

## 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 – Chargehand Shuttering Carpenter - System

**SECTOR:** CONSTRUCTION

**SUB-SECTOR:** Real Estate and Infrastructure Construction

**OCCUPATION:** SHUTTERING CARPENTRY

**REFERENCE ID:** CON/Q0306

**ALIGNED TO:** NCO-2004/9313.90

**Chargehand Shuttering Carpenter System:** This job role performs the assembling and dismantling of system formwork for complex and critical works.

**Brief Job Description:** This job role is responsible for assembling and dismantling formwork for complex and critical works including staircase, landing, ramps, inclined structures, curved or circular structures, moulds/frames for Pre-cast segments, form finished R.C.C structures and jump form system. The individual should possess good factual knowledge and shall be able to maintain safe and quality work practices.

**Personal Attributes:** This job role requires the individual to be physically and mentally fit to carry out shuttering carpentry work at a construction site. The individual should be organized, diligent, methodical, and able to implement and maintain safety practices. The individual should be well versed with functions and operations of equipments used for carpentry works. The individual should possess good organizational, interpersonal and communication skills along with factual knowledge of carpentry works and shall also be responsible for own work and learning

<b>Job Details</b>	<b>Qualifications Pack Code</b>	CON/Q0306		
	<b>Job Role</b>	<b>Chargehand Shuttering Carpenter System</b>		
	<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	1.0
	<b>Sector</b>	Construction	<b>Drafted on</b>	07/05/2015
	<b>Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	23/05/2015
	<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	23/05/2017
	<b>NSQC Clearance on</b>	<b>05/08/2015</b>		

<b>Job Role</b>	<b>Chargehand Shuttering Carpenter System</b>
<b>Role Description</b>	This job role is responsible for assembling and dismantling system formwork for complex and critical works including staircase, landing, ramps, inclined structures, curved or circular structures, moulds/frames for Precast segments, form finish R.C.C structures and jump form system
<b>NSQF level</b>	4
<b>Minimum Educational Qualifications</b>	Preferably 8 <sup>th</sup> standard
<b>Maximum Educational Qualifications</b>	N.A
<b>Training</b> (Suggested but not mandatory)	Recommended training period of 12-16 weeks as per QP of Chargehand Shuttering Carpenter-System
<b>Minimum Job Entry Age</b>	18 years
<b>Experience</b>	Desirable: <ol style="list-style-type: none"> <li>1. Non trained worker : 9 years site experience in same occupation</li> <li>2. Trained worker: 3 years site experience as a certified Shuttering Carpenter - System</li> </ol>
<b>Applicable National Occupational Standards (NOS)</b>	<p><b>Compulsory:</b></p> <ol style="list-style-type: none"> <li>1. <a href="#">CON/N0316: Assemble &amp; dismantle system formwork for complex R.C.C structure</a></li> <li>2. <a href="#">CON/N0317: Assemble and dismantle system formwork for pre-cast segments &amp; form finished R.C.C structures</a></li> <li>3. <a href="#">CON/N0318: Erect &amp; dismantle jump form system</a></li> <li>4. <a href="#">CON/N8001: Work effectively in a team to deliver desired results at the workplace</a></li> <li>5. <a href="#">CON/N8002: Plan and organize work to meet expected outcomes</a></li> <li>6. <a href="#">CON/N9001: Work according to personal health, safety and environment protocol at construction site</a></li> </ol> <p><b>Optional:</b> N.A.</p>
<b>Performance Criteria</b>	As described in the relevant OS units

**Definitions**

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

**Acronyms**

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

CON/N0316

Assemble & dismantle system formwork for complex RCC structure.

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# National Occupational Standard



## Overview

This NOS covers the skills and knowledge required by a workman to be proficient in assembling & dismantling system formwork for complex RCC structure.

**CON/N0316 Assemble & dismantle system formwork for complex RCC structure.**

National Occupational Standard

<b>Unit Code</b>	<b>CON/N0316</b>
<b>Unit Title (Task)</b>	<b>Assemble &amp; dismantle system formwork for complex RCC structure.</b>
<b>Description</b>	This unit describes the skills and knowledge required to assemble & dismantle system formwork for complex RCC structure.
<b>Scope</b>	<p>The scope covers the following:</p> <ul style="list-style-type: none"> <li>Assemble system formwork for complex RCC structures (Staircase, landing, ramps, inclined structures, curved or circular structures)</li> <li>Dismantle system formwork for complex RCC structures</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Assemble system formwork for complex RCC structures (Staircase, landing, ramps, inclined structures, curved or circular structures)</b>	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. read &amp; understand drawings, schedule, work method statement</p> <p>PC2. check &amp; ensure all tools, materials, components are available as per requirements</p> <p>PC3. check all other preparatory works such as marking, staging are completed</p> <p>PC4. check that fixing &amp; fasteners are available as per system used and as per requirements</p> <p>PC5. position and set out formwork manually or by mechanical means as per instruction &amp; requirement</p> <p>PC6. check profiling of shutters panels as per required shape of structure</p> <p>PC7. position &amp; provide necessary support using props or other appropriate components based on system used</p> <p>PC8. plug all openings &amp; gaps using foam sheet and adhesive tape or other appropriate materials</p> <p>PC9. check working platform for safety</p> <p>PC10. check erected formwork for line, level, alignment &amp; ensure it is within tolerance limit</p> <p>PC11. check for dimensional accuracy and right angle of shutters, take necessary corrective measures if required</p> <p>PC12. report to superior for completion of work &amp; checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved</p>
<b>Dismantle system formwork for complex RCC structures</b>	<p>PC13. follow dismantling procedure /standard practice as per system used</p> <p>PC14. dismantle system formwork ensuring stripping time as per IS/International code for different types of structures</p> <p>PC15. remove bracing and all other support sequentially and safely as instructed</p> <p>PC16. remove sheathing material sequentially using proper tools and tackles to avoid damage to structure or sheathing materials</p> <p>PC17. remove formwork shutters manually or by mechanical means as per requirement basis shutter size</p>



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**Assemble & dismantle system formwork for complex RCC structure.**

	<p>PC18. ensure that all the small components are staked properly for further use</p> <p>PC19. replace/repair formwork material if required and ensure cleaning and proper staking after dismantling</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>A. Organizational Context</b> (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 procedures for shuttering and formwork for in situ and pre cast construction</p> <p>KA2. safety rules and regulation for handling and storing relevant carpentry tools, equipment and materials</p> <p>KA3. personal protection including the use of relevant safety gears &amp; equipment</p> <p>KA4. service request procedures for tools, materials and equipment</p>
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand</p> <p>KB1. procedure for layout of formwork as per drawing for complex structure such as staircase, landing, ramps, inclined structures, curved or circular structures)</p> <p>KB2. how to read plan, elevation and sectional drawing relevant to task</p> <p>KB3. basic principles of measurement, conversion of units , basic geometric and arithmetic calculation</p> <p>KB4. different types of measurements and marking tools</p> <p>KB5. how to select and use different types of formwork tools</p> <p>KB6. standard size of all formwork tools, material and components</p> <p>KB7. knowledge and use of water level tube</p> <p>KB8. major types of system formwork and their appropriate applications</p> <p>KB9. how to erect and brace major types of formwork as per site requirements</p> <p>KB10. properties and application of release agents</p> <p>KB11. standard tolerance of shuttering works</p> <p>KB12. checklist for shuttering work</p> <p>KB13. how to check for line, level and alignment requirement</p> <p>KB14. preventive and corrective action to ensure</p> <p>KB15. formwork meets the required standards of quality</p> <p>KB16. manufacturer’s specification/ instructions for erecting and dismantling formwork</p> <p>KB17. how to physically/ visually check for level, compaction of ground surface</p> <p>KB18. use of tools and equipments required in earthworks</p> <p>KB19. standard practices for housekeeping sequence and prioritizing of activities</p> <p>KB20. basic of reinforcement work</p> <p>KB21. basics of concreting works</p> <p>KB22. basics of scaffolding works</p>
<p><b>Skills (S)</b></p>	

CON/N0316

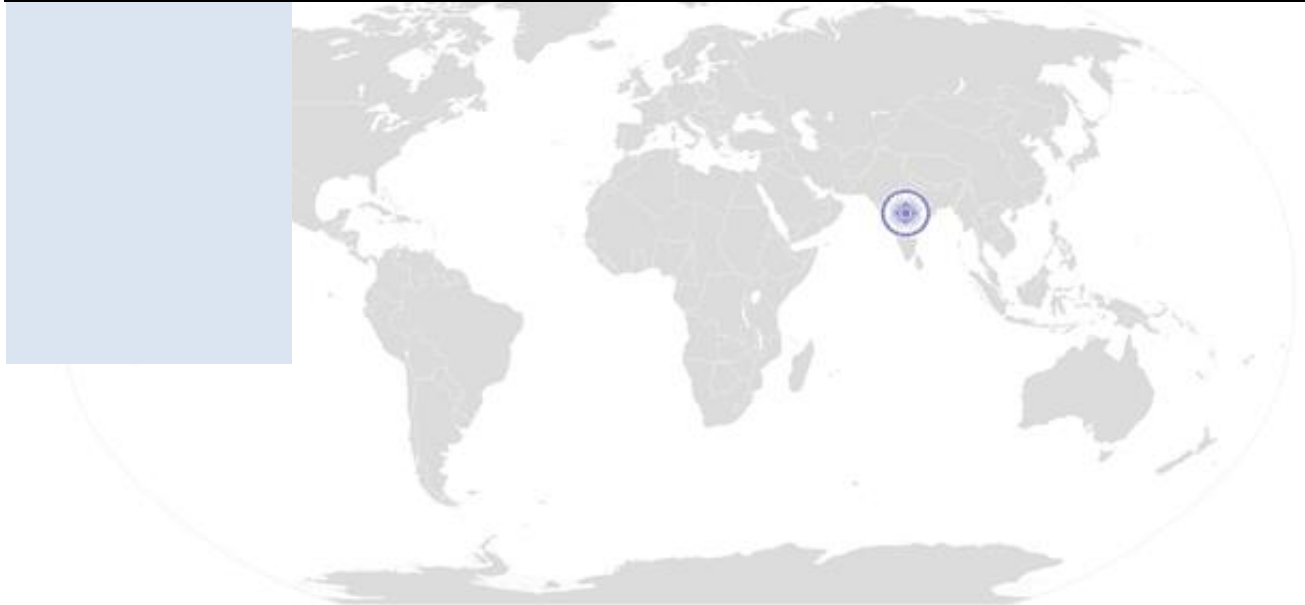
**Assemble & dismantle system formwork for complex RCC structure.**

<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more language, preferably in the local language of the site SA2. provide clear and simple instructions, details & sketches to sub-ordinates
	<b>Reading Skills</b>
	The user/ individual on the job needs to know and understand how to: SA3. read in one or more language, preferably in the local language of the site SA4. read sketches, routine working drawing or instructions provided for the staging and shuttering work SA5. read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
<b>B. Professional Skills</b>	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job needs to know and understand how to: SA6. speak in one or more language, preferably in one of the local languages of the site SA7. listen and follow instructions given by the superior SA8. provide clear instructions to sub-ordinates for task as per work plan, time schedule and quality
	<b>Decision Making</b>
	The user/individual on the job needs to know and understand how to: SB1. decide whether workplace is safe for working and also work is not creating hazardous conditions for other SB2. decide on manpower, tools , material and equipment for relevant work
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB3. plan work and organize required resource in coordination with team member and superior
	<b>Customer centricity</b>
	The user/individual on the job needs to know and understand how to: SB4. perform work as per agreed time and quality
<b>B. Professional Skills</b>	<b>Problem solving</b>
	The user/individual on the job needs to know and understand how to: SB5. rectify any problem related to line, level and alignment of erected formwork SB6. rectify any problem related to making and repairing of shutter board SB7. resolve any conflict within the team

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**Assemble & dismantle system formwork for complex RCC structure.**

	<b>Analytical Thinking</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB8. erect formwork in case of any obstruction, in and around opening or on uneven ground by providing suitable support</p> <p>SB9. optimize resources</p> <p>SB10. minimize wastages</p>
	<b>Critical Thinking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB11. evaluate the complexity of the tasks to and seek assistance and support wherever required from the superior</p> <p>SB12. identify and assess how violation of any safety norms may lead to accidents</p> <p>SB13. ensure profiling of shutters panels is as per shape of structure</p>





CON/N0316

Assemble & dismantle system formwork for complex RCC structure.

## NOS Version Control

<b>NOS Code</b>	CON/N0316		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Construction	<b>Drafted on</b>	07/05/2015
<b>Industry Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	23/05/2015
<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	23/05/2017



CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures

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# National Occupational Standard



## Overview

This NOS covers the skills and knowledge required by a workman to be proficient in assembling & dismantling system formwork for Pre-cast segments & form finished R.C.C structures.

**CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures**

National Occupational Standard	<b>Unit Code</b>	<b>CON/N0317</b>
	<b>Unit Title (Task)</b>	<b>Assemble &amp; dismantle system formwork for Pre-cast segments &amp; form finished R.C.C structures</b>
	<b>Description</b>	This unit describes the skills and knowledge required to assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures.
	<b>Scope</b>	The scope covers the following: <ul style="list-style-type: none"> <li>Assemble &amp; dismantle moulds/frames for Precast segments</li> <li>Assemble &amp; dismantle system formwork for form finished structures</li> </ul>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Assemble &amp; dismantle moulds/frames for Precast segments</b>	To be competent, the user / individual on the job must be able to: <ul style="list-style-type: none"> <li>PC1. read and understand assembly drawings, work method statement</li> <li>PC2. read and interpret sketches related to fixing sequence and method for assembling moulds and frames</li> <li>PC3. check all materials, tools, details and procedure are available before assembling moulds or frames for pre-cast work</li> <li>PC4. position, assemble, prop &amp; secure shutter panels as per approved workshop drawing and profile requirement</li> <li>PC5. apply release agent uniformly and completely as per method instructed</li> <li>PC6. fix all other accessories required for compacting concrete in case of external vibration if required</li> <li>PC7. check for proper alignment and geometric accuracy of shutters</li> <li>PC8. fix block out and cast-in-services as per marking and design requirement and check their positions after fixing</li> <li>PC9. check the assembly for rigidity</li> <li>PC10. check and ensure joints for water tightness by providing form sheets or necessary packing material</li> <li>PC11. fix build in components , void formers &amp; box-outs and check for their positions as per drawings</li> <li>PC12. complete work within the allocated time and to quality</li> <li>PC13. report to superior for completion &amp; checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved</li> <li>PC14. dismantle moulds/frames sequentially</li> <li>PC15. use proper tools &amp; tackles to ensure structure or sheathing material is not damaged</li> </ul>
	<b>Assemble &amp; dismantle system formwork for form finished structures</b>	<ul style="list-style-type: none"> <li>PC16. check all tools, materials, components are available as per requirements</li> <li>PC17. check that form are free from spillages, rust marks and stains</li> <li>PC18. check that formwork panels shall be of same size and forms a regular pattern</li> </ul>

**CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures**

	<p>PC19. check that holes left by formwork ties and components in concrete surfaces shall be in line horizontally and vertically and shall form a regular pattern</p> <p>PC20. check that chamfers are provided for all external angles of 90 degree</p> <p>PC21. check that joints between formwork panels are tightly sealed with foamed rubber strips</p> <p>PC22. check that gap between the panels and ensure it is not greater than 1 mm and the sealing strips shall not protrude of the surface of the formwork panels</p> <p>PC23. apply release agent uniformly and completely as per method instructed or as per form finished requirement</p> <p>PC24. position and set out formwork manually or by mechanical means as per instructions &amp; requirement</p> <p>PC25. check profiling of shutters panels as per required shape of structure</p> <p>PC26. position &amp; provide necessary support using props or other appropriate components based on system used</p> <p>PC27. check for proper alignment and geometric accuracy</p> <p>PC28. fix build in components , void formers &amp; box-outs shall in positions as per drawings</p> <p>PC29. check the assembly for rigidity and joints between formwork panel, stop ends &amp; adjoining concrete shall be tight and should not permit grout loss</p> <p>PC30. complete work within the allocated time and to quality</p> <p>PC31. report to superior for completion of work &amp; checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved</p> <p>PC32. dismantle moulds/frames sequentially</p> <p>PC33. use proper tools &amp; tackles to ensure structure or sheathing material is not damaged</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>A. Organizational Context</b> (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"> <li>KA1. standard procedures for shuttering and formwork for in situ and pre cast construction</li> <li>KA2. safety rules and regulations to handle required shuttering carpentry tools, tackles and equipment required to perform the shuttering work</li> <li>KA3. personal protection including the use of the related safety gears, safety equipment &amp; safety drills that may be required</li> <li>KA4. service request procedures for tools, materials and equipments</li> </ul>

**CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures**

<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>KB1. procedure for assembling and dismantling moulds/frames for precast structures</li> <li>KB2. how to read Plan, Elevation and sectional drawing relevant to task</li> <li>KB3. basic principles of measurement, conversion of units, basic geometric and arithmetic calculation</li> <li>KB4. knowledge and use of different types of measurements and marking tools</li> <li>KB5. standard size of all formwork tools, material and components</li> <li>KB6. knowledge about consumables</li> <li>KB7. properties and application of release agents required for precast &amp; form finished structures</li> <li>KB8. how to use different types of hand tools for fixing moulds/frames and form finished shutters</li> <li>KB9. importance of preventing grout loss leakage</li> <li>KB10. standard tolerance of shuttering works</li> <li>KB11. checklist for shuttering work</li> <li>KB12. how to check for line, level and alignment requirement</li> <li>KB13. importance of finishing in case of form finish concrete</li> <li>KB14. preparation of shutters for form finish concrete structure</li> <li>KB15. types of material used for making shutters for form finished concrete</li> <li>KB16. stripping time as per IS/International code</li> </ul>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA1. write in one or more language, preferably in the local language of the site</li> <li>SA2. provide clear and simple instructions, details &amp; sketches to sub-ordinates</li> </ul>
	<p><b>Reading Skills</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA3. read one or more language, preferably in the local language of the site</li> <li>SA4. read sketches, routine working drawing or instructions provided for the staging and shuttering work</li> <li>SA5. read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace</li> </ul>
	<p><b>Oral Communication (Listening and Speaking skills)</b></p>
<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA6. speak in one or more language, preferably in one of the local languages of the site</li> <li>SA7. listen and follow instructions given by the superior</li> </ul>	



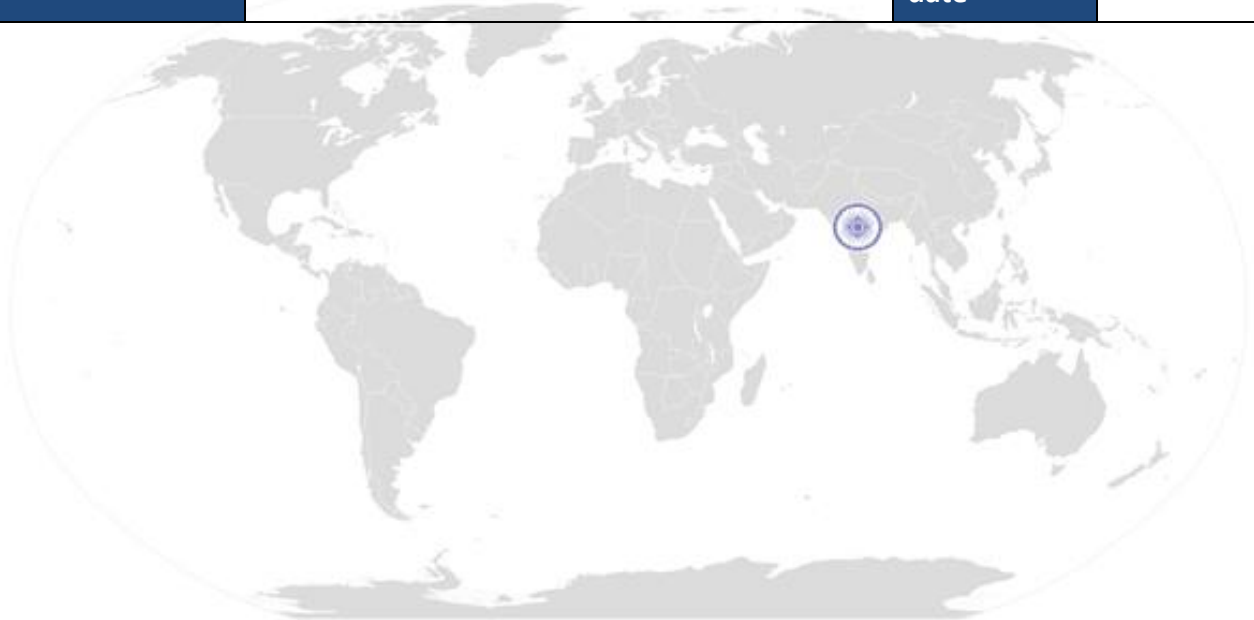
**CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures**

	SA8. provide clear instructions to sub-ordinates for task as per work plan, time schedule and quality
<b>B. Professional Skills</b>	<b>Decision Making</b>
	The user/individual on the job needs to know and understand how to: SB1. decide whether workplace is safe for working and also work is not creating hazardous conditions for other SB2. decide on manpower, tools , material and equipment for relevant work SB3. decide on suitability, stability of the foundation/structure on which the staging to be erected
	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB4. plan work and organize required resource in coordination with team member and superior
	<b>Customer centricity</b>
	The user/individual on the job needs to know and understand how to: SB5. perform work as per agreed time schedule and quality
	<b>Problem solving</b>
	The user/individual on the job needs to know and understand how to: SB6. rectify any problem related to line, level and alignment of erected formwork SB7. rectify any problem related to support provided SB8. resolve any conflict within the team
	<b>Analytical Thinking</b>
	The user/ individual on the job needs to know and understand how to: SB9. erect formwork in case of any obstruction, in and around opening or on uneven ground by providing suitable support SB10. check horizontal and vertical alignment of holes left by formwork ties and components SB11. optimize resources SB12. minimize wastages
	<b>Critical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB13. evaluate the complexity of the tasks and seek assistance and support wherever required from the superior SB14. identify and assess how violation of any safety norms may lead to accidents

**CON/N0317 Assemble & dismantle system formwork for Pre-cast segments & form finished R.C.C structures**

**NOS Version Control**

<b>NOS Code</b>	<b>CON/N0317</b>		
<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	<b>Construction</b>	<b>Drafted on</b>	<b>07/05/2015</b>
<b>Industry Sub-sector</b>	<b>Real Estate and Infrastructure Construction</b>	<b>Last reviewed on</b>	<b>23/05/2015</b>
<b>Occupation</b>	<b>Shuttering Carpentry</b>	<b>Next review date</b>	<b>23/05/2017</b>



# National Occupational Standard



## Overview

This NOS covers the skills and knowledge required by a workman to be proficient in erecting & dismantling jump form system.

CON/N0318

Erect & dismantle jump form system.

National Occupational Standard

<b>Unit Code</b>	CON/N0318
<b>Unit Title (Task)</b>	Erect & dismantle jump form system
<b>Description</b>	This unit describes the skills and knowledge required to erect & dismantle jump form system.
<b>Scope</b>	<p>The scope covers the following:</p> <ul style="list-style-type: none"> <li>• Set out and assemble jump form system</li> <li>• Dismantle jump form system</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Set out and assemble jump form system</b>	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. read and understand assembling drawings, work method statement</p> <p>PC2. check all tools, materials, components are available as per requirements</p> <p>PC3. fix marking, set out points and lines under superior instructions or check set out points are already provided for erection</p> <p>PC4. set out jump form system as per drawing</p> <p>PC5. erect and fixed into location form shutters as per drawing</p> <p>PC6. install shear key as per manufacture's specification</p> <p>PC7. fix platforms and assembly into core formworks as per manufacture's specification</p> <p>PC8. install hydraulic system, power units and accessories as per manufacturer specifications &amp; standards form lifting purpose</p> <p>PC9. install penetration, block-out and cast in services as per drawing</p> <p>PC10. check that wall form shutter, working platform, lifting arrangement and other accessories are installed as per manufactures specifications</p> <p>PC11. complete work within the allocated time and to quality</p> <p>PC12. report to superior for completion of work &amp; checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved</p>
	<p>PC13. erect and install form shutters as per instructions or manufacturer specifications</p> <p>PC14. follow sequential steps to loose and stripped shutters</p> <p>PC15. pass on information to lift assembled system using cranes or hydraulic system to the new position</p> <p>PC16. install trailing platforms as per requirements</p> <p>PC17. dismantle jump form system as per instructions and manufactures specifications</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. standard procedure for erecting and dismantling jump form system</p>

CON/N0318

**Erect & dismantle jump form system.**

<p>(Knowledge of the company / organization and its processes)</p>	<p>KA2. safety rules and regulations to handle required shuttering carpentry tools, tackles and equipment</p> <p>KA3. personal protection including the use of the related safety gears, safety equipment &amp; safety drills that may be required</p> <p>KA4. service request procedures for tools, materials and equipments</p>
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. types of Jump form system/ specialized formwork system such as slip form, jump form system</p> <p>KB2. schematic installation &amp; working drawing</p> <p>KB3. preparatory works for installation of Jump form system</p> <p>KB4. profiling of formwork as per required shape of structure functional of hydraulic system</p> <p>KB5. how to check plumb and take corrective action</p> <p>KB6. use of fixtures, connection</p> <p>KB7. use of tools, tackles, components &amp; equipments require for installation of Jump form system</p> <p>KB8. use of anchor cones, ties, sleeves</p> <p>KB9. manufacturer's instructions/specification for Jump form system</p> <p>KB10. preventive and corrective action to ensure formwork meets the required standards of quality</p> <p>KB11. types and application of advance formwork system and their applications for basic and complex structures</p> <p>KB12. types of cranes and hydraulic jacks used for lifting of Jump form system</p> <p>KB13. basic of reinforcement works</p> <p>KB14. basics of concreting works</p> <p>KB15. weight of different components, assembled panels</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. write in one or more language, preferably in the local language of the site</p> <p>SA2. provide clear and simple instructions, details &amp; sketches to sub-ordinates</p> <p><b>Reading Skills</b></p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA3. read one or more language, preferably in the local language of the site</p> <p>SA4. read sketches, routine working drawing or instructions provided for the staging and shuttering work</p> <p>SA5. read various, sign boards, safety rules and safety tags, instructions related to exit routes during emergency at the workplace</p> <p><b>Oral Communication (Listening and Speaking skills)</b></p>



CON/N0318

**Erect & dismantle jump form system.**

	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SA6. speak in one or more language, preferably in one of the local languages of the site</li> <li>SA7. listen and follow instructions given by the superior</li> <li>SA8. provide clear instructions to sub-ordinates for task as per work plan, time schedule and quality</li> </ul>
<p><b>B. Professional Skills</b></p>	<p><b>Decision Making</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB1. decide whether workplace is safe for working and also work is not creating hazardous conditions for other</li> <li>SB2. decide on manpower, tools , material and equipment for relevant work</li> </ul>
	<p><b>Plan and Organize</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB3. plan work and organize required resource in coordination with team member and superior</li> </ul>
	<p><b>Customer centricity</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB4. perform work as per agreed time schedule and quality</li> </ul>
	<p><b>Problem solving</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB5. rectify any problem related to line, level and alignment of jump form system</li> <li>SB6. rectify any problem related to support provided</li> <li>SB7. rectify any other problem related to jump from system</li> <li>SB8. resolve any conflict within the team</li> </ul>
	<p><b>Analytical Thinking</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB9. provide suggestion and remedial measures to meet the quality standards</li> <li>SB10. optimize resources</li> <li>SB11. minimize wastages</li> <li>SB12. revert to superior for selection/sorting of materials</li> </ul>
	<p><b>Critical Thinking</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB13. evaluate the complexity of the tasks to determine if any guidance is required from the superior</li> <li>SB14. ensure hydraulic system, power units and accessories are fixed properly</li> <li>SB15. identify and assess how violation of any safety norms may lead to accidents</li> </ul>

CON/N0318

Erect & dismantle jump form system.

## NOS Version Control

<b>NOS Code</b>	<b>CON/N0318</b>		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	Construction	<b>Drafted on</b>	<b>07/05/2015</b>
<b>Industry Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	<b>23/05/2015</b>
<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	<b>23/05/2017</b>



CON/N8001

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

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# 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

<b>Unit Code</b>	CON/N8001
<b>Unit Title (Task)</b>	Work effectively in a team to deliver desired results at the workplace
<b>Description</b>	This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.
<b>Scope</b>	<p>The scope covers the following:</p> <ul style="list-style-type: none"> <li>Interact and communicate effectively with co-workers, superiors and subordinates across different teams</li> <li>Support co-workers, superiors and subordinates within the team and across interfacing teams to ensure effective execution of assigned task</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Interact and communicate in effective and conclusive manner</b>	<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>
<b>Support co-workers to execute project requirements</b>	<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>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. own roles and responsibilities</p> <p>KA2. importance of effective communication and establishing strong working relationships with co-workers</p> <p>KA3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.</p> <p>KA4. different modes of communication, and its appropriate usage</p> <p>KA5. importance of creating healthy and cooperative work environment among the gangs of workers</p>

CON/N8001

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

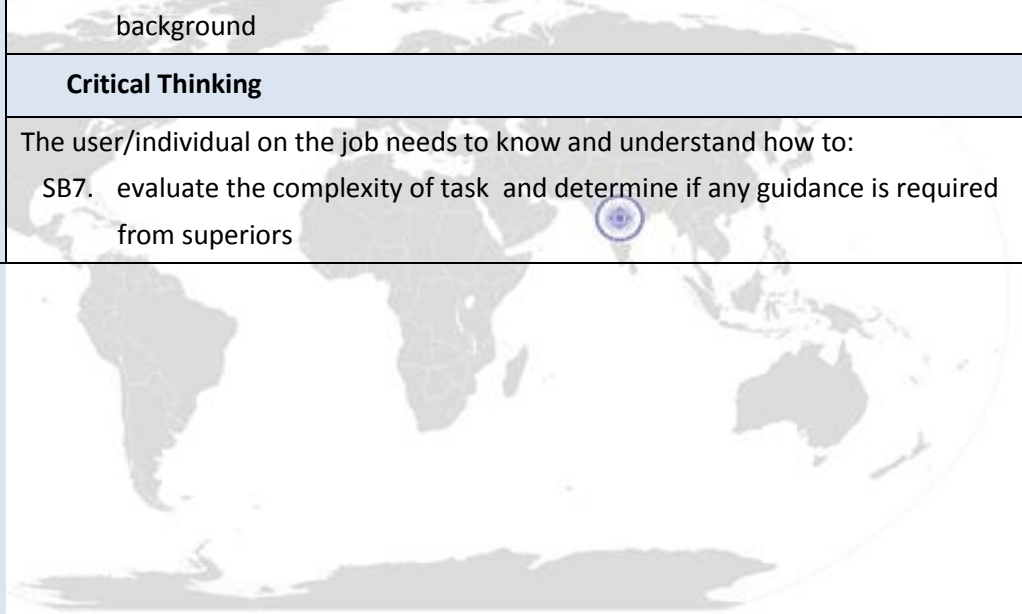
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different activities within his work area where an interaction with other workers is required</p> <p>KB2. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co-workers might need as per the requirement</p> <p>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</p> <p>KB4. importance and need of supporting co-workers facing problems for smooth functioning of work</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. write in one or more languages, preferably in the local language of the site</p>
	<p><b>Reading Skills</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. read in one or more languages, preferably in the local language of the site</p> <p>SA3. read communication from team members regarding work completed, materials used, tools and tackles used, support required</p>
<p><b>B. Professional Skills</b></p>	<p><b>Oral Communication (Listening and Speaking skills)</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA4. speak in one or more languages, preferably in one of the local languages of the site</p> <p>SA5. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes</p> <p>SA6. orally communicate with co-workers regarding support required to complete the respective work</p>
	<p><b>Decision Making</b></p>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. decide on what information is to be shared with co-workers within the team or from interfacing gang of workers</p>	<p><b>Plan and Organise</b></p>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. plan work and organize required resources in coordination with team members</p>	



CON/N8001

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

	<b>Customer centricity</b>
	The user/individual on the job needs to know and understand how to: SB3. complete all assigned task in coordination with team members
	<b>Problem solving</b>
	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
	<b>Analytical Thinking</b>
	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
	<b>Critical Thinking</b>
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

<b>NOS Code</b>	<b>CON/N8001</b>		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	Construction	<b>Drafted on</b>	<b>07/05/2015</b>
<b>Industry Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	<b>23/05/2015</b>
<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	<b>23/05/2017</b>



# 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.

CON/N8002

Plan and organize work to meet expected outcomes

National Occupational Standard

<b>Unit Code</b>	CON/N8002
<b>Unit Title (Task)</b>	Plan and organize work to meet expected outcomes
<b>Description</b>	This unit describes the knowledge and the skills required for an individual to plan and organize own work in order to meet expected outcome.
<b>Scope</b>	<p>This scope covers the following:</p> <ul style="list-style-type: none"> <li>• Prioritize work activities to achieve desired results</li> <li>• Organize desired resources prior to commencement of work</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Prioritize work activities to achieve desired results</b>	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. understand clearly the targets and timelines set by superiors</p> <p>PC2. plan activities as per schedule and sequence</p> <p>PC3. provide guidance to the subordinates to obtain desired outcome</p> <p>PC4. plan housekeeping activities prior to and post completion of work</p>
<b>Organize desired resources prior to commencement of work</b>	<p>PC5. list and arrange required resources prior to commencement of work</p> <p>PC6. select and employ correct tools, tackles and equipment for completion of desired work</p> <p>PC7. complete the work with allocated resources</p> <p>PC8. engage allocated manpower in an appropriate manner</p> <p>PC9. use resources in an optimum manner to avoid any unnecessary wastage</p> <p>PC10. employ tools, tackles and equipment with care to avoid damage to the same</p> <p>PC11. organize work output, materials used, tools and tackles deployed,</p> <p>PC12. processes adopted to be in line with the specified standards and instructions</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. importance of proper housekeeping</p> <p>KA2. policies, procedures and work targets set by superiors</p> <p>KA3. roles and responsibilities in executing the work for subordinates and self</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. standard practices of work to be adopted for assigned task</p> <p>KB2. how to use available resources in a judicious and appropriate manner to minimize wastages or damage</p>

CON/N8002

Plan and organize work to meet expected outcomes

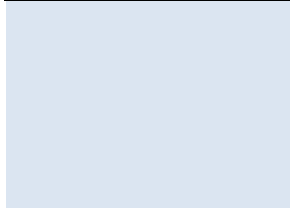
Skills (S)	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	The user/ individual on the job needs to know and understand how to: SA1. write in one or more language, preferably in the local language of the site SA1. list out the assigned works and targets
	<b>Reading Skills</b>
	The user/ individual on the job needs to know and understand how to: SA2. read in one or more language, preferably in the local language of the site SA3. read communication from co-workers, superiors and notices from other departments as per requirement of the level
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job needs to know and understand how to: SA4. speak in one or more language, preferably in one of the local language of the site SA5. listen and follow communication shared by co-workers regarding standard work processes, resources available, timelines, etc. SA6. communicate effectively with co-workers and subordinates
<b>B. Professional Skills</b>	<b>Decision Making</b>
	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
	<b>Plan and Organise</b>
	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>Customer centricity</b>
	The user/individual on the job needs to know and understand how to: SB3. complete all assigned task with proper planning and organizing
	<b>Problem solving</b>
	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
<b>Analytical Thinking</b>	



CON/N8002

### Plan and organize work to meet expected outcomes

	The user/individual on the job needs to know and understand how to: SB5. analyze areas of work which could result in a delay of work, wastage of material or damage to tools and tackles
	<b>Critical Thinking</b>
	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



CON/N8002

Plan and organize work to meet expected outcomes

## NOS Version Control

<b>NOS Code</b>	CON/N8002		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Construction	<b>Drafted on</b>	07/05/2015
<b>Industry Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	23/05/2015
<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	23/05/2017



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

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# 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	<b>Unit Code</b>	CON/N9001
	<b>Unit Title (Task)</b>	Work according to personal health, safety and environment protocol at construction site
	<b>Description</b>	This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site
	<b>Scope</b>	<p>The scope covers the following:</p> <ul style="list-style-type: none"> <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>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Follow safety norms as defined by organization</b>	<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. identify near miss , unsafe condition and unsafe act</p>
	<b>Adopt healthy &amp; safe work practices</b>	<p>PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including:</p> <ul style="list-style-type: none"> <li>• Head Protection (Helmets)</li> <li>• Ear protection</li> <li>• Fall Protection</li> <li>• Foot Protection</li> <li>• Face and Eye Protection,</li> <li>• Hand and Body Protection</li> <li>• Respiratory Protection (if required)</li> </ul> <p>PC7. handle all required tools, tackles , materials &amp; equipment safely</p> <p>PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines</p> <p>PC9. install and apply properly all safety equipment as instructed</p> <p>PC10. follow safety protocol and practices as laid down by site EHS department</p>

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

<p><b>Implement good housekeeping practices</b></p>	<p>PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes</p> <p>PC12. apply ergonomic principles wherever required</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines</p> <p>KA2. types of safety hazards at construction sites</p> <p>KA3. basic ergonomic principles as per applicability</p>
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. the procedure for responding to accidents and other emergencies at site</p> <p>KB2. appropriate personal protective equipment to used based on various working conditions</p> <p>KB3. importance of handling tools, equipment and materials as per applicable</p> <p>KB4. health and environments effect of construction materials as per applicability</p> <p>KB5. various environmental protection methods as per applicability</p> <p>KB6. storage of waste including the following at appropriate location:</p> <ul style="list-style-type: none"> <li>• non-combustible scrap material and debris</li> <li>• combustible scrap material and debris</li> <li>• general construction waste and trash (non-toxic, non-hazardous)</li> <li>• any other hazardous wastes</li> <li>• any other flammable wastes</li> </ul> <p>KB7. how to use hazardous material, in a safe and appropriate manner as per applicability</p> <p>KB8. safety relevant to tools, tackles, &amp; requirement as per applicability</p> <p>KB9. housekeeping activities relevant to task</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. write in one or more language, preferably in the local language of the site</p> <p>SA3. fill safety formats for near miss, unsafe conditions and safety suggestions</p>
	<p><b>Reading Skills</b></p>
<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA4. read in one or more language, preferably in the local language of the site</p> <p>SA5. read sign boards, notice boards relevant to safety</p>	

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

	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA6. speak in one or more language, preferably in one of the local language of the site</p> <p>SA7. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk</p> <p>SA8. communicate reporting of site conditions, hazards, accidents, etc.</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. not create unsafe conditions for others</p> <p>SB2. keep the workplace clean and tidy</p>
	<b>Plan and Organise</b>
	SB3. N.A
	<b>Customer centricity</b>
	SB4. N.A
	<b>Problem solving</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. 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>
	<b>Analytical Thinking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. assess and analyze areas which may affect health, safety and environment protocol on the site</p>
	<b>Critical Thinking</b>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB7. ensure personal safety behavior</p> <p>SB8. respond to emergency</p>	



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

<b>NOS Code</b>	<b>CON/N9001</b>		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	Construction	<b>Drafted on</b>	<b>07/05/2015</b>
<b>Industry Sub-sector</b>	Real Estate and Infrastructure Construction	<b>Last reviewed on</b>	<b>23/05/2015</b>
<b>Occupation</b>	Shuttering Carpentry	<b>Next review date</b>	<b>23/05/2017</b>



*Assessment Criteria for Chargehand Shuttering Carpenter - System*

**CRITERIA FOR ASSESSMENT OF TRAINEES**

<b><u>Job Role</u></b>	Chargehand Shuttering Carpenter - System
<b><u>Qualification Pack</u></b>	CON/Q0306
<b><u>Sector Skill Council</u></b>	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 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.

Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Mark	Out Of	Theory	Skills Practical
CON/N0316: Assemble & dismantle system formwork for complex RCC structure	PC1. read & understand drawings, schedule, work method statement	<b>100</b>	7	2	5
	PC2. check & ensure all tools, materials, components are available as per requirements		3	1	2
	PC3. check all other preparatory works such as marking, staging are completed		3	1	2
	PC4. check that fixing & fasteners are available as per system used and as per requirements		7	2	5
	PC5. position and set out formwork manually or by mechanical means as per instruction & requirement		7	2	5
	PC6. check profiling of shutters panels as per required shape of structure		7	2	5

Assessment Criteria for Chargehand Shuttering Carpenter - System

	PC7. position & provide necessary support using props or other appropriate components based on system used		7	2	5
	PC8. plug all openings & gaps using foam sheet and adhesive tape or other appropriate materials		3	1	2
	PC9. check working platform for safety		3	1	2
	PC10. check erected formwork for line, level, alignment & ensure it is within tolerance limit		10	3	7
	PC11. check for dimensional accuracy and right angle of shutters, take necessary corrective measures if required		10	3	7
	PC12. report to superior for completion & checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved		7	2	5
	PC13. follow dismantling procedure /standard practice as per system used		3	1	2
	PC14. dismantle system formwork ensuring stripping time as per is/international code for different types of structures		3	1	2
	PC15. remove bracing and all other support sequentially and safely as instructed		3	1	2
	PC16. remove sheathing material sequentially using proper tools and tackles to avoid damage to structure or sheathing materials		3	1	2
	PC17. remove formwork shutters manually or by mechanical means as per requirement basis shutter size		7	2	5
	PC18. ensure that all the small components are staked properly for further use		3	1	2
	PC19. replace/repair formwork material if required and ensure cleaning and proper staking after dismantling		3	1	2
	<b>Total</b>		100	30	70
CON/N0317: Assemble & dismantle system formwork for Pre-cast segments & form finished structures.	PC1. read and understand assembly drawings, work method statement	<b>100</b>	7	2	5
	PC2. read and interpret sketches related to fixing sequence and method for assembling moulds and frames		0		0
	PC3. check all materials, tools, details and procedure are available before assembling moulds or frames for pre-cast work		3	1	2
	PC4. position, assemble, prop & secure shutter panels as per approved workshop drawing and profile requirement		3	1	2
	PC5. apply release agent uniformly and completely as per method instructed		3	1	2

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PC6. fix all other accessories required for compacting concrete in case of external vibration if required			
PC7. check for proper alignment and geometric accuracy of shutters			
PC8. fix block out and cast-in-services as per marking and design requirement and check their positions after fixing	10	3	7
PC9. check the assembly for rigidity			
PC10. check and ensure joints for water tightness by providing form sheets or necessary packing material			
PC11. fix build in components , void formers & box-outs and check for their positions as per drawings	7	2	5
PC12. complete work within the allocated time and to quality	3	1	2
PC13. report to superior for completion & checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved	3	1	2
PC14. dismantle moulds/frames sequentially	7	2	5
PC15. use proper tools & tackles to ensure structure or sheathing material is not damaged	3	1	2
PC16. check all tools, materials, components are available as per requirements	3	1	2
PC17. check that form are free from spillages, rust marks and stains	3	1	2
PC18. check that formwork panels shall be of same size and forms a regular pattern	3	1	2
PC19. check that Holes left by formwork ties and components in concrete surfaces shall be in line horizontally and vertically and shall form a regular pattern	3	1	2
PC20. check that chamfers are provided for all external angles of 90 degree	3	1	2
PC21. check that joints between formwork panels are tightly sealed with foamed rubber strips	3	1	2
PC22. check that gap between the panels and ensure it is not greater than 1 mm and the sealing strips shall not protrude of the surface of the formwork panels	3	1	2
PC23. apply release agent uniformly and completely as per method instructed or as per form finished requirement	3	1	2
PC24. position and set out formwork manually or by mechanical means as per instruction & requirement	3	1	2

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	PC25. check profiling of shutters panels as per required shape of structure		7		5
	PC26. position & provide necessary support using props or other appropriate components based on system used		0	2	0
	PC27. check for proper alignment and geometric accuracy		0		0
	PC28. fix build in components , void formers & box-outs shall in positions as per drawings		3		2
	PC29. check the assembly for rigidity and joints between formwork panel, stop ends & adjoining concrete shall be tight and should not permit grout loss		0	1	0
	PC30. complete work within the allocated time and to quality		3		2
	PC31. report to superior for completion & checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved		0	1	0
	PC32. dismantle moulds/frames sequentially		3	1	2
	PC33. use proper tools & tackles to ensure structure or sheathing material is not damaged		3	1	2
	<b>Total</b>		<b>100</b>	<b>30</b>	<b>70</b>
CON/N0318: Erect & dismantle jump form system	PC1. read and understand assembling drawings, work method statement	<b>100</b>	7	2	5
	PC2. check all tools, materials, components are available as per requirements		3	1	2
	PC3. fix marking, set out points and lines under superior instructions or check set out points are already provided for erection		7	2	5
	PC4. set out jump form system as per drawing		10	3	7
	PC5. erect and fixed into location form shutters as per drawing		10	3	7
	PC6. install shear key as per manufacture's specification		3	1	2
	PC7. fix platforms and assembly into core formworks as per manufacture's specification		10	3	7
	PC8. install hydraulic system, power units and accessories as per manufacturer specifications & standards form lifting purpose		3	1	2
	PC9. install penetration, block-out and cast in services as per drawing		10	3	7
	PC10. check that wall form shutter, working platform, lifting arrangement and other accessories are installed as per manufactures specifications		7	2	5
	PC11. complete work within the allocated time and to quality		3	1	2

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	PC12. report to superior for completion & checking of shuttering, do any rework as suggested by engineer in charge or superior, and get it approved		0		0
	PC13. erect and install form shutters as per instructions or manufacturer specifications		7	2	5
	PC14. follow sequential steps to loose and stripped shutters		7	2	5
	PC15. pass on information to lift assembled system using cranes or hydraulic system to the new position		3	1	2
	PC16. install trailing platforms as per requirements		3	1	2
	PC17. dismantle jump form system as per instructions and manufactures specifications		7	2	5
	<b>Total</b>		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	<b>100</b>	7	2	5
	PC2. inform co-workers and superiors about any kind of deviations from work		7	2	5
	PC3. address the problems effectively and report if required to immediate supervisor appropriately		10	3	7
	PC4. receive instructions clearly from superiors and respond effectively on the same		7	2	5
	PC5. communicate to team members/subordinates for appropriate work technique and method		10	3	7
	PC6. seek clarification and advice as per the requirement and applicability		7	2	5
	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams		27	8	19
	PC8. work together with co-workers in a synchronized manner		27	8	19
	<b>Total</b>		<b>100</b>	<b>30</b>	<b>70</b>
CON/N8002: Plan and organize work to meet expected outcomes	PC1. understand clearly the targets and timelines set by superiors	<b>100</b>	7	2	5
	PC2. plan activities as per schedule and sequence		7	2	5
	PC3. provide guidance to the subordinates to obtain desired outcome		10	3	7
	PC4. plan housekeeping activities prior to and post completion of work		7	2	5
	PC5. list and arrange required resources prior to commencement of work		10	3	7
	PC6. select and employ correct tools, tackles and equipment for completion of desired work		10	3	7
	PC7. complete the work with allocated resources		10	3	7
	PC8. engage allocated manpower in an appropriate manner		10	3	7



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	PC9. use resources in an optimum manner to avoid any unnecessary wastage		10	3	7
	PC10. employ tools, tackles and equipment with care to avoid damage to the same		7	2	5
	PC11. organize work output, materials used, tools and tackles deployed,		7	2	5
	PC12. processes adopted to be in line with the specified standards and instructions		7	2	5
		<b>Total</b>	<b>100</b>	<b>30</b>	<b>70</b>
CON/N9001: Work according to personal health, safety and environment protocol at construction site	PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	<b>100</b>	7	2	5
	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities		7	2	5
	PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable		10	3	7
	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		7	2	5
	PC5. identify near miss, unsafe condition and unsafe act		7	2	5
	PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: <ul style="list-style-type: none"> <li>• Head Protection (Helmets)</li> <li>• Ear protection</li> <li>• Fall Protection</li> <li>• Foot Protection</li> <li>• Face and Eye Protection</li> <li>• Hand and Body Protection</li> <li>• Respiratory Protection (if required)</li> </ul>		10	3	7
	PC7. handle all required tools, tackles, materials & equipment safely		7	2	5
	PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines		7	2	5
	PC9. install and apply properly all safety equipment as instructed		13	4	9
	PC10. follow safety protocol and practices as laid down by site EHS department		13	4	9
	PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes		7	2	5
	PC12. apply ergonomic principles wherever required		7	2	5
			<b>Total</b>	<b>100</b>	<b>30</b>