



QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CONSTRUCTION INDUSTRY



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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 & Fixer

SECTOR: CONSTRUCTION

SUB-SECTOR: 1. Building & Factories

2. Heavy Infrastructure (Rail, Road & Runways)

3. Power Generation (Dam and Transmission & Distribution etc.)

OCCUPATION: BAR BENDING & STEEL FIXING

JOB ROLE: HELPER BAR BENDER & FIXER

REFERENCE ID: CON/Q 0201

Bar Bender & Fixer Trade in Construction Industry is the basic Trade pertaining to the steel reinforcement in concrete which is common to all type of Constructions and has variance along with Specialization to specific requirements of the Project.

Brief Job Description of Helper Bar Bender & Fixer Level-I: Individual in this position need to support the Assistant Bar Bender & Steel Fixer & Bar Bender & Steel Fixer which are at level-II and level-III in semi-skilled and skilled category for carrying out the related works such as selecting, straightening, cutting, shifting of materials, handling tools, tackles and housekeeping with safety. The responsibilities include to identify types of bars & size, straighten, cut, tying steel cages / reinforcements using hand tools. Follow the Plan for storage, transportation and fixing the reinforcement in position. He should be able to understand the size and shape of simple rings and links dimension and make manually with guidance a few shapes, along with the knowledge about the environment, health, safety and general awareness of related trades.

Personal Attributes: This job requires the individual to work at site as a **Helper Bar Bender & Fixer**. The individual needs to be physically fit to withstand working in a construction environment and responding to the needs and requirement of the tasks. He should be able to sustain in adverse climatic conditions.



Qualifications Pack For Helper Bar Bender & Fixer Level-I



Job Details	Qualifications Pack Code	CON/Q 0201		
	Job Role	Helper Bar Bender & Fixer Level-I		
	Credits(NVEQF/NVQF/NSQF) [OPTIONAL]	TBD	Version number	1.0
	Sector	Construction	Drafted on	30/07/2013
	Sub-sector	1. Building & Factories 2. Heavy Infrastructure (Rail, Road & Runways) 3. Power Generation (Dam, Transmission & Distribution etc.)	Last reviewed on	30/07/2013
	Occupation	Bar Bending & Steel Fixing	Next review date	30/01/2014

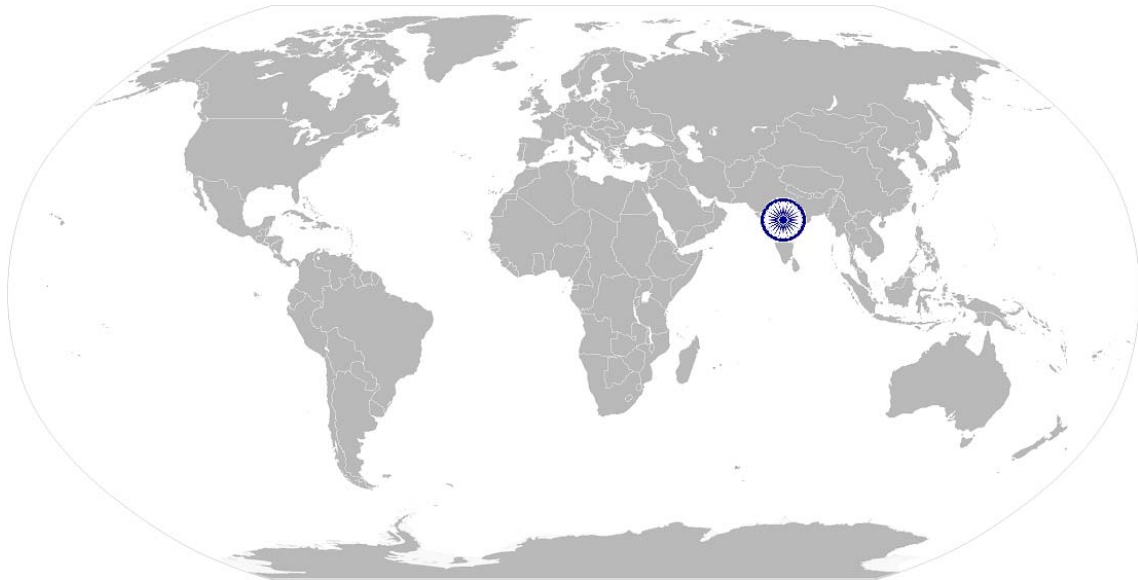
Job Role	Helper Bar Bender & Fixer Level-I
Role Description	To work as Helper in Bar Bending & Steel Fixing Trade while attending and responding to the needs and requirement of the tasks under his trade senior level-II and above.
NVEQF/NVQF level	1
Minimum Educational Qualifications*	Preferably equivalent to 5 th (Normal literacy of reading, writing and understanding)
Maximum Educational Qualifications*	10 th Standard
Training (Suggested but not mandatory)	Training to be imparted so as to on completion candidate is capable to qualify for test & certification by authorized agency for Knowledge & Skill as per NOS for Level-I. Training period may vary from 6 to 8 weeks
Experience	NIL
Applicable National Occupational Standards (NOS)	<u>Compulsory</u> 1. CON/N0007 : Health, Safety & Environment 2. CON/N0008 : Identification and use of Basic tools, equipment and materials 3. CON/N0009 : Material Handling & Storing 4. CON/N0010 : Tying rebar using different types of ties 5. CON/N0011 : Identifying, straightening, marking & cutting to required lengths and tying of rods 6. CON/N0012 : Bending and making of Links, Hooks and stirrups (manual) 7. CON/N0006 : Erect and dismantle 3.6 meter temporary Scaffold 8. CON/N0031 : Cutting, Filling, Leveling and Compaction of Earth
Performance Criteria	As per Occupation Standard (OS) for Level-I

Glossary of Key Terms

Keywords /Terms	Description
Definitions 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.
Keywords /Terms	Description
Acronyms CON	Construction
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
QP	Qualification Pack
OS	Occupational Standards
CSDCI	Construction Skill Development Council of India



National Occupational Standard



Overview

This NOS covers the skill and knowledge of and individual to be proficient in Health, Safety & Environment in construction sector.



CON/ N 0007: Health, Safety & Environment

National Occupational Standard

Unit Code	CON / N 0007
Unit Title (Task)	Health, Safety & Environment
Description	This unit describes the skill and knowledge to make and achieve the requirement of health, safety and environment in construction sector.
Scope	Health, Safety & Environment
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Health, Safety and Environment	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Demonstrate and use the Personal Protective Equipments such as Head Protection, Fall Protection, Foot Protection, Face & eye Protection, Ear Protection, Hand & Body Protection and Respiratory Protection.</p> <p>PC2. Follow and heed the Do's and Don'ts during working at heights</p> <p>PC3. Carry out the Safety measures and drills with action and roles in normal times and emergency by mock drills.</p> <p>PC4. Practice the First Aid with identification and use of basic dressing materials and bandages, resuscitation practices and actions</p> <p>PC5. Ensure the Waste disposal and pollution control with organic and inorganic waste disposal methods, sound and noise control and protection methods.</p> <p>PC6. Carry out the Environment, Health & Safety performance.</p> <p>PC7. Follow Safety related activities in steel, bars open in work area, while cutting, bending the same and the measures to avoid accidents.</p> <p>PC8. Practice safe system in work area or clear plan on safety action</p> <p>PC9. Demonstrate the lifting operations manually, pallets and using slings for crane operations.</p> <p>PC1 to PC9 assessments based on viva-voce / interview / quiz test / demonstration technique.</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 the:</p> <p>KA1. Process and aim of the safety, health and environment</p> <p>KA2. Organizations expectations, procedures and guidelines related with safety, health and environment</p> <p>KA3. Select and check the PPEs and know the indent and return procedures.</p> <p>KA4. Obey safety procedures at the sites</p> <p>KA5. Follow different type of health and safety hazards that can be found in the workplace such as cutting and shifting.</p> <p>KA6. Procedures for reporting against safety violations.</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand the:</p> <p>KB1. Procedure of evacuation of workers during emergency</p> <p>KB2. Use of appropriate PPEs for different working condition.</p> <p>KB3. Process of using PPEs.</p> <p>KB4. Health, safety and accident reporting procedures</p> <p>KB5. First Aid with identification and use of basic dressing materials.</p> <p>KB6. Differentiate the capacity of lifting equipment available on site – maximum bundle size / tonnage.</p>

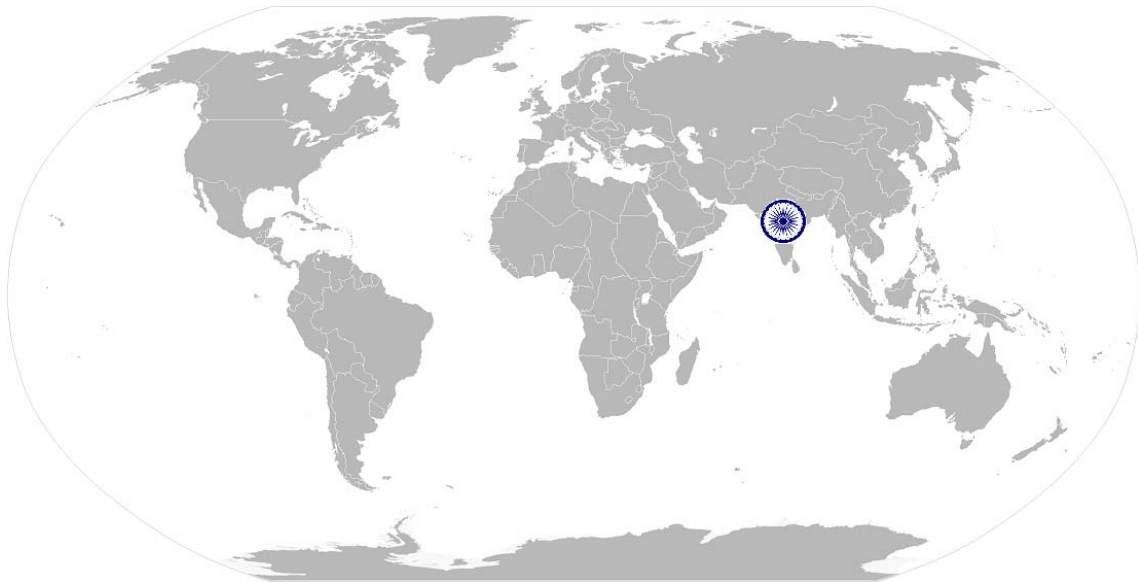


CON/ N 0007: Health, Safety & Environment

Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Make line, sketch and label
	Reading Skills
	The user / individual needs to know and understand how to: SA2. Read instructions, guidelines, sign boards, safety rules and safety tags.
B. Professional Skills	Oral Communication (Listening and Speaking skills)
	The user/individual should do the following: SA3. Listen and follow instruction accurately SA4. Orally communicate to others effectively
	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. Make appropriate decision regarding the responsibilities of the job role
	Plan and Organize
	The user/ individual on the job needs to know and understand how to: SB2. Work in unsafe and hazardous working conditions SB3. Calculate quantity of material with accuracy for completion of task
	Customer Centricity
	N.A.
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB4. Identify breakdown of equipment and arrange it's replacement
	Analytical Thinking
N.A.	
Critical Thinking	
The user/ individual on the job needs to know and understand how to: SB5. Arrange all safety equipment and check its serviceability SB6. Locate First Aid Box	
Attention to Detail	
N.A.	
Team Working	
The user/ individual on the job needs to know and understand how to: SB7. Work in coordination with trade senior SB8. Look after the interest other in case of emergency & requirement SB9. Distribute work among colleagues	



National Occupational Standard



Overview

This NOS covers the skills and knowledge for an individual to be proficient to identify and use of basic tools, equipments and materials used in the Bar Bending & Steel Fixing trade.



CON/ N 0008: Identification and Use of Basic Tools, Equipment and Materials

National Occupational Standard

Unit Code	CON / N 0008
Unit Title (Task)	Identification and Use of Basic Tools, Equipment and Materials
Description	This unit describes the skill and knowledge required for identification and use of basic tools, equipment and materials.
Scope	Identification and Use of Basic Tools, Equipment and Materials

Performance Criteria(PC) w.r.t. the Scope

Element	Performance Criteria
Identification and use of basic tools, equipment and materials	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Identify, select and use of Hand & measuring tools such as lever, hook, measuring tape, gauge, sledge hammer, chisel, pin plates etc.</p> <p>PC2. Identify, select and use of construction materials such as different types of bars, binding wires etc. in respect of quality, type, handling and quantity measurement.</p> <p>PC3. Identify of basic power tools such as bar bending & cutting machines, wire cutter machines etc.</p> <p>PC1 to PC3 assessments based on viva-voce / interview / quiz test / demonstration technique.</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. Use of right tools at right job</p> <p>KA2. Use of tools as per method of statement</p> <p>KA3. Do' and Don'ts in care and maintenance of tools</p> <p>KA4. Safety in handling the tools and materials</p> <p>KA5. Precautions in handling, storing and transporting materials</p> <p>KA6. Measures related to environment and pollution.</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand the:</p> <p>KB1. Knowledge about Storing and handling technique of tools</p> <p>KB2. Knowledge about upkeep repair and maintenance of tools</p> <p>KB3. Classification and storage of materials as per the grouping of uses and compositions.</p> <p>KB4. Checking and testing of materials on visual inspection.</p>

Skills (S)

A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Make the line, sketch and label
	Reading Skills
	The user / individual needs to know and understand how to: SA2. Read instructions, guidelines, sign boards, safety rules & safety tags.
	Oral Communication (Listening and Speaking skills)
	The user/individual should do the following: SA3. Listen and follow instruction accurately SA4. Orally communicate to others effectively

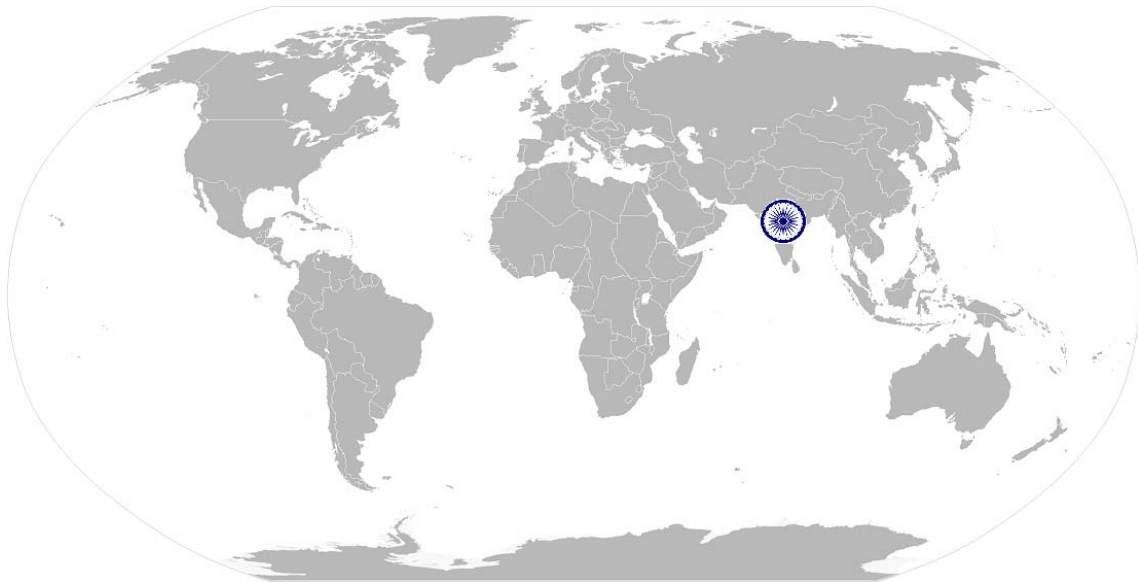


CON/ N 0008: Identification and Use of Basic Tools, Equipment and Materials

B. Professional Skills	Decision Making
	The user / individual needs to know and understand how to: SB1. Identify the tools such as lever, hook, measuring tape, gauge, sledge hammer, chisel, pin plates, bar bending & cutting machines, wire cutter machines etc. SB2. Compute the quantity of material and the tools and equipments required for its application / use.
	Plan and Organize
	The user / individual needs to know and understand how to: SB3. Place material in correct position near the job to ensure sufficient availability.
	Customer Centricity
	N.A.
	Problem Solving
	N.A.
	Analytical Thinking
	The user / individual needs to know and understand how to: SB4. Use all bar bending tools to their best advantage including correct handling and maintenance of the same.
	Critical Thinking
	N.A.
	Attention to Detail
The user / individual needs to know and understand how to: SB5. Minimize the wastage and optimum use of material	
Team Working	
The user / individual needs to know and understand how to: SB6. Work in coordination with trade senior SB7. Look after the interest other in case of emergency & requirement SB8. Distribute work among colleagues	



National Occupational Standard



Overview

This NOS covers the skill and knowledge for an individual to be proficient in Material Handling & Storing in construction industry.



CON/ N 0009: Material Handling & Storing

National Occupational Standard

Unit Code	CON / N 0009
Unit Title (Task)	Material Handling & Storing
Description	This unit describes the skill and knowledge required to effective material handling & storing in construction industry
Scope	Material Handling & Storing
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Material Handling & Storing	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Carry out the loading, unloading and shifting of reinforcement material in a proper sequence as per methodology.</p> <p>PC2. Execute the delivery and lifting of material</p> <p>PC3. Carry out the storage, stacking and maintenance of reinforcement steel as per laid down methodology.</p> <p>PC4. Arrange different type of slings as per configuration</p> <p>PC5. Understand, identify and demonstrate the hooks, rings and shackles</p> <p>The knowledge, skill, performance and efficiency in material handling & storing will be assessed through answers/actions/reactions within stipulated time.</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 the:</p> <p>KA1. Safe storage of materials</p> <p>KA2. Tidiness on site</p> <p>KA3. Clean and safe working</p> <p>KA4. Safety rules</p> <p>KA5. Safe Access</p> <p>KA6. Good Housekeeping to be maintained throughout the storage area</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Maximum Stacking heights of different diameter of bars and length of materials.</p> <p>KB2. Sizing and sorting systems through tag</p> <p>KB3. Workplace procedures and policies for manual and mechanical handling</p> <p>KB4. Site layout and obstacles</p> <p>KB5. Housekeeping standards procedures required in the workplace.</p> <p>KB6. Damage and lower elevation electrical wires and cables during shifting / lifting of materials respectively.</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Make the line, sketch and label
	Reading Skills
	The user / individual needs to know and understand how to: SA2. Read instructions, guidelines, sign boards, safety rules and safety tags.
	Oral Communication (Listening and Speaking skills)

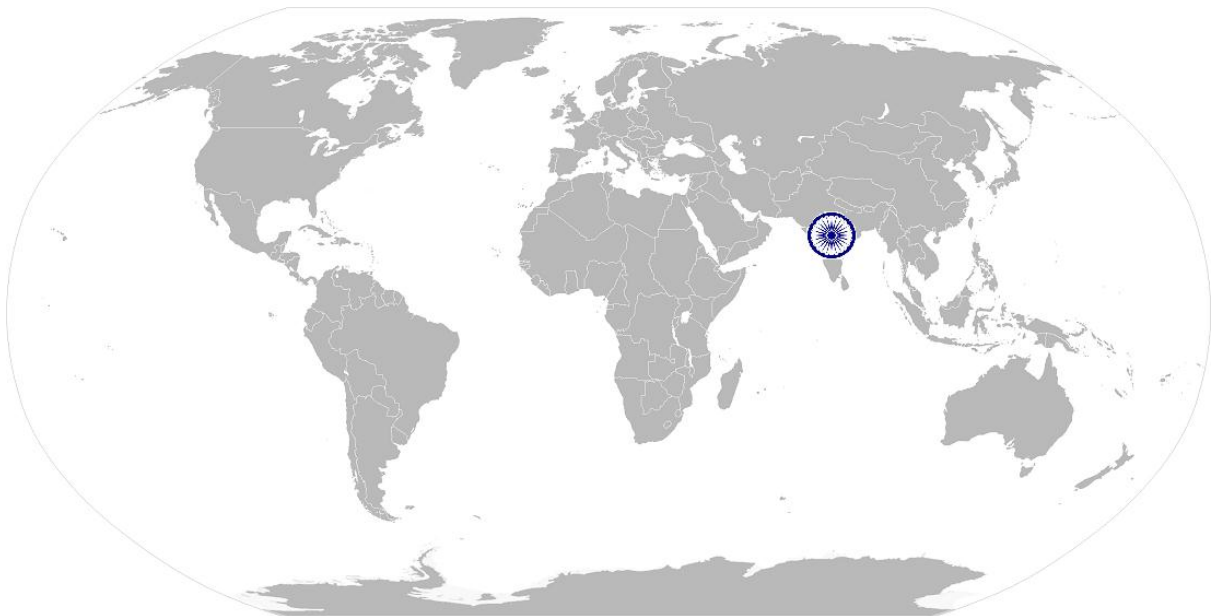


CON/ N 0009: Material Handling & Storing

	The user/individual should do the following: SA3. Listen and follow instruction accurately SA4. Orally communicate to others effectively
B. Professional Skills	Decision Making The user/individual on the job needs to know and understand the: SB1. Method of storage, stacking and maintenance of reinforcement materials
	Plan and Organize The user/individual on the job needs to know and understand the: SB2. Loading and unloading of material by manual / mechanical SB3. Lifting devices and their uses SB4. Uses and types of slings, hooks, rings and shackles
	Customer Centricity N.A.
	Problem Solving N.A.
	Analytical Thinking The user/individual on the job needs to know and understand the: SB5. Precautions and required action to minimize control or eliminate risks that may exist while manually lifting and handling materials.
	Critical Thinking N.A.
	Attention to Detail The user/individual on the job needs to know and understand the: SB6. Reporting and/or rectifying the identified problems that may arise when manually lifting and handling materials and goods in accordance with regulatory requirements and workplace procedures.
	Team Working The user/individual on the job needs to know and understand the: SB7. Work in coordination with trade senior SB8. Look after the interest other in case of emergency & requirement SB9. Distribute work among colleagues



National Occupational Standard



Overview

This NOS covers the skill and knowledge for an individual to be proficient in tying rebar using different types of ties



CON/ N 0010: Tying Rebar using different types of Ties

National Occupational Standard

Unit Code	CON / N 0010
Unit Title (Task)	Tying rebar using different types of ties
Description	This unit is about the tying of rebar using different types of ties
Scope	Tying rebar using different types of ties
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Tying rebar using different types of ties	To be competent, the user/individual on the job must be able to: PC1. Identify different types of ties. PC2. Identify, handle and use the tools used for tying rebar. PC3. Identify the power tools used for tying rebar. PC4. Identify, select, cut and use binding wire for tying rebar PC4. Use correct tie for different types of cages in various positions. PC5. Untie rebar if required.
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Appreciate safe working methods including working on scaffolding, basic human kinetics and general site tidiness KA2. Safety equipment & safety drills KA3. Working at Heights KA4. House Keeping
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The physical property of binding wire used for tying. KB2. The various types of ties KB3. Length of binding wire required for different types of ties KB4. The checking method of binding wire in respect of its physical properties and diameter KB5. Method of tying rebar using different types of ties
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA1. Make the line, sketch and label
	Reading Skills
	The user / individual needs to know and understand how to: SA2. Read instructions, guidelines, sign boards, safety rules and safety tags.
	Oral Communication (Listening and Speaking skills)
	The user/individual should do the following: SA3. Listen & follow instruction accurately SA4. Orally communicate to others effectively



CON/ N 0010: Tying Rebar using different types of Ties

B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. Identify manual and power tools SB2. Identify and select binding wires
	Plan and Organize
	The user/ individual on the job needs to know and understand how to: SB3. The platform & space for tying SB4. The size and length of bars SB5. Layout the mesh / reinforcement bars
	Customer Centricity
	N.A.
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB6. Arrange support for the bars
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB7. Perform tying rebar using different types of ties SB8. Perform untying rebar if required
	Critical Thinking
	The user/ individual on the job needs to know and understand how to: SB9. Maintain desired distance between the bars
	Attention to Detail
	The user/ individual on the job needs to know and understand how to: SB10. Perform housekeeping
Team Working	
The user/ individual on the job needs to know and understand how to: SB11. Work in coordination with trade senior SB12. Look after the interest other in case of emergency & requirement SB13. Distribute work among colleagues	