

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 – Helper Bar Bender & Steel Fixer

SECTOR: CONSTRUCTION

SUB-SECTOR: Real Estate and Infrastructure Construction

OCCUPATION: BAR BENDING & FIXING

REFERENCE ID: CON/Q0201

ALIGNED TO: NCO-2004/9313.90

Helper Bar Bender & Steel Fixer: This job role provides support in handling of materials, tools and equipments related to bar bending and fixing works at the construction site.

Brief Job Description: This job role is responsible for identification, handling and use of materials, tools, and equipment. The responsibilities also include identification, straightening, marking and cutting of rebar, tying reinforcement for prefabricated cages and at in-situ using hand tools. The individual should have knowledge about the environment, health, safety and safe working practices and of handling rebar properly.

Personal Attributes: The individual is expected to be physically fit and should be able to work across various locations in withstanding extreme conditions while working. The individual shall be able to work within a team to handle various bar bending tools and materials and works under continuous instructions and close supervision

Job Details	Qualifications Pack Code	CON/Q0201		
	Job Role	Helper Bar Bender & Steel Fixer		
	Credits (NSQF)	TBD	Version number	1.1
	Sector	Construction	Drafted on	07/05/2015
	Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
	Occupation	Bar Bending & Fixing	Next review date	23/05/2017
	NSQC Clearance on	NA		
	Job Role	Helper Bar Bender & Steel Fixer		
Role Description	This job role is responsible for performing work such as identify, shift and stack bar bending materials, tools and equipment under continuous instruction and close supervision.			
NSQF level	1			
Minimum Educational Qualifications	Preferably 5 th standard			
Maximum Educational Qualifications	N.A.			
Training (Suggested but not mandatory)	Recommended training period of 6-8 weeks as per QP of Helper Bar Bender & Fixer Normal literacy of reading, writing and understanding			
Minimum Job Entry Age	18 years			
Experience	NIL			
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> 1. CON/N0201: Identify, shift and stack materials, tools and equipment relevant to reinforcement works 2. CON/N0202: Identify, mark and cut reinforcement bar to required length 3. CON/N0203: Tie reinforcement bar using different types of ties 4. CON/N0101: Erect and dismantle temporary scaffold of 3.6 m height 5. CON/N0104: Carry out manual earthwork at construction sites 6. CON/N9001: Work according to personal health, safety and environment protocol at construction site <p>Optional: N.A.</p>			
Performance Criteria	As described in the relevant OS units			

Definitions	Keywords / Terms	Description
	Sector	Sector is conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
	Sub-Sector	Sub-Sector is derived from a further breakdown based on the characteristics and interests of its components
	Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry
	Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
	Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet the standard consistently. Occupational Standards are applicable both in the Indian contexts.
	Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
	Qualifications Pack (QP)	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualification Pack is assigned a unique qualification pack code
	Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a qualifications pack.
	National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
	Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
	Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual 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/N0201 Identify, shift and stack materials, tools and equipment relevant to reinforcement works

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in identifying, shifting and stacking materials, tools and equipment relevant to reinforcement works

CON/N0201 Identify, shift and stack materials, tools and equipment relevant to reinforcement works

National Occupational Standard	Unit Code	CON/N0201
	Unit Title (Task)	Identify, shift and stack materials, tools and equipment relevant to reinforcement works
	Description	This unit describes the skills and knowledge required to identify, shift and stack materials, tools and equipment relevant to reinforcement works under continuous instructions and close supervision
	Scope	The scope covers the following: <ul style="list-style-type: none"> Identify, shift and stack materials, tools and equipment relevant to reinforcement works
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Identify, shift and stack materials, tools and equipment relevant to reinforcement works	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. identify materials such as binding wire, bar connecting coupler, thread protection cap & reinforcement steel on basis of their type, diameter and grade</p> <p>PC2. identify hand tools such as bending lever, hook, measurement tape, gauge, sledge hammer, chisel, pin plate and other relevant tools used in reinforcement works</p> <p>PC3. identify basic power tools such as hand held rebar cutting machine, circular rebar cutting machine, rebar threading machine, shearing machine for rebar cutting, rebar bending machine</p> <p>PC4. identify personal protective gears and equipment such as safety shoes, gloves, helmets, ear plugs, nose mask and safety goggles</p> <p>PC5. identify different types of slings, shackles and lifting belts</p> <p>PC6. identify full and half body safety harness</p> <p>PC7. load, unload and shift and stack reinforcement steel as per standard practices</p> <p>PC8. sort, tag, stack and store reinforcement steel as per type, grade, size and grade</p> <p>PC9. protect reinforcement steel from corrosion and other weathering action</p>
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. safety rules and regulations for handling and storing reinforcement tools, materials and components</p> <p>KA2. personal protection including use of safety gears and equipment's</p> <p>KA3. safe working methods and movements while performing relevant tasks</p> <p>KA4. request procedure for tools & materials and equipment</p> <p>KA5. housekeeping & other site administrative rules</p>

CON/N0201 Identify, shift and stack materials, tools and equipment relevant to reinforcement works

<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. types of reinforcement steel, their grade and size</p> <p>KB2. types of binding wire</p> <p>KB3. types and use of slings, shackles and lifting belts</p> <p>KB4. visual checks for quality of materials</p> <p>KB5. use of hand tools such as lever, hook, measuring tape, sledge hammer, chisel</p> <p>KB6. types of cutting and bending machine</p> <p>KB7. method of cutting reinforcement using hand tool</p> <p>KB8. method of cutting and bending of rebar</p> <p>KB9. importance of correct body posture</p> <p>KB10. standard procedure for stacking of reinforcement</p> <p>KB11. workplace procedure and policies for manual and mechanical handling</p> <p>KB12. housekeeping standards procedures required in the workplace</p> <p>KB13. position of overhead electrical wires and cables during shifting / lifting of materials</p> <p>KB14. knowledge about storing and handling technique of tools</p> <p>KB15. knowledge about upkeep repair and maintenance of tools</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The individual on the job should know and understand how to:</p> <p>SA1. write in at least one language, preferably in the local language of the site</p>
	<p>Reading Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. read in one or more language, preferably in the local language of the site</p> <p>SA3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA4. speak in one or more language, preferably in one of the local languages of the site</p> <p>SA5. listen and follow instructions given by the superior</p>	
<p>B. Professional Skills</p>	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. decide whether his workplace is safe for working</p>
	<p>Plan and Organize</p>
<p>The user/individual on the job needs to know and understand how to:</p>	

CON/N0201 Identify, shift and stack materials, tools and equipment relevant to reinforcement works

	SB2. place materials in correct position near the job to ensure sufficient availability
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. N.A
	Problem solving
	The user/individual on the job needs to know and understand how to: SB4. N.A
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. N.A
	Critical Thinking
The user/individual on the job needs to know and understand how to: SB6. identify location at which violation of any safety norms may lead to accidents	



CON/N0201 Identify, shift and stack materials, tools and equipment relevant to reinforcement works

NOS Version Control

NOS Code	CON/N0201		
Credits(NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/05/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
Occupation	Bar Bending & Fixing	Next review date	23/05/2017



CON/N0202

Identify, mark and cut reinforcement bar to required length

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in identifying, marking and cutting reinforcement bar as per the requirement

CON/N0202

Identify, mark and cut reinforcement bar to required length

National Occupational Standard	Unit Code	CON/N0202
	Unit Title (Task)	Identify, mark and cut reinforcement bar to required length
	Description	This unit describes the skills and knowledge required to identify, straighten, mark and cut reinforcement bar as per the requirement under continuous instructions and close supervision
	Scope	The scope covers the following: <ul style="list-style-type: none"> Identify, straighten, mark and cut reinforcement bar to required lengths
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Identify, straighten, mark and cut reinforcement bar to required lengths	To be competent, the user / individual on the job must be able to <ul style="list-style-type: none"> PC1. identify hand tools such as bending lever, hook, measurement tape, gauge, sledge hammer, chisels, hack saw PC2. identify reinforcement bar of different types, grade and diameter PC3. select and use bending lever and pipe for straightening of rebar of different diameter PC4. mark cut lengths on reinforcement bar as per instructions PC5. cut rebar of smaller diameter manually using chisel and sledge hammer as per requirement PC6. cut rebar as specified/ instructed using hand cutting machine, circular cutting machine or shearing machine PC7. straight reinforcement bar with bends PC8. straight reinforcement bar cut from the coils PC9. tag cut reinforcement bar with cutting length and stack as per standard practices and instructions
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. safety rules and regulations for handling and storing reinforcement tools, materials and components KA2. personal protection including use of safety gears and equipment KA3. Safe working methods and movements while performing relevant tasks KA4. request procedure for tools & materials KA5. housekeeping & other site administrative rules
	B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. various type of bar, their grades and diameter KB2. use of hand tools for straightening of rebar KB3. types and use of tools for cutting rebar manually KB4. use of power tools for cutting of rebar KB5. types of ties and use on different structural elements KB6. use of measurement and marking tools

CON/N0202

Identify, mark and cut reinforcement bar to required length

	KB7. importance of sorting and stacking cut piece rebar on the basis of length and diameter
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The individual on the job should know and understand how to: SA1. write in at least one language, preferably in the local language of the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read in one or more language, preferably in the local language of the site SA3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA4. speak in one or more language, preferably in one of the local languages of the site SA5. listen and follow instructions given by the superior
Skills (S)	
B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. decide whether his workplace is safe for working
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. N.A
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. complete work as per agreed time schedule and quality
	Problem solving
	The user/individual on the job needs to know and understand how to: SB4. N.A
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. N.A
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB6. identify location at which violation of any safety norms may lead to accidents

CON/N0202

Identify, mark and cut reinforcement bar to required length

NOS Version Control

NOS Code	CON/N0202		
Credits(NSQF)	TBD	Version number	1.1
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Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
Occupation	Bar Bending & Fixing	Next review date	23/05/2017



National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in tying rebar using different types of ties for various structural element.

CON/N0203

Tie reinforcement bar using different types of ties

National Occupational Standard

Unit Code	CON/N0203
Unit Title (Task)	Tie reinforcement bar using different types of ties
Description	This unit describes the skills and knowledge required to tie reinforcement bar using different types of ties for various structural elements such as column, beams, slabs, footing, wall under continuous instructions and close supervision
Scope	This scope covers the following: <ul style="list-style-type: none"> Tie rebar using different types of ties
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Tie rebar using different types of ties	To be competent, the user / individual on the job must be able to <ul style="list-style-type: none"> PC1. identify the different types of binding wires such as mild steel, galvanized iron wire PC2. identify and use hand and power tools for tying of rebar PC3. identify different types of ties such as slash tie, ring slash tie, hairpin tie, ring hairpin tie, crown tie, splice tie PC4. cut binding wire as per the requirement PC5. tie reinforcement using slash tie and splice tie to prevent displacement of bar as per requirement PC6. maintain specified/instructed spacing while tying rebar PC7. untie loosened reinforcement bar and secure its position using suitable tie
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. safety rules and regulations for handling and storing reinforcement tools, materials and components KA2. personal protection including use of safety gears and equipment KA3. safe working methods and movements while performing relevant tasks KA4. request procedure for tools & materials KA5. housekeeping & other site administrative rules
B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. identification and use of binding wire KB2. identification and use of hand & power tools for reinforcement works KB3. identification of rebar on basis of grade, type and diameter KB4. physical property of binding wire KB5. different types of ties such as slash tie, ring slash tie, hairpin tie, ring hairpin tie, crown tie, splice tie KB6. how to tie reinforcement using different types of ties KB7. length of binding wire required for different types of ties KB8. personal protective equipment for safety KB9. how to barricade working area KB10. importance of housekeeping KB11. use of measurements and marking tools

CON/N0203

Tie reinforcement bar using different types of ties

Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The individual on the job should know and understand how to: SA1. write in at least one language, preferably in the local language of the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to: SA2. read in one or more language, preferably in the local language of the site SA3. read instructions, guidelines, sign boards, safety rules & safety tags instructions related to exit routes during emergency at the workplace
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA4. speak in one or more language, preferably in one of the local languages of the site SA5. listen and follow instructions given by the superior
B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. decide whether his workplace is safe
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. N.A
	Customer centricity
	The user/individual on the job needs to know and understand how to: SB3. complete work as per agreed time schedule and quality
	Problem solving
	The user/individual on the job needs to know and understand how to: SB4. N.A
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. minimize wastages of material
Critical Thinking	
The user/individual on the job needs to know and understand how to: SB6. identify location at which violation of any safety norms may lead to accidents	

CON/N0203

Tie reinforcement bar using different types of ties

NOS Version Control

NOS Code	CON/N0203		
Credits(NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/05/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
Occupation	Bar Bending & Fixing	Next review date	23/05/2017



CON/N0101

Erect and dismantle temporary scaffold of 3.6 meter height

National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in erecting and dismantling temporary scaffold of 3.6 m height.

CON/N0101

Erect and dismantle temporary scaffold of 3.6 meter height

National Occupational Standard

Unit Code	CON/N0101
Unit Title (Task)	Erect and dismantle temporary scaffold of 3.6 meter height
Description	This unit describes the skills and knowledge required to erect and dismantle 3.6 meter temporary scaffold
Scope	The scope covers the following: <ul style="list-style-type: none"> Erect and dismantle temporary scaffold of 3.6 meter height
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Erect and dismantle temporary scaffold of 3.6 meter height	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. level area where scaffold need to be erected and check for ground compactness if required</p> <p>PC2. shift and stack required materials, components, tools and tackles at the instructed location</p> <p>PC3. wear and use required safety gadgets and follow trade safety</p> <p>PC4. place base plates and sole boards on the ground as per markings and instructions</p> <p>PC5. use proper components and follow standard procedure for 3.6 m temporary scaffold erection</p> <p>PC6. check verticality of scaffold at first level of erection and correct (if required) before moving to the next level</p> <p>PC7. check for rigidity, stability and support of erected scaffold</p> <p>PC8. fix walk-boards, guard rails, toe-boards and other components on working platform</p> <p>PC9. follow standard procedure for dismantling of 3.6 m temporary scaffold</p> <p>PC10. remove guard rails, toe boards, walk boards and other components sequentially</p> <p>PC11. clean and stack all components properly after dismantling</p> <p>PC12. maintain tidiness at work location</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA6. standard procedure for scaffolding works</p> <p>KA7. safety rules and regulations for handling and storing scaffolding tools, materials and components</p> <p>KA8. personal protection including use of safety gears and equipment</p> <p>KA9. safe working methods and movements while performing relevant tasks</p> <p>KA10. request procedure for tools & materials</p> <p>KA11. housekeeping & other administrative rules</p>

CON/N0101

Erect and dismantle temporary scaffold of 3.6 meter height

B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. use of different types of scaffolds (cup-lock , frame scaffold) KB2. use of tools and tackles in scaffolding works KB3. identification and use of different components KB4. use of tools for measurements and marking KB5. basic arithmetic calculation KB6. units of measurements KB7. standard size of scaffolding components KB8. personal protective equipment for safety KB9. importance of housekeeping KB10. standard procedure for erection and dismantling of 3.6 m temporary scaffold KB11. tools and equipment used for erecting and dismantling 3.6 meter temporary scaffold
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA1. write in one or more language, preferably in the local language of the site
	Reading Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA2. read one or more language, preferably the local language of the site SA3. read instructions, guidelines, sign boards, safety rules & safety tags instruction related to exit routes during emergency at the workplace
	Oral Communication (Listening and Speaking skills)
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA4. speak in one or more language, preferably in one of the local languages of site SA5. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes SA6. orally communicate with co-workers regarding support required to complete the respective work
Professional Skills	Decision Making
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB1. decide whether the workplace is safe for working and also whether the relevant work is not creating hazardous conditions for others
	Plan and Organize

CON/N0101

Erect and dismantle temporary scaffold of 3.6 meter height

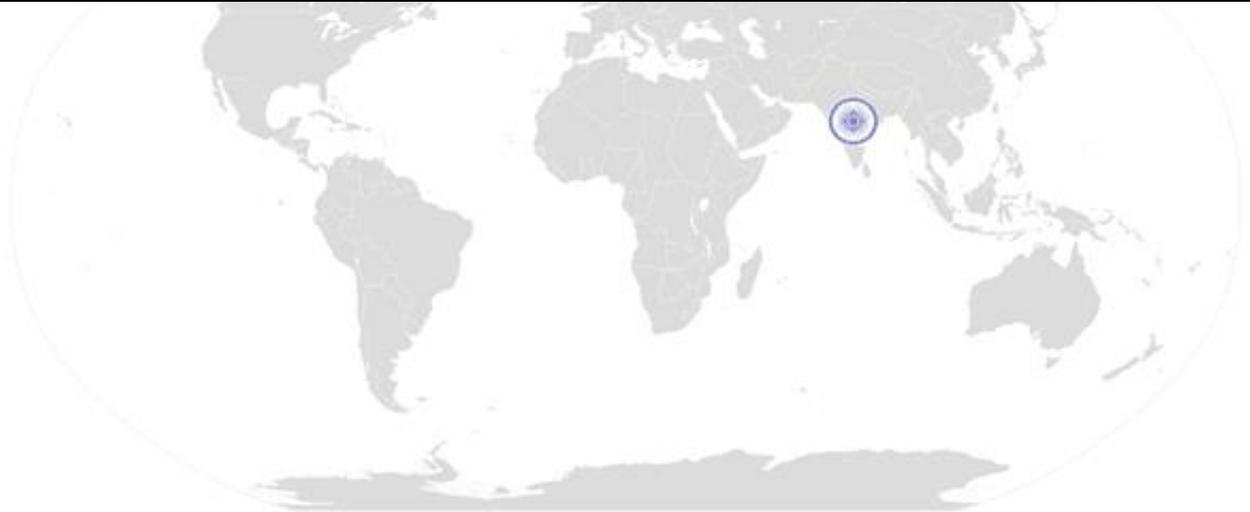
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB2. identify and organize right scaffolding materials</p> <p>SB3. identify and use relevant tools effectively</p>
	<p>Customer centricity</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB4. complete work as per agreed time and quality</p>
	<p>Problem solving</p>
	<p>SB5. N.A</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job should know and understand how to:</p> <p>SB6. minimize wastages</p> <p>SB7. revert to superior for selection/sorting of materials</p>
	<p>Critical Thinking</p>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. identify location at which violation of any safety norms may lead to accidents</p>	

CON/N0101

Erect and dismantle temporary scaffold of 3.6 meter height

NOS Version Control

NOS Code	CON/N0101		
Credits (NSQF)	TBD	Version number	1.1
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Occupation	Bar Bending and Fixing	Next review date	23/05/2017



National Occupational Standard



Overview

This NOS covers the skills and knowledge required by a workman to be proficient in carrying out manual earthwork at construction sites.

CON/N0104

Carry out manual earthwork at construction site

National Occupational Standard

Unit Code	CON/N0104
Unit Title (Task)	Carry out manual earthwork at construction site
Description	This unit describes the skills and knowledge required to carry out manual earthwork at construction sites
Scope	<p>The scope covers the following:</p> <ul style="list-style-type: none"> • Carry out preparatory work prior to earthwork • Carry out soil cutting, dressing work • Carry out backfilling and compaction manually
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Carry out preparatory work prior to earthwork	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. remove unwanted materials, organic substances, manually removable objects from the worksite using appropriate hand tools as per the instructions</p> <p>PC2. clean earth surface using proper hand tools to make it ready for carrying out marking activity</p> <p>PC3. carry out marking for excavation using lime, wooden pegs, ropes or by any other suitable materials as per the instructions</p> <p>PC4. shift and stack fencing/ barricading materials, safety signage, ladders, ropes, earth cutting and shifting tools at specified locations as per instruction</p>
Carry out soil cutting, dressing work	<p>PC5. dig earth to a desired depth using appropriate tools as per instruction</p> <p>PC6. maintain desired slope of earth during digging activity</p> <p>PC7. dispose earth from the excavated pit by using suitable tools and equipments such as spade , wheel barrows, pans as per instruction</p> <p>PC8. check for loose material, soil lumps, pebbles on achieving the desired earth level</p> <p>PC9. carry out surface dressing work by disposing loose material, gravels, plant roots, sludge, muck or debris as per requirement to the appropriate locations</p> <p>PC10. carry out compaction of the base layer of the pit by ramming or operating hand/ plate compactor as per instruction</p>
Carry out backfilling and compaction manually	<p>PC11. shift and place earth at desired location by using right tools as per instruction</p> <p>PC12. sort gravels or oversized aggregates from soil to be used for backfilling as per instruction</p> <p>PC13. place and spread earth maintaining uniform layers within tolerance limit of thickness</p>

CON/N0104

Carry out manual earthwork at construction site

	<p>PC14. sprinkle water as uniformly over the layer to be compacted as and when required as per direction</p> <p>PC15. carry out ramming or operate hand/ plate compacting machines over the soil layer as per direction</p> <p>PC16. carry out re-filling and compaction of excavated trenches, pits surrounding the structures or at necessary location by soil under supervision</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. general safety rules applicable to different activities related to construction works</p> <p>KA2. administrative rules and regulations applicable to construction sites</p> <p>KA3. material issue and return procedure at site</p> <p>KA4. reporting procedures relevant to own job, unsafe/ hazardous conditions</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. use and name of hand tools such as spade, pick axe, shovel, pans, wheel barrow in manual earth cutting activity</p> <p>KB2. working at depth at below ground level</p> <p>KB3. use of marking tools such as wooden pegs, lime, line threads, ropes</p> <p>KB4. use of plate compactor, hand roller, earth ramming tools etc.</p> <p>KB5. how to maintain slope in excavation</p> <p>KB6. use of ladder to access earth pits</p> <p>KB7. safety related to earthwork</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<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>
	Reading Skills
	<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 instructions, guidelines, sign boards, safety rules & safety tags instruction related to exit routes during emergency at the workplace</p>
	Oral Communication (Listening and Speaking skills)
	<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>

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Carry out manual earthwork at construction site

	SA6. orally communicate with co-workers regarding support required to complete the respective work
B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. decide on tools to be used at different activities involved in manual earthwork SB2. sequence activities to be carried out SB3. decide whether his workplace is safe for working and also his work is not creating hazardous conditions for other
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB4. identify and use the tools SB5. identify and use of all safety equipment SB6. arrange the material for earthwork
	Customer centricity
	SB7. complete work as per time schedule and quality
	Problem solving
	SB8. N.A
	Analytical Thinking
	SB9. N.A
Critical Thinking	
The user/individual on the job needs to know and understand how to: SB10. determine any violation from organizational and standard safety norms	

CON/N0104

Carry out manual earthwork at construction site

NOS Version Control

NOS Code	CON/N0104		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	07/05/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
Occupation	Bar Bending and Fixing	Next review date	23/05/2017



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

National Occupational Standard



Overview

This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site.

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

National Occupational Standard	Unit Code	CON/N9001
	Unit Title (Task)	Work according to personal health, safety and environment protocol at construction site
	Description	This NOS covers the skill and knowledge required for an individual to work according to personal health, safety and environmental protocol at construction site
	Scope	<p>The scope covers the following:</p> <ul style="list-style-type: none"> • Follow safety norms as defined by organization • Adopt healthy & safe work practices • Implement good housekeeping and environment protection process and activities
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Follow safety norms as defined by organization	<p>To be competent, the user / individual on the job must be able to:</p> <p>PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority</p> <p>PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities</p> <p>PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable</p> <p>PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site</p> <p>PC5. identify near miss , unsafe condition and unsafe act</p>
	Adopt healthy & safe work practices	<p>PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including:</p> <ul style="list-style-type: none"> • Head Protection (Helmets) • Ear protection • Fall Protection • Foot Protection • Face and Eye Protection, • Hand and Body Protection • Respiratory Protection (if required) <p>PC7. handle all required tools, tackles , materials & 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>

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<p>Implement good housekeeping practices</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>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. 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. Technical Knowledge</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"> • non-combustible scrap material and debris • combustible scrap material and debris • general construction waste and trash (non-toxic, non-hazardous) • any other hazardous wastes • any other flammable wastes <p>KB7. how to use hazardous material, in a safe and appropriate manner as per applicability</p> <p>KB8. safety relevant to tools, tackles, & requirement as per applicability</p> <p>KB9. housekeeping activities relevant to task</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. write in one or more language, preferably in the local language of the site</p> <p>SA2. fill safety formats for near miss, unsafe conditions and safety suggestions</p>
	<p>Reading Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA3. read in one or more language, preferably in the local language of the site</p> <p>SA4. read sign boards, notice boards relevant to safety</p>

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	Oral Communication (Listening and Speaking skills)
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA5. speak in one or more language, preferably in one of the local language of the site</p> <p>SA6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk</p> <p>SA7. communicate reporting of site conditions, hazards, accidents, etc.</p>
B. Professional Skills	Decision Making
	<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>
	Plan and Organise
	SB3. N.A
	Customer centricity
	SB4. N.A
	Problem solving
	<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>
	Analytical Thinking
	<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>
Critical Thinking	
<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

NOS Version Control

NOS Code	CON/N9001		
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Industry	Construction	Drafted on	07/05/2015
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	23/05/2015
Occupation	Bar Bending and Fixing	Next review date	23/05/2017



Assessment Criteria for Helper Bar Bender & Steel Fixer

	PC4. identify personal protective gears and equipment such as safety shoes, gloves, helmets, ear plugs, nose mask and safety goggles		10	1	9
	PC5. identify different types of slings, shackles and lifting belts		10	1	9
	PC6. identify full and half body safety harness		10	1	9
	PC7. load, unload and shift and stack reinforcement steel as per standard practices		20	2	18
	PC8. sort, tag, stack and store reinforcement steel as per type, grade, size and grade		10	1	9
	PC9. protect reinforcement steel from corrosion and other weathering action		10	1	9
		Total	100	10	90
CON/N0202: Identify, mark and cut reinforcement bar to required length	PC1. identify hand tools such as bending lever, hook, measurement tape, gauge, sledge hammer, chisels, hack saw	100	10	1	9
	PC2. identify reinforcement bar of different types, grade and diameter		20	2	18
	PC3. select and use bending lever and pipe for straightening of rebar of different diameter		10	1	9
	PC4. mark cut lengths on reinforcement bar as per instructions		10	1	9
	PC5. cut rebar of smaller diameter manually using chisel and sledge hammer as per requirement		10	1	9
	PC6. cut rebar as specified/ instructed using hand cutting machine, circular cutting machine or shearing machine		10	1	9
	PC7. straight reinforcement bar with bends		10	1	9
	PC8. straight reinforcement bar cut from the coils		10	1	9
	PC9. tag cut reinforcement bar with cutting length and stack as per standard practices and instructions		10	1	9
			Total	100	10
CON/N0203: Tie reinforcement bar using different types of ties	PC1. identify the different types of binding wires such as mild steel, galvanized iron wire	100	20	2	18
	PC2. identify and use hand and power tools for tying of rebar		10	1	9
	PC3. identify different types of ties such as slash tie, ring slash tie, hairpin tie, ring hairpin tie, crown tie, splice tie		20	2	18
	PC4. cut binding wire as per the requirement		20	2	18
	PC5. tie reinforcement using slash tie and splash tie to prevent displacement of bar as per requirement		10	1	9
	PC6. maintain specified/instructed spacing while tying rebar		10	1	9

Assessment Criteria for Helper Bar Bender & Steel Fixer

	PC7. untie loosened reinforcement bar and secure its position using suitable tie		10	1	9
		Total	100	10	90
CON/N0101: Erect and dismantle temporary scaffold of 3.6 meter height	PC1. level area where scaffold need to be erected and check for ground compactness if required	100	10	1	9
	PC2. shift and stack required materials, components, tools and tackles at the instructed location		10	1	9
	PC3. wear and use required safety gadgets and follow trade safety		10	1	9
	PC4. place base plates and sole boards on the ground as per markings and instructions		10	1	9
	PC5. use proper components and follow standard procedure for 3.6 m temporary scaffold erection		10	1	9
	PC6. check verticality of scaffold at first level of erection and correct (if required) before moving to the next level		10	1	9
	PC7. check for rigidity, stability and support of erected scaffold		10	1	9
	PC8. fix walk-boards, guard rails, toe-boards and other components on working platform		10	1	9
	PC9. follow standard procedure for dismantling of 3.6 m temporary scaffold		10	1	9
	PC10. remove guard rails, toe boards, walk boards and other components sequentially				
	PC11. clean and stack all components properly after dismantling		10	1	9
	PC12. maintain tidiness at work location				
		Total	100	10	90
CON/N0104: Carry out manual earthwork at construction site	PC1. remove all the unwanted materials, organic substances, manually removable objects from the worksite using appropriate hand tools as per instruction	100	10	1	9
	PC2. clean earth surface using proper hand tools to make it ready for carrying out marking activity				
	PC3. carry out marking for excavation using lime, wooden pegs, ropes or by any other suitable materials as per instruction		10	1	9
	PC4. shift and stack fencing/ barricading materials, safety signage, ladders, ropes, earth cutting and shifting tools at specified locations as per instruction		10	1	9
	PC5. dig earth to a desired depth using appropriate tools as per instruction		10	1	9
	PC6. maintain desired slope of earth during digging activity				

Assessment Criteria for Helper Bar Bender & Steel Fixer

	PC7. dispose earth from the excavated pit by using suitable tools and equipments such as spade , wheel barrows, pans as per instruction		10	1	9
	PC8. check for loose material, soil lumps, pebbles on achieving the desired earth level				
	PC9. carry out surface dressing work by disposing loose material, gravels, plant roots, sludge, muck or debris as per requirement to the appropriate locations		10	1	9
	PC10. carry out compaction of the base layer of the pit by ramming or operating hand/ plate compactor as per instruction		10	1	9
	PC11. shift and place earth at desired location by using right tools as per instruction		10		9
	PC12. sort gravels or oversized aggregates from soil to be used for backfilling as per instruction		0	1	0
	PC13. place and spread earth maintaining uniform layers within tolerance limit of thickness				
	PC14. sprinkle water as uniformly over the layer to be compacted as and when required as per direction		10	1	9
	PC15. carry out ramming or operate hand/ plate compacting machines over the soil layer as per direction				
	PC16. carry out re-filling and compaction of excavated trenches, pits surrounding the structures or at necessary location by soil under supervision.		10	1	9
		Total	100	10	90
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 authoritys	100	10	1	9
	PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities				
	PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable		10	1	9
	PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site		5	0.5	4.5
	PC5. identify near miss , unsafe condition and unsafe act		5	0.5	4.5

Assessment Criteria for Helper Bar Bender & Steel Fixer

PC6. use appropriate Personal Protective Equipment (PPE) as per work requirements including: <ul style="list-style-type: none"> • Head Protection (Helmets) • Ear protection • Fall Protection • Foot Protection • Face and Eye Protection • Hand and Body Protection • Respiratory Protection (if required) 		10	1	9
PC7. handle all required tools, tackles , materials & equipment safely		10	1	9
PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines		10	1	9
PC9. install and apply properly all safety equipment as instructed		10	1	9
PC10. follow safety protocol and practices as laid down by site EHS department		10	1	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		10	1	9
PC12. apply ergonomic principles wherever required		10	1	9
	Total	100	10	90