



## Qualification Pack



# Supervisor Structure (Technical)

QP Code: CON/Q0111

Version: 2.0

NSQF Level: 6

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### CON/Q0111: Supervisor Structure (Technical)

#### Brief Job Description

This job role is responsible for planning, managing and allocating resources for various structural works at construction sites, supervising and monitoring concreting, bar bending, system shuttering carpentry and scaffolding works and activities while ensuring observation of health safety and environmental practices at work site

#### Personal Attributes

The Supervisor Structure (Technical) is expected to be physically fit to work across various locations with varied environmental conditions. The person should be organized, diligent, methodical, safety-conscious, and a prompt decision-maker. In addition to being a team player, the individual should have good communication skills.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [CON/N0132: Interpret drawings, specifications and standards for structural execution](#)
2. [CON/N0134: Plan, supervise and monitor execution of system shuttering carpentry works](#)
3. [CON/N0135: Plan, supervise and monitor execution of concreting works](#)
4. [CON/N0136: Plan, supervise and monitor execution of bar bending works](#)
5. [CON/N0137: Plan, supervise and monitor execution of scaffolding works](#)
6. [CON/N8003: Supervise, monitor and evaluate performance of subordinates at workplace](#)
7. [CON/N9002: Manage workplace for safe and healthy work environment](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>Country</b>	India



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<b>NSQF Level</b>	6
<b>Credits</b>	NA
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/3112.9900
<b>Minimum Educational Qualification &amp; Experience</b>	Diploma (after 12 class) with 3 Years of experience in relevant field OR Graduate ( in relevant field) with 1 Year of experience OR Certificate-NSQF (level 5) with 3 Years of experience in relevant field
<b>Minimum Level of Education for Training in School</b>	Not Applicable
<b>Pre-Requisite License or Training</b>	NIL
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Approval Date</b>	31/03/2022
<b>Version</b>	2.0
<b>Reference code on NQR</b>	2022/CON/CSDCI/05604
<b>NQR Version</b>	1.0



## Qualification Pack

# CON/N0132: Interpret drawings, specifications and standards for structural execution

## Description

This unit describes the skills and knowledge required to read and interpret architectural GFC/ shop drawings, specifications and standards for structural execution

## Scope

The scope covers the following :

- Interpret drawings, specifications and standards for concreting, scaffolding, shuttering carpentry and bar bending and steel fixing operations

## Elements and Performance Criteria

*Interpret drawings, specifications and standards for concreting, scaffolding, shuttering carpentry and bar bending and steel fixing operations*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret details from Architectural GFC/ Shop drawings
- PC2.** interpret details from schedule of work
- PC3.** interpret specification and standards provided for relevant works
- PC4.** interpret all specification provided in the relevant drawing
- PC5.** interpret schedule provided for completion of work
- PC6.** read method statement for execution of work
- PC7.** interpret manufactures specification for operation of power tools
- PC8.** carry out calculation of required quantity of materials from relevant schematic working drawings
- PC9.** reproduce technical drawings as simplified hand sketches for explaining and providing clear instructions to subordinates

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for structural works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement



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- KU7.** schematic drawings, sketches for relevant work
- KU8.** principles involved in reading and interpreting various relevant drawings
- KU9.** how to read general arrangement drawing
- KU10.** simplified sketch preparation from the drawing
- KU11.** how to read plan, elevation and sectional drawing
- KU12.** basic principal of measurement, arithmetic and geometric calculations
- KU13.** terminology used in concreting, scaffolding, bar-bending and shuttering carpentry works
- KU14.** linear conversion of units
- KU15.** manufacturers specification and work method statement for relevant works
- KU16.** how to calculate material and resource required for relevant works
- KU17.** work method statement and scope of work
- KU18.** calculation of required quantity of materials from relevant schematic working drawings

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Interpret drawings, specifications and standards for concreting, scaffolding, shuttering carpentry and bar bending and steel fixing operations</i>	50	50	-	-
<b>PC1.</b> interpret details from Architectural GFC/ Shop drawings	-	-	-	-
<b>PC2.</b> interpret details from schedule of work	-	-	-	-
<b>PC3.</b> interpret specification and standards provided for relevant works	-	-	-	-
<b>PC4.</b> interpret all specification provided in the relevant drawing	-	-	-	-
<b>PC5.</b> interpret schedule provided for completion of work	-	-	-	-
<b>PC6.</b> read method statement for execution of work	-	-	-	-
<b>PC7.</b> interpret manufactures specification for operation of power tools	-	-	-	-
<b>PC8.</b> carry out calculation of required quantity of materials from relevant schematic working drawings	-	-	-	-
<b>PC9.</b> reproduce technical drawings as simplified hand sketches for explaining and providing clear instructions to subordinates	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	<b>-</b>	<b>-</b>



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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0132
<b>NOS Name</b>	Interpret drawings, specifications and standards for structural execution
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





## Qualification Pack

# CON/N0134: Plan, supervise and monitor execution of system shuttering carpentry works

## Description

This unit describes the skills and knowledge required to plan, allocate resources and supervise and monitor execution of system shuttering carpentry works.

## Scope

The scope covers the following :

- Plan and allocate resources for shuttering carpentry works
- Procure approvals and prepare checklist prior to and after commencement of work.
- Supervise and ensure execution of system shuttering carpentry works in accordance with agreed work plan

## Elements and Performance Criteria

### *Plan and allocate resources for shuttering carpentry works*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret drawings, specification and standards for formwork
- PC2.** confirm work hours and requirement for shuttering carpentry works with concerned superior
- PC3.** calculate component wise requirement for formwork
- PC4.** calculate the requirement of tools, tackles, consumables, equipment and manpower for making and erection of formwork
- PC5.** determine method of lifting, route and mode of transportation of relevant materials
- PC6.** allocate manpower and ensure their productivity

### *Procure approvals and prepare checklist prior to and after commencement of work*

To be competent, the user/individual on the job must be able to:

- PC7.** notify concerned superior for resources and equipment requirement
- PC8.** take safety clearance from services and EHS department before commencing shuttering work
- PC9.** provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace
- PC10.** check for completion of preparatory activities and coordinate between various departments
- PC11.** carry out checks and fill checklist after completion of work
- PC12.** provide status information on work received, in progress, backlog, and work assignments completed as requirement
- PC13.** maintain records and files and prepare reports on labour deployment, work done and productivity
- PC14.** review estimates, prepares sketches and reports on labor expenditures and materials used

### *Supervise and ensure execution of system shuttering carpentry works in accordance with agreed work plan*



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To be competent, the user/individual on the job must be able to:

- PC15.** assist in sequencing key activities related to shuttering carpentry works for making schedule
- PC16.** assist in planning of timeline for identified key activities
- PC17.** record carpenters' time and materials used for each job
- PC18.** supervise carpentry jobs requiring a high degree of skill
- PC19.** ensure survey works and preparatory works are complete so as to provide required level & reference
- PC20.** check and ensure quality of plywood & timber prior to use
- PC21.** ensure availability of all tools, components, materials and fixture for assembling of shutters
- PC22.** ensure shutter is fabricated as per workshop drawing
- PC23.** ensure erected formwork is as per specified standards
- PC24.** ensure that appropriate procedure is followed while erecting formwork and while installing necessary supports, braces, penetrations, embedded parts, etc
- PC25.** check provision for lifting arrangement are provided in case of lifting of heavy weight formwork
- PC26.** monitor installation of jump form system using cranes or hydraulic system
- PC27.** monitor operation of jump form system
- PC28.** monitor proper functioning of hydraulic jack and cranes
- PC29.** monitor rising of formwork using hydraulic jacks and cranes
- PC30.** ensure safe lifting and lowering of formwork material using cranes
- PC31.** ensure that formwork is dismantled sequentially and safety following manufacturers instructions/ specification
- PC32.** provide assistance on complex jobs and ensure proper erection and dismantling of shuttering and formwork system

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for shuttering and formwork for in situ and pre cast construction works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** trade productivity norms
- KU8.** use of compact laser devices for setting out
- KU9.** company policies and hierarchy for reporting any anomaly
- KU10.** writing reports for submission to concerned authority
- KU11.** process of indent



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- KU12.** determine work methods which makes best use of relevant resource
- KU13.** documentation required for resource management such as preparation of indents, material and manpower calculation, preparation of daily labor reports
- KU14.** providing mobilization order to sub-contractors
- KU15.** various checklist for pre-approval and post clearance of work
- KU16.** optimum utilization and allocation of tools, equipment and resources as per requirement
- KU17.** how to calculate productivity
- KU18.** procedure for fixing of components for making shutters
- KU19.** terminology used in formwork
- KU20.** different types and sizes of formwork material
- KU21.** unit weight of individual formwork components
- KU22.** equipments to be used for lifting of formwork material
- KU23.** lifting capacity of belts, slings etc
- KU24.** procedure adopted for lifting of assembled shutters
- KU25.** reconciliation of materials used for making shutters
- KU26.** how to control wastage of materials
- KU27.** detailed working knowledge of any of the following formwork systems, RMD, TRAD, Peri And Doka systems
- KU28.** how to use tools and equipment common to the shuttering carpentry
- KU29.** sequence and prioritizing of activities
- KU30.** how to identify priority and critical activity of relevant task
- KU31.** functional of hydraulic system
- KU32.** how to check plumb and take corrective action
- KU33.** how to determine & control rotation
- KU34.** use of fixtures, connection
- KU35.** use of tools, tackles, components and equipment required for installation and operation of climbing formwork
- KU36.** types of formwork and their applications for basic and complex structures
- KU37.** types of cranes and hydraulic jacks used for lifting of climbing formwork

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively



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- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and allocate resources for shuttering carpentry works</i>	<b>10</b>	<b>10</b>	-	-
<b>PC1.</b> interpret drawings, specification and standards for formwork	-	-	-	-
<b>PC2.</b> confirm work hours and requirement for shuttering carpentry works with concerned superior	-	-	-	-
<b>PC3.</b> calculate component wise requirement for formwork	-	-	-	-
<b>PC4.</b> calculate the requirement of tools, tackles, consumables, equipment and manpower for making and erection of formwork	-	-	-	-
<b>PC5.</b> determine method of lifting, route and mode of transportation of relevant materials	-	-	-	-
<b>PC6.</b> allocate manpower and ensure their productivity	-	-	-	-
<i>Procure approvals and prepare checklist prior to and after commencement of work</i>	<b>10</b>	<b>10</b>	-	-
<b>PC7.</b> notify concerned superior for resources and equipment requirement	-	-	-	-
<b>PC8.</b> take safety clearance from services and EHS department before commencing shuttering work	-	-	-	-
<b>PC9.</b> provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace	-	-	-	-
<b>PC10.</b> check for completion of preparatory activities and coordinate between various departments	-	-	-	-
<b>PC11.</b> carry out checks and fill checklist after completion of work	-	-	-	-
<b>PC12.</b> provide status information on work received, in progress, backlog, and work assignments completed as requirement	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> maintain records and files and prepare reports on labour deployment, work done and productivity	-	-	-	-
<b>PC14.</b> review estimates, prepares sketches and reports on labor expenditures and materials used	-	-	-	-
<i>Supervise and ensure execution of system shuttering carpentry works in accordance with agreed work plan</i>	<b>30</b>	<b>30</b>	-	-
<b>PC15.</b> assist in sequencing key activities related to shuttering carpentry works for making schedule	-	-	-	-
<b>PC16.</b> assist in planning of timeline for identified key activities	-	-	-	-
<b>PC17.</b> record carpenters' time and materials used for each job	-	-	-	-
<b>PC18.</b> supervise carpentry jobs requiring a high degree of skill	-	-	-	-
<b>PC19.</b> ensure survey works and preparatory works are complete so as to provide required level & reference	-	-	-	-
<b>PC20.</b> check and ensure quality of plywood & timber prior to use	-	-	-	-
<b>PC21.</b> ensure availability of all tools, components, materials and fixture for assembling of shutters	-	-	-	-
<b>PC22.</b> ensure shutter is fabricated as per workshop drawing	-	-	-	-
<b>PC23.</b> ensure erected formwork is as per specified standards	-	-	-	-
<b>PC24.</b> ensure that appropriate procedure is followed while erecting formwork and while installing necessary supports, braces, penetrations, embedded parts, etc	-	-	-	-
<b>PC25.</b> check provision for lifting arrangement are provided in case of lifting of heavy weight formwork	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC26.</b> monitor installation of jump form system using cranes or hydraulic system	-	-	-	-
<b>PC27.</b> monitor operation of jump form system	-	-	-	-
<b>PC28.</b> monitor proper functioning of hydraulic jack and cranes	-	-	-	-
<b>PC29.</b> monitor rising of formwork using hydraulic jacks and cranes	-	-	-	-
<b>PC30.</b> ensure safe lifting and lowering of formwork material using cranes	-	-	-	-
<b>PC31.</b> ensure that formwork is dismantled sequentially and safety following manufacturers instructions/ specification	-	-	-	-
<b>PC32.</b> provide assistance on complex jobs and ensure proper erection and dismantling of shuttering and formwork system	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	-	-



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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0134
<b>NOS Name</b>	Plan, supervise and monitor execution of system shuttering carpentry works
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





## Qualification Pack

# CON/N0135: Plan, supervise and monitor execution of concreting works

## Description

This unit describes the skills and knowledge required to supervise and monitor execution of concreting works

## Scope

The scope covers the following :

- Plan and allocate resources for concreting works
- Procure approvals and prepare checklist prior to and after commencement of concreting work.
- Supervise and ensure execution of concreting works in accordance with agreed work plan

## Elements and Performance Criteria

### *Plan and allocate resources for concreting works*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret drawings, specification and standards for concreting work
- PC2.** confirm work hours and requirement for concreting works with concerned superior
- PC3.** calculate the requirement of tools, tackles, consumables, equipment and manpower for concreting work
- PC4.** determine method of lifting, route and mode of transportation of relevant materials from mixing point to pouring point
- PC5.** allocate manpower and ensure their productivity

### *Procure approvals and prepare checklist prior to and after commencement of concreting work*

To be competent, the user/individual on the job must be able to:

- PC6.** notify concerned superior for resources and equipment requirement
- PC7.** take safety clearance from services and EHS department before commencing concreting work
- PC8.** provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace
- PC9.** check for completion of preparatory activities and coordinate between various departments
- PC10.** carry out checks and fill checklist after completion of work
- PC11.** provide status information on work received, in progress, backlog, and work assignments completed as requirement
- PC12.** maintain records and files and prepare reports on labour deployment, work done and productivity
- PC13.** review estimates, prepares sketches and reports on labor expenditures and materials used

### *Supervise and ensure execution of concreting works in accordance with agreed work plan*

To be competent, the user/individual on the job must be able to:

- PC14.** inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met



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- PC15.** record information such as personnel, production, or operational data on specified forms or reports
- PC16.** coordinate with batching plant and construction site confirming continuity of supply of concrete
- PC17.** interpret specification sheets for information, such as sizes of aggregates and proportions of cement and water required, to ensure that concrete is mixed according to specifications
- PC18.** inspect bracing and shoring of concrete forms to ensure their stability before and during pouring
- PC19.** inspect the fixing and setting of pump line ,machinery for pouring of concrete
- PC20.** record details of the concreting works covering grade of concrete, area and volume of pour, number of workers ,tools and equipment deployed for work and achieved productivity
- PC21.** indicates positions for pouring chutes and runways, cranes, or paving machines to facilitate conveying concrete from mixer to forms
- PC22.** directs workers who spread, vibrate, screed, and float concrete to ensure that concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness
- PC23.** check for bulking and loose formwork during concreting
- PC24.** ensure execution of concreting in extreme hot/cold weather as per standard practices and specification
- PC25.** examines concrete, after forms are stripped, and gives instruction to workers to repair defects, such as roughness and honeycombed appearance
- PC26.** prescribe methods for curing concrete, such as covering surface of green (fresh) concrete with burlap, plastic, earth, straw, or chemical compound, to prevent green concrete from drying out rapidly or freezing

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for concreting works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears and equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** trade productivity norms
- KU8.** use of compact laser devices
- KU9.** company policies and hierarchy for reporting any anomaly
- KU10.** writing reports for submission to concerned authority
- KU11.** process of indent
- KU12.** determine work methods which makes best use of relevant resource



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- KU13.** documentation required for resource management such as preparation of indents, material and manpower calculation, preparation of daily labor reports
- KU14.** providing mobilization order to sub-contractors
- KU15.** various checklist for pre-approval and post clearance of work
- KU16.** optimum utilization and allocation of tools, equipment and resources as per requirement
- KU17.** how to calculate productivity
- KU18.** how to measure and check lines and levels for maintaining layout and alignment
- KU19.** standard practices, materials, and methods of the concreting works
- KU20.** use of tools and equipment for concreting works
- KU21.** structural drawings relevant to concreting works
- KU22.** methodology for estimation of required resource and material
- KU23.** standard tolerance levels for all aspects of concreting work (including pouring, screening, leveling and finishing)
- KU24.** difference and comparison between pre cast and in situ concreting works
- KU25.** basic properties and mix proportions of concrete
- KU26.** basic properties and mix proportions of concrete
- KU27.** appropriate techniques (including use of tools, equipment and material) for all aspects of concreting work (including pouring, screening, leveling and finishing)
- KU28.** methodology for checking line ,level and alignment for various concreting works
- KU29.** methodology of concreting works in horizontal, vertical and inclined surfaces
- KU30.** different type of high quality concrete finish
- KU31.** sequence of pour
- KU32.** variation of slump w.r.t rate of pour
- KU33.** different type of vibrators used(internal/external vibrators),their accessibility and influence area
- KU34.** vibration in congested areas
- KU35.** construction joints/cold joints
- KU36.** curing technique of form finished concrete
- KU37.** self-compact concrete
- KU38.** initial, final setting of concrete and their checking
- KU39.** correct positioning of the pump hose when pumping the SCC
- KU40.** methodology for hot/cold weather concreting works
- KU41.** major risks associated with hot and cold weather concrete

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site



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- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks
- GS10.** identify any violation of safety norms during the work



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and allocate resources for concreting works</i>	<b>10</b>	<b>10</b>	-	-
<b>PC1.</b> interpret drawings, specification and standards for concreting work	-	-	-	-
<b>PC2.</b> confirm work hours and requirement for concreting works with concerned superior	-	-	-	-
<b>PC3.</b> calculate the requirement of tools, tackles, consumables, equipment and manpower for concreting work	-	-	-	-
<b>PC4.</b> determine method of lifting, route and mode of transportation of relevant materials from mixing point to pouring point	-	-	-	-
<b>PC5.</b> allocate manpower and ensure their productivity	-	-	-	-
<i>Procure approvals and prepare checklist prior to and after commencement of concreting work</i>	<b>10</b>	<b>10</b>	-	-
<b>PC6.</b> notify concerned superior for resources and equipment requirement	-	-	-	-
<b>PC7.</b> take safety clearance from services and EHS department before commencing concreting work	-	-	-	-
<b>PC8.</b> provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace	-	-	-	-
<b>PC9.</b> check for completion of preparatory activities and coordinate between various departments	-	-	-	-
<b>PC10.</b> carry out checks and fill checklist after completion of work	-	-	-	-
<b>PC11.</b> provide status information on work received, in progress, backlog, and work assignments completed as requirement	-	-	-	-
<b>PC12.</b> maintain records and files and prepare reports on labour deployment, work done and productivity	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> review estimates, prepares sketches and reports on labor expenditures and materials used	-	-	-	-
<i>Supervise and ensure execution of concreting works in accordance with agreed work plan</i>	<b>30</b>	<b>30</b>	-	-
<b>PC14.</b> inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met	-	-	-	-
<b>PC15.</b> record information such as personnel, production, or operational data on specified forms or reports	-	-	-	-
<b>PC16.</b> coordinate with batching plant and construction site confirming continuity of supply of concrete	-	-	-	-
<b>PC17.</b> interpret specification sheets for information, such as sizes of aggregates and proportions of cement and water required, to ensure that concrete is mixed according to specifications	-	-	-	-
<b>PC18.</b> inspect bracing and shoring of concrete forms to ensure their stability before and during pouring	-	-	-	-
<b>PC19.</b> inspect the fixing and setting of pump line ,machinery for pouring of concrete	-	-	-	-
<b>PC20.</b> record details of the concreting works covering grade of concrete, area and volume of pour, number of workers ,tools and equipment deployed for work and achieved productivity	-	-	-	-
<b>PC21.</b> indicates positions for pouring chutes and runways, cranes, or paving machines to facilitate conveying concrete from mixer to forms	-	-	-	-
<b>PC22.</b> directs workers who spread, vibrate, screed, and float concrete to ensure that concrete is compacted to desired consistency and surface is finished to specified uniformity and smoothness	-	-	-	-
<b>PC23.</b> check for bulking and loose formwork during concreting	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC24.</b> ensure execution of concreting in extreme hot/cold weather as per standard practices and specification	-	-	-	-
<b>PC25.</b> examines concrete, after forms are stripped, and gives instruction to workers to repair defects, such as roughness and honeycombed appearance	-	-	-	-
<b>PC26.</b> prescribe methods for curing concrete, such as covering surface of green (fresh) concrete with burlap, plastic, earth, straw, or chemical compound, to prevent green concrete from drying out rapidly or freezing	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0135
<b>NOS Name</b>	Plan, supervise and monitor execution of concreting works
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





## Qualification Pack

# CON/N0136: Plan, supervise and monitor execution of bar bending works

## Description

This unit describes the skills and knowledge required to supervise and monitor execution of concreting works

## Scope

The scope covers the following :

- Plan and allocate resources for bar bending works
- Procure approvals and prepare checklist prior to and after commencement of work.
- Supervise and ensure execution of bar-bending works in accordance with agreed work plan

## Elements and Performance Criteria

### *Plan and allocate resources for bar bending works*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret drawings, specification and standards for bar bending works
- PC2.** confirm work hours and requirement for bar bending works with concerned superior
- PC3.** calculate the requirement of tools, tackles, consumables, equipment and manpower for bar bending works
- PC4.** determine method of lifting, route and mode of transportation of relevant materials from stock yard to erection point
- PC5.** allocate manpower and ensure their productivity

### *Procure approvals and prepare checklist prior to and after commencement of work*

To be competent, the user/individual on the job must be able to:

- PC6.** notify concerned superior for resources and equipment requirement
- PC7.** take safety clearance from services and EHS department before commencing bar bending work
- PC8.** provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace
- PC9.** check for completion of preparatory activities and coordinate between various departments
- PC10.** carry out checks and fill checklist after completion of work
- PC11.** provide status information on work received, in progress, backlog, and work assignments completed as requirement
- PC12.** maintain records and files and prepare reports on labour deployment, work done and productivity
- PC13.** review estimates, prepares sketches and reports on labor expenditures and materials used

### *Supervise and ensure execution of bar-bending works in accordance with agreed work plan*

To be competent, the user/individual on the job must be able to:

- PC14.** supervise bar bending task requiring high degree of skill



## Qualification Pack

- PC15.** inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met
- PC16.** record information such as personnel, production, or operational data on specified forms or reports
- PC17.** read and follow manufactures specification for operation of power tools and CNC machine for cutting and bending
- PC18.** carry out weighing of steel reinforcement before unloading at site in coordination with the stores
- PC19.** ensure standard practices for storing and stacking of reinforcement steel at the yard
- PC20.** monitor all reinforcement bars cutting and bending activity at yard
- PC21.** ensure bundling/tagging and stacking of cut and bent bars as per bar marking the BBS
- PC22.** ensure scaffolding is complete as per required / specified heights/requirements, method, load carrying capacity, etc
- PC23.** check and ensure use of approved BBS for execution of reinforcement work
- PC24.** optimize use of already available cut steel rods to minimize wastage
- PC25.** plan sequence of insertion and fixing of reinforcement bars for different types of structures
- PC26.** co-relate the sequence of reinforcement placing with fixing of inserts, sleeves, conduits and anchors
- PC27.** check quality of mechanical connections of reinforcement bars
- PC28.** check the quality of pre-fabricated reinforcement cage and the erection process
- PC29.** ensure reinforcement bars, cast-in items, corrugated sleeve pipes, recesses, lifting hooks and inserts are correctly positioned and properly secured, within specified tolerance levels
- PC30.** ensure that the joints and edges of the mould, bolts, stoppers, tie rods, side props and rubber seal are intact and properly secured
- PC31.** check for stiffening of cage before lifting for stacking/erection
- PC32.** ensure completion of bar bending works as per agreed time schedule and within applicable tolerance limits

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for reinforcement works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears & equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** trade productivity norms
- KU8.** use of compact laser devices
- KU9.** company policies and hierarchy for reporting any anomaly



## Qualification Pack

- KU10.** writing reports for submission to concerned authority
- KU11.** determine work methods which makes best use of relevant resource
- KU12.** documentation required for resource management such as preparation of indents, material and manpower calculation, preparation of daily labor reports
- KU13.** providing mobilization order to sub-contractors
- KU14.** various checklist for pre-approval and post clearance of work
- KU15.** optimum utilization and allocation of tools, equipment and resources as per requirement
- KU16.** how to calculate productivity
- KU17.** standard procedures for stacking of reinforcement
- KU18.** various types of steel such as mild steel , tor steel and TMTsteel
- KU19.** method to prevent reinforcement against rusting, and weathering effect
- KU20.** bundling and tagging of reinforcement bars
- KU21.** schematic drawings, sketches and BBS
- KU22.** how to operate hand tools, power tools, CNC machine for their respective applications in reinforcement work
- KU23.** types of mechanical couplers and manufacturers instructions for their installations
- KU24.** types and optimum use of binding wire
- KU25.** common terminology used in reinforcement works
- KU26.** corrective measure for reinforcement
- KU27.** method for fixing of mechanical coupler
- KU28.** max allowable wastage of reinforcement bars
- KU29.** basic reconciliation of reinforcement
- KU30.** rolling marking of reinforcement
- KU31.** unit weight of reinforcement bars of different diameter
- KU32.** tolerance limits for various types of reinforcement works as per Indian/international codes
- KU33.** importance of reinforcement in precast RCC works
- KU34.** reinforcement insertion procedures for special structures like arches, domes, etc

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates



## Qualification Pack

**GS9.** evaluate the complexity of the tasks

**GS10.** identify any violation of safety norms during the work



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and allocate resources for bar bending works</i>	<b>10</b>	<b>10</b>	-	-
<b>PC1.</b> interpret drawings, specification and standards for bar bending works	-	-	-	-
<b>PC2.</b> confirm work hours and requirement for bar bending works with concerned superior	-	-	-	-
<b>PC3.</b> calculate the requirement of tools, tackles, consumables, equipment and manpower for bar bending works	-	-	-	-
<b>PC4.</b> determine method of lifting, route and mode of transportation of relevant materials from stock yard to erection point	-	-	-	-
<b>PC5.</b> allocate manpower and ensure their productivity	-	-	-	-
<i>Procure approvals and prepare checklist prior to and after commencement of work</i>	<b>10</b>	<b>10</b>	-	-
<b>PC6.</b> notify concerned superior for resources and equipment requirement	-	-	-	-
<b>PC7.</b> take safety clearance from services and EHS department before commencing bar bending work	-	-	-	-
<b>PC8.</b> provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace	-	-	-	-
<b>PC9.</b> check for completion of preparatory activities and coordinate between various departments	-	-	-	-
<b>PC10.</b> carry out checks and fill checklist after completion of work	-	-	-	-
<b>PC11.</b> provide status information on work received, in progress, backlog, and work assignments completed as requirement	-	-	-	-
<b>PC12.</b> maintain records and files and prepare reports on labour deployment, work done and productivity	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> review estimates, prepares sketches and reports on labor expenditures and materials used	-	-	-	-
<i>Supervise and ensure execution of bar-bending works in accordance with agreed work plan</i>	<b>30</b>	<b>30</b>	-	-
<b>PC14.</b> supervise bar bending task requiring high degree of skill	-	-	-	-
<b>PC15.</b> inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met	-	-	-	-
<b>PC16.</b> record information such as personnel, production, or operational data on specified forms or reports	-	-	-	-
<b>PC17.</b> read and follow manufactures specification for operation of power tools and CNC machine for cutting and bending	-	-	-	-
<b>PC18.</b> carry out weighing of steel reinforcement before unloading at site in coordination with the stores	-	-	-	-
<b>PC19.</b> ensure standard practices for storing and stacking of reinforcement steel at the yard	-	-	-	-
<b>PC20.</b> monitor all reinforcement bars cutting and bending activity at yard	-	-	-	-
<b>PC21.</b> ensure bundling/tagging and stacking of cut and bent bars as per bar marking the BBS	-	-	-	-
<b>PC22.</b> ensure scaffolding is complete as per required / specified heights/requirements, method, load carrying capacity, etc	-	-	-	-
<b>PC23.</b> check and ensure use of approved BBS for execution of reinforcement work	-	-	-	-
<b>PC24.</b> optimize use of already available cut steel rods to minimize wastage	-	-	-	-
<b>PC25.</b> plan sequence of insertion and fixing of reinforcement bars for different types of structures	-	-	-	-



### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC26.</b> co-relate the sequence of reinforcement placing with fixing of inserts, sleeves, conduits and anchors	-	-	-	-
<b>PC27.</b> check quality of mechanical connections of reinforcement bars	-	-	-	-
<b>PC28.</b> check the quality of pre-fabricated reinforcement cage and the erection process	-	-	-	-
<b>PC29.</b> ensure reinforcement bars, cast-in items, corrugated sleeve pipes, recesses, lifting hooks and inserts are correctly positioned and properly secured, within specified tolerance levels	-	-	-	-
<b>PC30.</b> ensure that the joints and edges of the mould, bolts, stoppers, tie rods, side props and rubber seal are intact and properly secured	-	-	-	-
<b>PC31.</b> check for stiffening of cage before lifting for stacking/erection	-	-	-	-
<b>PC32.</b> ensure completion of bar bending works as per agreed time schedule and within applicable tolerance limits	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0136
<b>NOS Name</b>	Plan, supervise and monitor execution of bar bending works
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





## Qualification Pack

# CON/N0137: Plan, supervise and monitor execution of scaffolding works

## Description

This unit describes the skills and knowledge required to supervise and monitor execution of scaffolding works.

## Scope

The scope covers the following :

- Plan and allocate resources for scaffolding works
- Procure approvals and prepare checklist prior to and after commencement of work.
- Supervise and ensure execution of scaffolding works in accordance with agreed work plan

## Elements and Performance Criteria

### *Plan and allocate resources for scaffolding works*

To be competent, the user/individual on the job must be able to:

- PC1.** interpret drawings, specification and standards for scaffolding works
- PC2.** confirm work hours and requirement for scaffolding works with concerned superior
- PC3.** calculate quantity of various components for scaffolding
- PC4.** calculate the requirement of tools, tackles, consumables, equipment and manpower for bar bending works
- PC5.** determine method of lifting, route and mode of transportation of relevant materials from stock yard to erection point
- PC6.** allocate manpower and ensure their productivity

### *Procure approvals and prepare checklist prior to and after commencement of work*

To be competent, the user/individual on the job must be able to:

- PC7.** notify concerned superior for resources and equipment requirement
- PC8.** take safety clearance from services and EHS department before commencing scaffolding work
- PC9.** provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace
- PC10.** check for completion of preparatory activities and coordinate between various departments
- PC11.** carry out checks and fill checklist after completion of work
- PC12.** provide status information on work received, in progress, backlog, and work assignments completed as requirement
- PC13.** maintain records and files and prepare reports on labour deployment, work done and productivity
- PC14.** review estimates, prepares sketches and reports on labor expenditures and materials used

### *Supervise and ensure execution of scaffolding works in accordance with agreed work plan*

To be competent, the user/individual on the job must be able to:

- PC15.** supervise scaffolding task requiring high degree of skill



## Qualification Pack

- PC16.** inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met
- PC17.** record information such as personnel, production, or operational data on specified forms or reports
- PC18.** ensure completion of surveying, marking and other preparatory arrangement
- PC19.** ensure that standard procedure is followed during erection of scaffold
- PC20.** ensure safe lifting and lowering of scaffold material manually or by using crane
- PC21.** ensure height of scaffold erected is within permissible limits
- PC22.** ensure all working platform are properly fixed for carrying out subsequent activity
- PC23.** check scaffold for rigidity and ensured stability
- PC24.** ensure scaffolds are used only for intended purpose
- PC25.** ensure maintenance of safety protocol while using or accessing scaffold
- PC26.** check all guardrails, toe board, walk way boards, fall protection are in place to ensure safety
- PC27.** check scaffold is tagged for its purpose (safe for use, unsafe for use, scaffold incomplete)
- PC28.** check and ensure scaffold is supported with permanent structure at regular interval as per standard practices
- PC29.** check scaffold with respect to inspection checklist
- PC30.** record details of erected scaffold and document inspection checklist

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for scaffolding works
- KU2.** safety rules and regulations for handling and storing relevant tools, equipment, and materials required for relevant works in accordance with organizational norms
- KU3.** importance of personal protection including the use of related safety gears & equipment in accordance with organizational norms
- KU4.** service request procedures for tools, materials and equipment as per organizational norms
- KU5.** procedure for maintenance of tools and equipment
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** trade productivity norms
- KU8.** use of compact laser devices for setting out
- KU9.** company policies and hierarchy for reporting any anomaly
- KU10.** writing reports for submission to concerned authority
- KU11.** process of indent
- KU12.** determine work methods which makes best use of relevant resource
- KU13.** documentation required for resource management such as preparation of indents, material and manpower calculation, preparation of daily labor reports
- KU14.** providing mobilization order to sub-contractors
- KU15.** various checklist for pre-approval and post clearance of work
- KU16.** optimum utilization and allocation of tools, equipment and resources as per requirement



## Qualification Pack

- KU17.** how to calculate productivity
- KU18.** scaffolding tasks
- KU19.** how to measure and check lines and levels for maintaining layout and alignment
- KU20.** standard practices, materials, and methods of the scaffolding works
- KU21.** use of tools and equipment common to the scaffolding trade
- KU22.** basic principles of measurement along with simple geometry
- KU23.** methodology for estimation of required resource and material
- KU24.** procedure for layout of scaffolding as per drawings
- KU25.** how to read and interpret scaffolding drawing , other relevant working drawings and working method statement
- KU26.** standard tolerance limits for of scaffolding work (including erection and dismantling of conventional scaffold, mobile tower, staircase, complex scaffolds, etc.)
- KU27.** safety mechanism for scaffolds in normal and confined areas
- KU28.** preventive and corrective action to ensure that the scaffolding work meets the quality requirements as per drawings
- KU29.** checklist for scaffolding works
- KU30.** importance of snag list clearance
- KU31.** basic principle of measurement and marking
- KU32.** arithmetic and geometry calculation
- KU33.** maximum tolerance limit for scaffold as per Indian/International code practices
- KU34.** line, level and alignment required for scaffold
- KU35.** preventive and corrective action to ensure scaffold meets the required standards of quality
- KU36.** components, materials and tools used in scaffolding works
- KU37.** procedure for layout of scaffold as per drawings
- KU38.** different types of scaffolds system such as pipe and couplers and other common customized system scaffold (frame scaffold ) for basic and complex structures

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least one language, preferably in the local language of the site
- GS2.** read sketches, instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site
- GS3.** speak in one or more language, preferably one of the local language at the site
- GS4.** communicate orally and effectively with team members
- GS5.** analyze the safety aspect of the workplace
- GS6.** plan work and organize required resource effectively
- GS7.** complete work as per agreed time schedule and quality parameters
- GS8.** resolve any conflict within the teammates
- GS9.** evaluate the complexity of the tasks



## Qualification Pack

**GS10.** identify any violation of safety norms during the work



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Plan and allocate resources for scaffolding works</i>	<b>10</b>	<b>10</b>	-	-
<b>PC1.</b> interpret drawings, specification and standards for scaffolding works	-	-	-	-
<b>PC2.</b> confirm work hours and requirement for scaffolding works with concerned superior	-	-	-	-
<b>PC3.</b> calculate quantity of various components for scaffolding	-	-	-	-
<b>PC4.</b> calculate the requirement of tools, tackles, consumables, equipment and manpower for bar bending works	-	-	-	-
<b>PC5.</b> determine method of lifting, route and mode of transportation of relevant materials from stock yard to erection point	-	-	-	-
<b>PC6.</b> allocate manpower and ensure their productivity	-	-	-	-
<i>Procure approvals and prepare checklist prior to and after commencement of work</i>	<b>10</b>	<b>10</b>	-	-
<b>PC7.</b> notify concerned superior for resources and equipment requirement	-	-	-	-
<b>PC8.</b> take safety clearance from services and EHS department before commencing scaffolding work	-	-	-	-
<b>PC9.</b> provide clearance and mobility order to subcontractors for mobilization of resource and material at next workspace	-	-	-	-
<b>PC10.</b> check for completion of preparatory activities and coordinate between various departments	-	-	-	-
<b>PC11.</b> carry out checks and fill checklist after completion of work	-	-	-	-
<b>PC12.</b> provide status information on work received, in progress, backlog, and work assignments completed as requirement	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> maintain records and files and prepare reports on labour deployment, work done and productivity	-	-	-	-
<b>PC14.</b> review estimates, prepares sketches and reports on labor expenditures and materials used	-	-	-	-
<i>Supervise and ensure execution of scaffolding works in accordance with agreed work plan</i>	<b>30</b>	<b>30</b>	-	-
<b>PC15.</b> supervise scaffolding task requiring high degree of skill	-	-	-	-
<b>PC16.</b> inspect work progress, equipment, or construction sites to verify safety or to ensure that specifications are met	-	-	-	-
<b>PC17.</b> record information such as personnel, production, or operational data on specified forms or reports	-	-	-	-
<b>PC18.</b> ensure completion of surveying, marking and other preparatory arrangement	-	-	-	-
<b>PC19.</b> ensure that standard procedure is followed during erection of scaffold	-	-	-	-
<b>PC20.</b> ensure safe lifting and lowering of scaffold material manually or by using crane	-	-	-	-
<b>PC21.</b> ensure height of scaffold erected is within permissible limits	-	-	-	-
<b>PC22.</b> ensure all working platform are properly fixed for carrying out subsequent activity	-	-	-	-
<b>PC23.</b> check scaffold for rigidity and ensured stability	-	-	-	-
<b>PC24.</b> ensure scaffolds are used only for intended purpose	-	-	-	-
<b>PC25.</b> ensure maintenance of safety protocol while using or accessing scaffold	-	-	-	-
<b>PC26.</b> check all guardrails, toe board, walk way boards, fall protection are in place to ensure safety	-	-	-	-



## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC27.</b> check scaffold is tagged for its purpose (safe for use, unsafe for use, scaffold incomplete)	-	-	-	-
<b>PC28.</b> check and ensure scaffold is supported with permanent structure at regular interval as per standard practices	-	-	-	-
<b>PC29.</b> check scaffold with respect to inspection checklist	-	-	-	-
<b>PC30.</b> record details of erected scaffold and document inspection checklist	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N0137
<b>NOS Name</b>	Plan, supervise and monitor execution of scaffolding works
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Masonry
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	2.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022





## Qualification Pack

# CON/N8003: Supervise, monitor and evaluate performance of subordinates at workplace

## Description

This unit covers the skills and knowledge required by an individual to supervise, monitor and evaluate performance of subordinates at the work place

## Scope

The scope covers the following :

- Monitor and evaluate subordinates performance as per quality standards and timelines
- Practice and promote gender inclusive behavior and leadership

## Elements and Performance Criteria

### *Monitor and evaluate subordinates performance as per quality standards and timelines*

To be competent, the user/individual on the job must be able to:

- PC1.** fix expected targets for the respective gang as per site requirements and allocate work to subordinates
- PC2.** establish expected performance standards and expectations for the respective gang of workers to meet the desired outcomes
- PC3.** inspect assigned work to the respected gang of workers through progressive checking
- PC4.** observe and verify the work activities performed by the subordinates at the construction site
- PC5.** monitor overall performance of subordinates on the designed measures to ensure quality requirements set by the concerned authority
- PC6.** ensure adherence to the organizational policies and procedures for all relevant construction activities by the workmen subordinations

### *Practice and promote gender inclusive behavior and leadership*

To be competent, the user/individual on the job must be able to:

- PC7.** promote a safe, supportive, inclusive and gender sensitive environment at workplace.
- PC8.** manage and facilitate capacity building to enable inclusion of all genders
- PC9.** take prompt corrective action in case of inappropriate behavior at workplace

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** policies, procedures and work targets for performance evaluation and appraisals
- KU2.** organizational policies, procedures and protocol for smooth completion of work at the respective workplace
- KU3.** complete work/task accurately by following standard specifications and procedures by optimized and correct used of materials , tools, tackles and equipment



## Qualification Pack

### Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at one or more language, preferably the local language
- GS2.** read in at one or more language, preferably the local language at the site
- GS3.** speak in at one or more language, preferably one of the local language at the site
- GS4.** communicate effectively with team members at workplace
- GS5.** plan work as per right sequence and organize required resources in coordination with the team members
- GS6.** complete work as per the requirement
- GS7.** evaluate and find solutions to minimize errors and suggest improvements for optimizing resource utilization
- GS8.** assess which situations would require intervention of superiors



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Monitor and evaluate subordinates performance as per quality standards and timelines</i>	<b>40</b>	<b>40</b>	-	-
<b>PC1.</b> fix expected targets for the respective gang as per site requirements and allocate work to subordinates	-	-	-	-
<b>PC2.</b> establish expected performance standards and expectations for the respective gang of workers to meet the desired outcomes	-	-	-	-
<b>PC3.</b> inspect assigned work to the respected gang of workers through progressive checking	-	-	-	-
<b>PC4.</b> observe and verify the work activities performed by the subordinates at the construction site	-	-	-	-
<b>PC5.</b> monitor overall performance of subordinates on the designed measures to ensure quality requirements set by the concerned authority	-	-	-	-
<b>PC6.</b> ensure adherence to the organizational policies and procedures for all relevant construction activities by the workmen subordinations	-	-	-	-
<i>Practice and promote gender inclusive behavior and leadership</i>	<b>10</b>	<b>10</b>	-	-
<b>PC7.</b> promote a safe, supportive, inclusive and gender sensitive environment at workplace.	-	-	-	-
<b>PC8.</b> manage and facilitate capacity building to enable inclusion of all genders	-	-	-	-
<b>PC9.</b> take prompt corrective action in case of inappropriate behavior at workplace	-	-	-	-
<b>NOS Total</b>	<b>50</b>	<b>50</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N8003
<b>NOS Name</b>	Supervise, monitor and evaluate performance of subordinates at workplace
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Real Estate and Infrastructure construction
<b>Occupation</b>	Generic 2
<b>NSQF Level</b>	6
<b>Credits</b>	TBD
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022



## Qualification Pack

# CON/N9002: Manage workplace for safe and healthy work environment

## Description

This unit describes the skill and knowledge required to maintain a healthy & safe working environment for the group of people working under an individual

## Scope

The scope covers the following :

- Ensure effective implementation of health, safety and environment policies and procedures
- Identify and respond to risks / fire and emergencies associated with the work practices and workplace
- Ensure sanitization and infection control guidelines are followed at construction site

## Elements and Performance Criteria

### *Ensure effective implementation of health, safety and environment policies and procedures*

To be competent, the user/individual on the job must be able to:

- PC1.** implement safe handling and stacking methods at workplace /store
- PC2.** ensure the adequate availability and placing of safety and protection installations at site
- PC3.** ensure that safe access ways are available at work place for movement of workers and materials
- PC4.** ensure the safe use of tools and tackles by teammates as per work requirements
- PC5.** ensure ergonomic principles are adopted by the teammates while lifting and shifting of construction materials, tools and equipment
- PC6.** ensure appropriate use of following Personal Protective Equipment (PPE) as per work requirement of head protection, ear protection, fall protection, foot protection, face and eye protection, hand and body protection, respiratory protection
- PC7.** maintain entry and exit pathways from confined spaces, excavated pits and other location as per safety parameters/instructions
- PC8.** ensure proper housekeeping at workplace
- PC9.** ensure that subordinates adhere to health and safety plans

### *Identify and respond to risks / fire and emergencies associated with the work practices and workplace*

To be competent, the user/individual on the job must be able to:

- PC10.** identify any hazard at workplace and report/notify the same to appropriate authorities.
- PC11.** follow procedures for accident recording and reporting as per organizational and statutory requirements
- PC12.** ensure effective adherence to emergency response procedures / protocols
- PC13.** select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline
- PC14.** obtain 'height pass' clearance as per EHS guideline



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**PC15.** implement control measures to reduce risks ,meeting legislative requirements within the scope of own role and expertise, as per organizational policies

*Ensure sanitization and infection control guidelines are followed at construction site*

To be competent, the user/individual on the job must be able to:

**PC16.** promote awareness about latest hygiene and sanitation regulations

**PC17.** ensure disinfection procedure related to material, tools and supplies are followed properly

**PC18.** respond to infection prevention and control and its non-compliance , within scope of own role or report to required personnel

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** the policies, procedures and protocol set up by the EHS Department with respect to Health , Safety and Environment at the respective construction site

**KU2.** reporting procedures in cases of breaches or hazards in site safety, accidents or emergency situations

**KU3.** safe working practices for tools, tackles and equipment

**KU4.** workplace policies and health and safety requirements for dealing with potential risks as defined by the EHS department

**KU5.** how to respond to accidents and emergencies

**KU6.** the appropriate personal protective equipment to be used based on various working conditions

**KU7.** how to use necessary material ,tools, tackles and equipment in a safe and appropriate manner as specified by site EHS for each level and respective workman gang

**KU8.** ways of transmission of infection

**KU9.** ways to manage infectious risks at the workplace

**KU10.** different methods of cleaning, disinfection, sterilization and sanitization

**KU11.** symptoms of infection like fever, cough, redness, swelling and inflammation

**KU12.** actions be taken during a medical emergency

**KU13.** current guidelines, national legislation, local policies and protocols regarding spread of infectious disease.

## Generic Skills (GS)

User/individual on the job needs to know how to:

**GS1.** write in at least one language, preferably in the local language of the site

**GS2.** read instructions provided for the work, and various signboards, safety rules, safety tags, exit route information in one or more languages, preferably in the local language of the site

**GS3.** speak in one or more language, preferably one of the local language at the site

**GS4.** listen and follow instructions shared by site EHS and superiors regarding site safety

**GS5.** communicate reporting of site conditions, hazards, accidents, etc.

**GS6.** analyze the safety aspect of the workplace



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**GS7.** identify any violation of safety norms during the work



## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure effective implementation of health, safety and environment policies and procedures</i>	<b>20</b>	<b>30</b>	-	-
<b>PC1.</b> implement safe handling and stacking methods at workplace /store	-	-	-	-
<b>PC2.</b> ensure the adequate availability and placing of safety and protection installations at site	-	-	-	-
<b>PC3.</b> ensure that safe access ways are available at work place for movement of workers and materials	-	-	-	-
<b>PC4.</b> ensure the safe use of tools and tackles by teammates as per work requirements	-	-	-	-
<b>PC5.</b> ensure ergonomic principles are adopted by the teammates while lifting and shifting of construction materials, tools and equipment	-	-	-	-
<b>PC6.</b> ensure appropriate use of following Personal Protective Equipment (PPE) as per work requirement of head protection, ear protection, fall protection, foot protection, face and eye protection, hand and body protection, respiratory protection	-	-	-	-
<b>PC7.</b> maintain entry and exit pathways from confined spaces, excavated pits and other location as per safety parameters/instructions	-	-	-	-
<b>PC8.</b> ensure proper housekeeping at workplace	-	-	-	-
<b>PC9.</b> ensure that subordinates adhere to health and safety plans	-	-	-	-
<i>Identify and respond to risks / fire and emergencies associated with the work practices and workplace</i>	<b>12</b>	<b>18</b>	-	-
<b>PC10.</b> identify any hazard at workplace and report/notify the same to appropriate authorities.	-	-	-	-
<b>PC11.</b> follow procedures for accident recording and reporting as per organizational and statutory requirements	-	-	-	-
<b>PC12.</b> ensure effective adherence to emergency response procedures / protocols	-	-	-	-





### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline	-	-	-	-
<b>PC14.</b> obtain 'height pass' clearance as per EHS guideline	-	-	-	-
<b>PC15.</b> implement control measures to reduce risks ,meeting legislative requirements within the scope of own role and expertise, as per organizational policies	-	-	-	-
<i>Ensure sanitization and infection control guidelines are followed at construction site</i>	<b>8</b>	<b>12</b>	-	-
<b>PC16.</b> promote awareness about latest hygiene and sanitation regulations	-	-	-	-
<b>PC17.</b> ensure disinfection procedure related to material, tools and supplies are followed properly	-	-	-	-
<b>PC18.</b> respond to infection prevention and control and its non-compliance , within scope of own role or report to required personnel	-	-	-	-
<b>NOS Total</b>	<b>40</b>	<b>60</b>	-	-



## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	CON/N9002
<b>NOS Name</b>	Manage workplace for safe and healthy work environment
<b>Sector</b>	Construction
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	5
<b>Credits</b>	TBD
<b>Version</b>	3.0
<b>Last Reviewed Date</b>	31/03/2022
<b>Next Review Date</b>	31/03/2025
<b>NSQC Clearance Date</b>	31/03/2022

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC)/ element 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/element.
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.



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- 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.
- 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 .
- 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.
- Minimum duration of Assessment of each QP shall be of 4hrs/trainee.

### Minimum Aggregate Passing % at QP Level : 70

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

## Assessment Weightage

### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N0132. Interpret drawings, specifications and standards for structural execution	50	50	-	-	100	15
CON/N0134. Plan, supervise and monitor execution of system shuttering carpentry works	50	50	-	-	100	15
CON/N0135. Plan, supervise and monitor execution of concreting works	50	50	-	-	100	15
CON/N0136. Plan, supervise and monitor execution of bar bending works	50	50	-	-	100	15
CON/N0137. Plan, supervise and monitor execution of scaffolding works	50	50	-	-	100	15



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National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N8003. Supervise, monitor and evaluate performance of subordinates at workplace	50	50	-	-	100	10
CON/N9002. Manage workplace for safe and healthy work environment	40	60	-	-	100	15
<b>Total</b>	<b>340</b>	<b>360</b>	<b>-</b>	<b>-</b>	<b>700</b>	<b>100</b>



## Qualification Pack

### Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training



## Qualification Pack

### Glossary

<b>Sector</b>	Sector is a 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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
<b>Scope</b>	Scope is a 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 quality of performance required.



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<b>Knowledge and Understanding (KU)</b>	<p>Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.</p>
<b>Organisational Context</b>	<p>Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.</p>
<b>Technical Knowledge</b>	<p>Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.</p>
<b>Core Skills/ Generic Skills (GS)</b>	<p>Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment 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.</p>
<b>Electives</b>	<p>Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.</p>
<b>Options</b>	<p>Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.</p>