supervisors SA7. communicate orally and effectively with team member
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. decide the tool or instrument to be used for a particular task SB2. decide whether the selected tool requires repairs to perform intended task
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. plan self-work as per instructions given by superiors
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB4. ensure work is done within time and as per desired quality as per instructions provided by superiors
	Problem solving
	N.A
	Analytical Thinking
	N.A
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB5. check and confirm that the anchorage provided to the structural members is as per instructions to avoid accident while lifting

CON/N1204 Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components

NOS Version Control

NOS Code	CON/N1204		
Credits (NSQF)	TBD	Version number	1.1
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Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Fabrication	Next review date	24/07/2023





CON/N1205

Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in assisting in preparatory activities, edge preparation and positioning of steel sections for fit-up.

CON/N1205

Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

National Occupational Standard	Unit Code	CON/N1205
	Unit Title (Task)	Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up
	Description	This unit describes the skills and knowledge required to assist in preparatory activities, edge preparation and positioning of steel sections
	Scope	The scope covers the following: <ul style="list-style-type: none"> • Prepare fabrication platform before starting fit-up operations • Prepare the edges of the components of assemblies • Position and fix structural elements
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Prepare fabrication platform before starting fitup operations	To be competent, the user / individual on the job must be able to: <ul style="list-style-type: none"> PC1. clean the platform to remove any scrap metal PC2. dispose the scrap at the instructed location PC3. remove any temporary anchors, supports etc. installed previously for other fit up PC4. check all the tools and tackles for holding, tightening, striking etc. PC5. rearrange all jacks, clamps as per requirement PC6. clean the surface of the structural sections or components before starting the welding works PC7. clear the fabrication platform area so that there is no obstruction for shifting of components PC8. carry out layout of components/ sections on prepared fabrication platform from hand sketches PC9. carry out layout of components/ sections on prepared fabrication platform
	Prepare the edges of the components of assemblies	<ul style="list-style-type: none"> PC10. mark the positions of the edges to be prepared as per hand sketches and instructions PC11. read and understand hand sketches to interpret edge preparation requirements and confirm the same from superiors if required PC12. confirm the orientation of bevel and scallop from superiors PC13. operate the beveling machine if required for scalloping and beveling as per instructions PC14. follow all safety guidelines while operating beveling machine PC15. confirm that profile of bevel and scallop is as per instructions or work requirements PC16. identify any undulations or other faults in the section if any and report the same to superiors PC17. carryout jacking or striking operations as per instructions for removal of

CON/N1205

Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

	minor defects under close supervision
Position and fix structural elements	<p>PC18. place the structural component on the fabrication platform as per instructions</p> <p>PC19. ensure that position and orientation of the component is as per instruction</p> <p>PC20. check if the markings on the section are clearly visible prior to fixing the section</p> <p>PC21. check that material has been scalloped as per instructions or hand sketches</p> <p>PC22. check that edge preparation has been done as per instructions or hand sketches</p> <p>PC23. place and tighten the clamps at required positions to restrict the movement of section</p> <p>PC24. place other components post dimensional checking upon the fixed section as per requirements and tighten the required clamps</p> <p>PC25. adjust the fit-up precisely using striking, jacking or other methods as per instruction</p> <p>PC26. mark the locations for tack welds as required under supervision</p> <p>PC27. recheck the dimensions of the assembly post tack welding</p> <p>PC28. loosen the clamps or vices etc. to facilitate the removal of fitted section/ assembly</p> <p>PC29. attach proper ropes, belts etc. for lifting and shifting of material as per requirement</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. standard practices of construction fitting works</p> <p>KA2. safety rules and regulation for handling construction fitting tools</p> <p>KA3. personal protection including the use of related safety gears & equipment</p> <p>KA4. how to request tools and materials as per set procedures</p> <p>KA5. maintenance of tools and equipment</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. how to identify the scrap metal lying on the fabrication platform according to section and dimensions</p> <p>KB2. how and where to dispose of the scrap</p> <p>KB3. importance of housekeeping in relevance with fabrication activities</p> <p>KB4. introduction to fabrication terminologies like jacking, heating, job, etc.</p> <p>KB5. how to install temporary supports and clamps for restricting the movements of work pieces and holding the in position</p> <p>KB6. importance of clamps and its functions in fit-up work</p> <p>KB7. steps involved in removing the work pieces from the platform post fit-up</p> <p>KB8. basic concept of working principle of jacks (hydraulic and pneumatic) and respective uses</p> <p>KB9. technique of checking the workability of tools and tackles according to acceptance criteria</p> <p>KB10. how to identify obstructions for lifting</p> <p>KB11. how to read and interpret hand sketches and simplified fabrication</p>

CON/N1205

Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

	<p>drawings</p> <p>KB12. importance of proper orientation of work piece</p> <p>KB13. how to identify and know the steps to be taken to finish the surface before fitting</p> <p>KB14. the steps of checking the dimensions of the work pieces during fit-up</p> <p>KB15. importance of accurate fit-up</p> <p>KB16. know how's to accurate fit-up</p> <p>KB17. what is meant by welding shrinkage, its causes, and effects</p> <p>KB18. distortion control techniques and their areas of applications</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. write in at least one language, preferably in the local language of the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read in at least one language, preferably in the local language of the site SA3. read instructions, guidelines, sign boards, safety rules and safety tags SA4. 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: SA5. speak in one or more languages, preferably in one of the local languages of the site SA6. listen and follow instructions communicated by supervisors SA7. communicate orally and effectively with team member
	Decision Making
B. Professional Skills	The user/ individual on the job needs to know and understand how to: SB1. decide whether the surface of structural sections and components are suitably cleaned prior to initiating welding works
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. plan self-work as per instructions given by superiors
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. ensure work is done within time and as per desired quality as per instructions provided by superiors
	Problem solving

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Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

	SB4. check for undulations / faults in the section and report the same to superiors
	SB5. remove minor defects by carrying out jacking or striking operations under supervision
	Analytical Thinking
	SB6. confirm the orientation of job before carrying out edge preparation
	SB7. analyze the actions of self that may result in unsafe conditions
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB8. review the markings for edge preparation to confirm their compliance with given instructions



CON/N1205

Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up

NOS Version Control

NOS Code	CON/N1205		
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Industry	Construction	Drafted on	07/06/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Fabrication	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.

CON/N8001

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

National Occupational Standard

Unit Code	CON/N8001
Unit Title (Task)	Work effectively in a team to deliver desired results at the workplace
Description	This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.
Scope	<p>The scope covers the following:</p> <ul style="list-style-type: none"> 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 co-workers, superiors and sub-ordinates across different teams	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. pass on work related information/ requirement clearly to the team members</p> <p>PC2. inform co-workers and superiors about any kind of deviations from work</p> <p>PC3. address the problems effectively and report if required to immediate supervisor appropriately</p> <p>PC4. receive instructions clearly from superiors and respond effectively on the same</p> <p>PC5. communicate to team members/subordinates for appropriate work technique and method</p> <p>PC6. seek clarification and advice as per the requirement and applicability</p>
Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task	<p>PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams</p> <p>PC8. work together with co-workers in a synchronized manner</p>
Knowledge and Understanding (K)	

CON/N8001

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

<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. own roles and responsibilities KA2. importance of effective communication and establishing strong working relationships with co-workers KA3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc. KA4. different modes of communication, and its appropriate usage KA5. importance of creating healthy and cooperative work environment among the gangs of workers
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. different activities within his work area where an interaction with other workers are required KB2. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement KB3. importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timelines, safety, risks at the construction project site KB4. importance and need of supporting co-workers facing problems for smooth functioning of work
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA1. write in one or more languages, preferably in the local language of the site
	<p>Reading Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA2. read in one or more languages, preferably in the local language of the site SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA4. speak in one or more languages, preferably in one of the local languages of 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

CON/N8001

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

B. Professional Skills	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: 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	1.1
Industry	Construction	Drafted on	07/06/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Fabrication	Next review date	24/07/2023



CON/N9001 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.

CON/N9001 Work according to personal health, safety and environment protocol at construction site

National Occupational Standard	Unit Code	CON/N9001
	Unit Title (Task)	Work according to personal health, safety and environment protocol at construction site
	Description	This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site
	Scope	<p>The scope covers the following:</p> <ul style="list-style-type: none"> • 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	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority</p> <p>PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities</p> <p>PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable</p> <p>PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site</p> <p>PC5. select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline</p> <p>PC6. identify near miss, unsafe condition and unsafe act</p>
	Adopt healthy & safe work practices	<p>PC7. use appropriate Personal Protective Equipment (PPE) as per work requirements including:</p> <ul style="list-style-type: none"> • Head Protection (Helmets) • Ear protection • Fall Protection • Foot Protection • Face and Eye Protection, • Hand and Body Protection • Respiratory Protection (if required) <p>PC8. handle all required tools, tackles, materials & equipment safely</p> <p>PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines</p> <p>PC10. install and apply properly all safety equipment as instructed</p> <p>PC11. follow safety protocol and practices as laid down by site EHS department</p>

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	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 Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines KA2. types of safety hazards at construction sites KA3. basic ergonomic principles as per applicability
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. the procedure for responding to accidents and other emergencies at site KB2. 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: <ul style="list-style-type: none"> • 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

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	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA3. read in one or more languages, preferably in the local language of the site</p> <p>SA4. read sign boards, notice boards relevant to safety</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA5. speak in one or more languages, preferably in one of the local languages of the site</p> <p>SA6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk</p> <p>SA7. communicate reporting of site conditions, hazards, accidents, etc.</p>
B. Professional Skills	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. maintain safe conditions for others</p> <p>SB2. keep the workplace clean and tidy</p>
	<p>Plan and Organise</p>
	<p>N.A</p>
	<p>Customer centricity</p>
	<p>N.A</p>
	<p>Problem solving</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>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</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB4. assess and analyze areas which may affect health, safety and environment protocol on the site</p>
<p>Critical Thinking</p>	
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. ensure personal safety behavior</p> <p>SB6. respond to emergency</p>	

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NOS Version Control

NOS Code	CON/N9001		
Credits (NSQF)	TBD	Version number	1.4
Industry	Construction	Drafted on	07/06/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Construction Painting	Next review date	24/07/2023

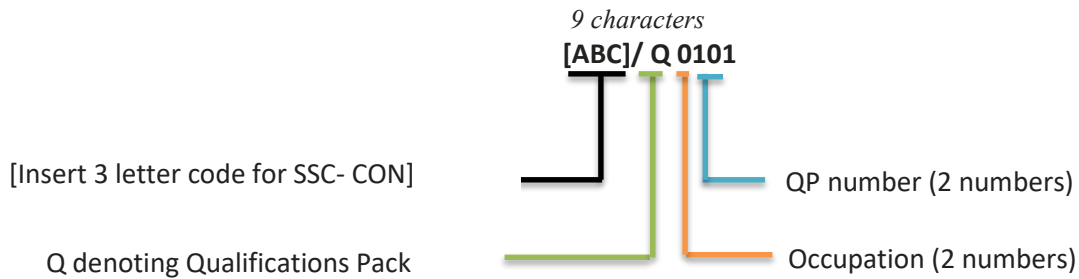


Assessment Criteria for Assistant Construction Fitter

Annexure

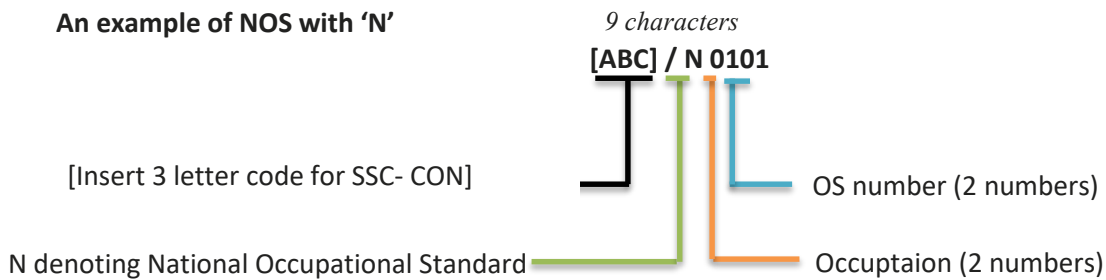
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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Assessment Criteria for Assistant Construction Fitter

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 QP or NOS	Q
Next two numbers	Occupation code	12
Next two numbers	OS number	01

Assessment Criteria for Assistant Construction Fitter

CRITERIA FOR ASSESSMENT OF TRAINEES

<u>Job Role</u>	Assistant Construction Fitter
<u>Qualification Pack</u>	CON/Q1202
<u>Sector Skill Council</u>	Construction

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC
3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.
5. The passing percentage for each QP will be 50%. To pass the Qualification Pack, every trainee should score a minimum of 50% individually in each NOS.
6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.
7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.
8. After the certain number of iterations 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.

Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Mark	Out Of	Theory	Skills Practical
CON/1203: Identify and mark structural steel elements to assist in fit-up of the same	PC1. identify and distinguish the materials based on their shape, size and thickness	100	100	30	70
	PC2. select materials as per requirements and instructions				
	PC3. conduct liner measurements like length, width, diameter, using proper measuring tools like tapers, rulers, calipers etc.				

Assessment Criteria for Assistant Construction Fitter

	PC4. read and understand hand sketches/ drawings to interpret fit up requirements							
	PC5. place the sections, plates, pipes or tubes in position as per instructions							
	PC6. mark on the surface of sections the position of bolts, plates or sections for fit-up as per instruction							
	PC7. recheck the markings w.r.t hand sketches/ drawings to confirm its correctness							
	PC8. report any undulations or bends encountered during measurements to superiors							
	Total		100	30	70			
CON/N1204: Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components	PC1. identify any potential hazard in the work area related to own work and report the same to appropriate authority	100	26	9	17			
	PC2. avoid any unsafe act by self particularly while working at site							
	PC3. wear the yard jumpsuit or any other uniform issued at site and not wear any loose clothing							
	PC4. select and correctly use personnel protective equipment as per work requirement							
	PC5. dispose of any unwanted material from the work area as per instructions							
	PC6. participate in safety drills organized at site							
	PC7. participate in perp talks and tool box talks organized at site		50	16	34			
	PC8. identify and use correct tools and tackles required for Marking like scribes, dividers, punches etc.							
	PC9. identify and use correct tool and tackle for liner and angular measurements like steel rule, tapes, angle gauges etc.							
	PC10. identify and use correct tool and tackle for holding and tightening the metal pieces such as wrenches, vices, different types of clamps etc.							
	PC11. identify and use correct tool for cutting and striking metal such as file, chisels, hammers etc.							
	PC12. identify and use different types of lifting and shifting arrangements such as chain pulley blocks, trolleys etc.							
	PC13. carry out basic upkeep of all hand tools and tackles							
	PC14. identify the material to be shifted							
	PC15. check the access if any obstructions and report to concerned authority					24	7	14
	PC16. perform visual checks for good working condition of hand tools like sling, rope, clamp							

Assessment Criteria for Assistant Construction Fitter

	hook etc.				
	PC17. anchor the structural member in its right position during lifting to avoid accidents, overturning of lifting machines.				
	PC18. control position of suspended objects when being shifted by means of mobile hydraulic lifting equipment's.				
	PC19. stack heavy objects appropriately as per standard practice				
		Total	100	30	70
CON/N1205: Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up	PC1. clean the platform to remove any scrap metal	100	31	12	19
	PC2. dispose the scrap at instructed location				
	PC3. remove any temporary anchors, supports etc. installed previously for other fit-up				
	PC4. check all the tools and tackles for holding, tightening, striking etc.				
	PC5. rearrange all jacks, clamps as per requirement				
	PC6. clean the surface of the structural sections or components before starting the welding works				
	PC7. clear the fabrication platform area so that there is no obstruction for shifting of components				
	PC8. carry out layout of components/ sections on prepared fabrication platform from hand sketches				
	PC9. mark the positions of the edge's to be prepared as per hand sketches and instructions				
	PC10. read and understand hand sketches to interpret edge preparation requirements and confirm the same from superiors if required				
	PC11. confirm the orientation of bevel and scallop from superiors				
	PC12. operate the beveling machine if required for scalloping and beveling as per instructions				
	PC13. follow all safety guidelines while operating beveling machine		32	9	23
	PC14. confirm that profile of bevel and scallop is as per instructions or work requirements				
	PC15. identify any undulations or other faults in the section if any and report the same to superiors				
	PC16. carryout jacking or striking operations as per instructions for removal off minor defects under close supervision				

Assessment Criteria for Assistant Construction Fitter

	PC17. place the structural component on the fabrication platform as per instructions				
	PC18. ensure that position and orientation of the component is as per instruction				
	PC19. check if the markings on the section are clearly visible prior to fixing the section				
	PC20. check that material has been scalloped as per instructions or hand sketches				
	PC21. check that edge preparation has been done as per instructions or hand sketches				
	PC22. place and tighten the clamps at required positions to restrict the movement of section				
	PC23. place other components post dimensional checking upon the fixed section as per requirements and tighten the required clamps		37	9	23
	PC24. adjust the fit-up precisely using striking, jacking or other methods as per instruction				
	PC25. mark the locations for tack welds as per instructions				
	PC26. recheck the dimensions of the assembly post tack welding				
	PC27. loosen the clamps or vices etc. to facilitate the removal of fitted section/ assembly				
	PC28. attach proper ropes, belts etc. for lifting and shifting of material as per requirement				
	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	100	60	18	42
	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				
	Total		100	30	70
CON/N9001: Work according to personal health,	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	100	30	10	20

Assessment Criteria for Assistant Construction Fitter

safety and environment protocol at construction site	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. 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			
	PC7. use appropriate Personal Protective Equipment (PPE) as per work requirements including: <ul style="list-style-type: none"> • 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	50	15	35
	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			
	PC 12. undertake and pass height pass test as per EHS guidelines			
	PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes	20	5	15
	PC14. apply ergonomic principles wherever required			
		Total	100	30