





### QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CONSTRUCTION INDUSTRY

# What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- performance
  standards that
  individuals must
  achieve when
  carrying out
  functions in the
  workplace,
  together with
  specifications of
  the underpinning
  knowledge and
  understanding

#### Contact Us:

CSDCI 204, Aashirwad Complex, D-1, Green Park, New Delhi -110016 E-mail:

standards@csdcindia. org



	40
0	D.

### Contents

1.	Introduction and Contacts	.P1
2.	Qualifications Pack	.P2
3.	Glossary of Key Terms	.P4
4.	OS Units	.P5
5.	Annexure: Nomenclature for QP & OS	.P40
6.	Assessment Criteria	.42

### Introduction

### **Qualifications Pack – Khalasi (Assistant Rigger)**

**SECTOR: CONSTRUCTION** 

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

**OCCUPATION: RIGGING** 

**REFERENCE ID: CON/Q0701** 

**ALIGNED TO:** NCO-2004/7215.10

This job role provides support in handling of heavy material, staging works for RCC structures and pile foundation works at construction sites

**Brief Job Description:** The job role is responsible for shifting, preparing surface of heavy structural steel/ RCC precast units, laying concrete pump lines, assisting in erection of staging for heavy RCC structures and pile foundation works by using appropriate rigging gears, hand tools and PPEs at construction or erection site.

**Personal Attributes:** The individual is expected to be physically fit and should be able to work across various locations in extreme weather/site conditions. The job holder should preferably be physically sound, free from vertigo problem, cardiovascular diseases as the nature of work involves handling heavy loads and sometimes working at height.







Qualifications Pack Code	CON/Q0701				
Job Role	Khalasi (Assistant Rigger)				
Credits (NSQF)	TBD Version number 2.0				
Sector	Construction	<b>Drafted on</b> 07/06/2015			
Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on 24/07/2019			
Occupation	Rigging Next review date 24/07/2023		24/07/2023		
NSQC Clearance on	22/08/2019				

Job Role	Khalasi (Assistant Rigger)		
Role Description	The job role is responsible for shifting, preparing surface of heavy structural steel/ RCC precast units, laying concrete pump lines, assisting in erection of staging for heavy RCC structures and pile foundation works by using appropriate rigging gears, hand tools and PPEs under close supervision.		
NSQF level	3		
Minimum Educational Qualifications  Maximum Educational Qualifications	5 <sup>th</sup> standard Not Applicable		
Prerequisite License or Training	NIL		
Minimum Job Entry Age	18 years		
Experience	Non trained worker: 2 years site experience in same occupation Trained worker: 1 year site experience as a certified Helper Shuttering Carpenter/Helper Bar Bender and steel fixer/Helper Fabrication		
Applicable National Occupational Standards (NOS)	fixer/Helper Fabrication  Compulsory:  1. CON/N0701:Shift RCC Precast / Structural Steel units at construction site  2. CON/N0702:Prepare surface of RCC Precast units or structural steel units prior to erection  3. CON/N0703: Lay and dismantle pump-line for concreting 4. CON/N0704:Assist in carrying out staging for heavy RCC work  5. CON/N0705:Assist in In-situ RCC piling works  6. CON/N8001: Work effectively in a team to deliver result at a construction site  7. CON/N9001: Work according to personal health, safety and environment protocol at construction site  Optional:  N.A.		
Performance Criteria	As described in the relevant OS units		







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









Shift RCC Precast / Structural Steel units at construction site

# National Occupational Standard



# **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in shifting RCC Precast / Structural Steel units at construction site.









### Shift RCC Precast / Structural Steel units at construction site

Unit Code	CON/N0701		
Unit Title	Shift RCC Precast / Structural Steel units at construction site		
(Task)			
Description	This unit describes the skills and knowledge required to shift RCC Precast / Structural Steel units at construction site.		
Scope	The scope covers the following:		
	<ul> <li>Select and use appropriate rigging gears, hand tools and PPEs</li> </ul>		
	Carry out preparatory work prior to lifting operations		
	Shift RCC precast units or steel components as per instructions		
Performance Criteria (PC)	w.r.t. the Scope		
Element	Performance Criteria		
Select and use	To be competent, the user / individual on the job must be able to:		
appropriate rigging gears, hand tools and	PC1. identify and select appropriate rigging gears required for heavy material		
PPEs	lifting and shifting works at construction site		
25	PC2. isolate faulty rigging gears and store them separately as per instruction		
	PC3. select appropriate hand tools to be used for heavy material rigging works		
	PC4. select and use appropriate PPEs for lifting operations		
Carry out preparatory	PC5. carry out checks to the rigging gears and hand tools for its usability during		
work prior to lifting	and		
operations	prior to material lifting and shifting work		
	PC6. remove obstructions (if any) from equipment movement route as per		
	instructions		
	PC7. check location of lifting for suitability of unloading of loads as per		
	instructions		
	PC8. prepare loads for lifting as per instructions		
	PC9. assist the earth moving Equipments or compactors in order to prepare base		
	for heavy lifting equipment		
Shift RCC precast units	PC10. check for presence of safety signage, illumination, barricading at the route		
or steel components as per instructions	of material shifting as per agreed work plan		
per motractions	PC11. report clearly and concisely to senior in case of unsafe condition for material lifting and shifting		
	PC12. place prescribed supports, frames, blocking and cushioning at the deck of		
	transporting vehicle to prevent in-transit damage of the unit or vehicle as		
	per instruction		
	PC13. anchor units to the right locations and hook up with the prescribed lifting		
	equipment by using slings, shackle, rope or lifting hooks and secure		
	properly against slipping or deflection as per instruction		
	PC14. assist in loading of precast or structural steel units to the transporting		
	vehicle as per instruction		
	PC15. control position of suspended components while being shifted directly by		









### Shift RCC Precast / Structural Steel units at construction site

	using equipments by pulling efficiently by ropes as per instruction PC16. offload units from vehicle to ground at heavy lifting point by assisting lifting equipments under close supervision PC17. place suitable materials like wooden sleepers, stools, etc. on the base as per instruction to create ground clearance to the materials and provision for further lifting PC18. offload, place and de-sling material on the sleepers safely as per instructions
Knowledge and Unde	2.7
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. standard procedure for construction rigging works  KA2. safety rules and regulations for construction rigging works  KA3. personal protection including use of safety gears and equipment  KA4. safe working methods and movements while performing relevant tasks  KA5. request procedure for tools & materials  KA6. housekeeping & other administrative rules
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. standard practices for shifting and stacking of heavy structural members  KB2. safety rules and PPE for shifting and stacking of heavy structural members  KB3. service request procedures for material and tools  KB4. linear measurement  KB5. selection and use of hand tools and rigging gears like pulley, chain block, slings, heavy lifting chains, shackles, hooks, ropes, hammers etc.  KB6. how to interpret signage during erection procedures  KB7. procedures for attaching of slings to load directly or using lifting gears  KB8. standard procedure for creating provisions for further lifting of heavy components or assemblies  KB9. basic knowledge of hand signaling used for load lifting operations  KB10. dos and don'ts for carrying out rigging operations at construction sites  KB11. method of barricading and clear distance to be covered surrounding lifting area  KB12. safe posture of load lifting equipments while lifting load
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. write in one or more 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









### Shift RCC Precast / Structural Steel units at construction site

	SA3. read instructions, guidelines, sign boards, safety rules, safety tags and
	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 language of the site
	SA5. listen and follow instructions / communication shared by superiors/ co-
	workers regarding team requirements or interfaces during work processe
	SA6. orally communicate with co-workers regarding support required to complete the respective work
B. Professional	Decision Making
Skills	The user/ individual on the job needs to know and understand how to:  SB1. decide whether the workplace is safe for working and also check that the relevant work is not creating hazardous conditions for others  SB2. decide on the use of rigging gears considering the type of loads  SB3. decide on the usability of the rigging gears and reject if found damaged
	Plan and Organize
	The user/ individual on the job needs to know and understand how to:  SB4. identify and use relevant tools effectively
	Customer centricity
	The user/individual on the job needs to know and understand how to:  SB5. complete work as per agreed time schedule and quality norms
	Problem solving
	The user/individual on the job needs to know and understand how to: SB6. N.A
	Analytical Thinking
	The user/individual on the job should know and understand how to:
	SB7. minimize wastages
	SB8. revert to superior for selection/sorting of materials
	Critical Thinking
	The user/individual on the job needs to know and understand how to:









### Shift RCC Precast / Structural Steel units at construction site

# **NOS Version Control**

NOS Code	CON/N0701		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	06/04/2018
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Rigging	Next review date	24/07/2023











Prepare surface of RCC precast units or structural steel units prior to erection

\_\_\_\_\_

# National Occupational Standard



### **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in preparing surface of RCC precast units or structural steel units prior to erection.









### CON/N0702 Prepare surface of RCC precast units or structural steel units prior to erection

Unit Code	CON/N0702  Prepare surface of RCC precast units or structural steel units prior to erection			
Unit Title (Task)				
Description	This unit describes the skills and knowledge required to prepare surface of RCC precast units or structural steel units prior to erection.			
Scope	The scope covers the following:			
	Carry out abrasive blasting to structural steel and precast RCC sections			
	Carry out epoxy gluing in segmental RCC precast construction works			
Performance Criteria (	PC) w.r.t. the Scope			
Element	Performance Criteria			
Carry out abrasive	To be competent, the user/individual on the job must be able to:			
blasting to structural	PC1. check surroundings to ensure safe condition for sandblasting			
steel and precast RCC sections	PC2. erect obstructing arrangement surrounding to the area of sand blasting			
Nee sections	operation as per instruction			
	PC3. adjust the air compressor and sandblaster gauges to the correct or desired			
	pressure			
	PC4. grade abrasive materials as per instruction prior to start blasting operation			
	PC5. connect compressor and blasting equipment prior to undertake blasting			
	activity			
	PC6. carry out sandblasting as per instruction and ensure proper cleaning of			
	unwanted substances from RCC or metal surface			
Carry out epoxy	PC7. clean existing dust, laitance, unwanted articles from the joints between RCC			
gluing in segmental	precast components where gluing is to be done as per instruction			
RCC precast construction works	PC8. prepare glue-mix (if required) as per instruction			
construction works	PC9. apply glue to the concrete surface as per specification or instruction using			
	suitable means of application			
Knowledge and Un				
A. Organizational	The user/individual on the job needs to know and understand:			
A. Organizational Context	KA1. standard procedure for construction rigging works			
(Knowledge of	KA2. safety rules and regulations for construction rigging works			
the company /	KA3. personal protection including use of safety gears and equipment			
organization and	KA4. safe working methods and movements while performing relevant tasks			
its processes)	KA5. request procedure for tools & materials			
	KA6. housekeeping & other administrative rules			









### Prepare surface of RCC precast units or structural steel units prior to erection

	The user/individual on the job, needs to know and understand:		
B. Technical	The user/individual on the job needs to know and understand:  KB1. procedure of handling sand blasting gun  KB2. abrasives to be used in sandblasting and their physical properties  KB3. safety rules and use of protective jacket, ear plugs, goggles, gloves during sandblasting work		
Knowledge			
	KB4. procedure for carrying out sandblasting and wire brushing		
	KB5. properties of epoxy bonding agent		
	KB6. appropriate temperature for application of epoxy bonding agent		
	KB7. manufacturer's instructions for application of epoxy bonding agent		
Chille (C)	KB7. Intuitate cure is instructions for application of epoxy sofiaing agent		
Skills (S)			
A. Core Skills/	Writing Skills		
Generic Skills	The user/ individual on the job needs to know and understand how to:		
	SA1. write in one or more 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, preferably in the local language of the site		
	SA3. read instructions, guidelines, sign boards, safety rules, safety tags and		
	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 language of the		
	site		
	SA5. listen and follow instructions communicated by supervisors		
	SA6. orally and efficiently communicate with team members		
B. Professional	Decision Making		
Skills	The user/ individual on the job needs to know and understand how to:		
	SB1. decide whether the workplace is safe for working and also the relevant work		
	is not creating hazardous conditions for others		
	SB2. decide on the distance of protective arrangement (eg. Curtaining) from the		
	abrasive blasting point		
	Plan and Organize		
	The user/individual on the job needs to know and understand how to:		
	SB3. plan self-work as per the direction /close supervision of a level-3 riggers and		
	above		
	Customer centricity		
	,		









### Prepare surface of RCC precast units or structural steel units prior to erection

The user/individual on the job needs to know and understand how to:

SB4. ensure work is done within time and as per desired quality as per instructions provided by superiors

### **Problem solving**

SB5. N.A

### **Analytical Thinking**

The user/individual on the job needs to know and understand how to:

SB6. N.A

### **Critical Thinking**

The user/individual on the job needs to know and understand how to:

SB7. identify location at which violation of any safety norms may lead to accident











Prepare surface of RCC precast units or structural steel units prior to erection

# **NOS Version Control**

NOS Code	CON/N0702		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	06/04/2018
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Rigging	Next review date	24/07/2023











### Lay and dismantle pump-line for concreting

# National Occupational Standard



# **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in laying and dismantling pump-line for concreting.









### Lay and dismantle pump-line for concreting

/N0703	Lay and dismantle pump-line for concreting
Unit Code	CON/N0703
Unit Title (Task)	Lay and dismantle pump-line for concreting
Description	This unit describes the skills and knowledge required to lay and dismantle pump-line for concreting.
Scope	<ul> <li>The scope covers the following:</li> <li>Shift, stack and clean pipe segments as per requirements</li> <li>Lay, join and dismantle pump-line for concreting</li> </ul>
Performance Criteria	(PC) w.r.t. the Scope
Element	Performance Criteria
Shift, stack and clean pipe segments as per requirements	To be competent, the user / individual on the job must be able to:  PC1. carry out visual checks to the pipe segments for usability  PC2. shift and stack pipe segments as per instruction to appropriate location  PC3. select and shift clamps and required hand tools to the work location as per instruction  PC4. carry out cleaning of pipe segments as per requirement prior and during concreting work
Lay, join and dismantle pump-line for concreting	<ul> <li>PC5. join pipe segments using clamps, turn-buckles, hand tools and supporting tools under supervision</li> <li>PC6. construct working platforms at intervals for maintenance of pump line</li> <li>PC7. lift pipe segments at heights using rigging tools as per work requirement</li> <li>PC8. carry out ramming of external pipes in order to check continuity of flow of concrete during concreting works as per instruction</li> <li>PC9. align pipeline efficiently providing required support at instructed locations to provide stability and water tightness</li> <li>PC10. use standard bent pipes as per instruction to ensure desired flow of concrete in pipeline</li> <li>PC11. join, cut, clean and realign pump lines according to need of concreting works as per instruction</li> <li>PC12. dismantle, lower pump line safely, using appropriate hand tools</li> </ul>
Knowledge and U	nderstanding (K)
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. standard procedure for construction rigging works  KA2. safety rules and regulations for construction rigging works  KA3. personal protection including use of safety gears and equipment  KA4. safe working methods and movements while performing relevant tasks  KA5. request procedure for tools & materials  KA6. housekeeping & other administrative rules









## Lay and dismantle pump-line for concreting

В.	Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. selection and use of common lifting tools and tackles like pulley, chain block, slings, shackles, hooks, ropes, hammers etc.  KB2. standard procedure of laying and aligning concrete pump line  KB3. how to clean concrete from pipe segments without damaging the same  KB4. use of standard bent pipes as per requirements  KB5. how to use clamps, safety chains, wire strops, anchor brackets, etc. to secure the concrete pipeline		
	Skills (S)			
A.	Core Skills/	Writing Skills		
	Generic Skills	The user/ individual on the job needs to know and understand how to:  SA1. write in at least one language, preferably in the local language of the site		
		Reading Skills		
		The user/ individual on the job needs to know and understand how to:  SA2. read in one or more one language, preferably in the local language of the site  SA3. read instructions, guidelines, sign boards, safety rules, safety tags and 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 language of the site  SA5. listen and follow instructions communicated by supervisors  SA6. orally and efficiently communicate with team member		
В.	Professional	Decision Making		
	Skills	The user/ individual on the job needs to know and understand how to:  SB1. decide whether the workplace is safe for working and also the relevant work is not creating hazardous conditions for others  SB2. decide on the rigging tools are to be used for laying pump-line as per work requirement		
		Plan and Organize		
		The user/individual on the job needs to know and understand how to:  SB3. plan method of supporting to be provided to the pipe assembly  SB4. plan handling and stacking methods of pipe segments during shifting and erection  Customer centricity		









### Lay and dismantle pump-line for concreting

The user/individual on the job needs to know and understand how to:  SB1. ensure work is done within time and as per desired quality as per instructions provided by superiors
Problem solving
SB2. N.A
Analytical Thinking
SB3. N.A
Critical Thinking
The user/individual on the job needs to know and understand how to:
SB4. identify location at which violation of any safety norms may lead to accident











## Lay and dismantle pump-line for concreting

# **NOS Version Control**

NOS Code	CON/N0703		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	06/04/2018
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Rigging	Next review date	24/07/2023











Assist in carrying out staging for heavy RCC work

# National Occupational Standard



## **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in assisting in carrying out staging for heavy RCC work.









### Assist in carrying out staging for heavy RCC work

Unit Code	CON/N0704		
Unit Title (Task)	sist in carrying out staging for heavy RCC work		
Description	This unit describes the skills and knowledge required to assist in carrying out staging for heavy RCC work		
Scope	The scope covers the following:		
	Identify and handle staging components		
	Assist in erection and dismantling of staging		
Performance Criteria (	(PC) w.r.t. the Scope		
Element	Performance Criteria		
Assist in erection and dismantling of staging	<ul> <li>To be competent, the user / individual on the job must be able to:</li> <li>PC1. identify and select staging components such as trestles, heavy duty H- frames, acrospans, base jacks, clamps etc.</li> <li>PC2. carry out visual checks on staging components to ensure their physical condition is safe for working</li> <li>PC3. shift and stack required staging materials at proper location as per direction</li> <li>PC4. shift and stack chain pulleys, ropes, hooks, shackles required for erection of staging to the work location as per instruction</li> <li>PC5. check base of scaffolding for adequate compaction or rigidity and level</li> <li>PC6. assist in erection of vertical and bracing components at specified intervals as per instruction</li> <li>PC7. assist in lifting staging components at required locations using appropriate tools and tackles like chain hoist, pulley, hooks etc.</li> <li>PC8. provide supports at appropriate location using appropriate formwork component as per direction</li> </ul>		
Ku ayyla daa ay d Hu	PC9. carry out housekeeping work at work site as per instruction		
Knowledge and Ur			
A. Organizational Context	The user/individual on the job needs to know and understand:  KA1. standard procedure for construction rigging works  KA2. safety rules and regulations for construction rigging works		
(Knowledge of the company /	KA2. safety rules and regulations for construction rigging works  KA3. personal protection including use of safety gears and equipment		
organization and	KA4. safe working methods and movements while performing relevant tasks		
its processes)	KA5. request procedure for tools & materials		
	KA6. housekeeping & other administrative rules		









## Assist in carrying out staging for heavy RCC work

B. Technical Knowledge	<ul> <li>The user/individual on the job needs to know and understand:</li> <li>KB1. use and name of hand tools and rigging gears which are commonly used for staging works such as hammer, pulley, rope, spanner etc.</li> <li>KB2. components required for staging work for heavy RCC structure like trestles, H-frames, acrospans, base jacks, timber, clamps, MS channels etc.</li> <li>KB3. standard procedure of lifting heavy material components using rigging tools and tackles</li> <li>KB4. standard procedure of shifting, storing and stacking staging materials at worksite</li> </ul>
Skills (S)	
A. Core Skills/	Writing Skills
Generic Skills	The user/ individual on the job needs to know and understand how to:
	SA1. write in one or more languages, preferably in the local language of the site
	Reading Skills
	The user/ individual on the job needs to know and understand how to:
	SA2. read in one or more languages, preferably in the local language of the site
	SA3. read instructions, guidelines, sign boards, safety rules, safety tags and
	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 languages, preferably in one of the local language at the site
	SA5. listen and follow instructions / communication shared by superiors/ co-
	workers regarding team requirements or interfaces during work processes
	SA6. orally communicate with co-workers regarding support required to complete
	the respective work
B. Professional	Decision Making
Skills	The user/individual on the job needs to know and understand how to:
	SB1. decide whether the workplace is safe for working and also that the work is
	not creating hazardous conditions for other
	SB2. decide on the usability and type of rigging gears to be used for staging works
	Plan and Organize
	The user/individual on the job needs to know and understand how to:
	SB3. plan self-work as per the direction /close supervision of a level-3 riggers and
	above









## Assist in carrying out staging for heavy RCC work

	Customer centricity
-	SB4. ensure work is done within time and as per desired quality as per instructions provided by superiors
	Problem solving
	SB5. N.A
	Analytical Thinking
	SB6. N.A
	Critical Thinking
	The user/individual on the job needs to know and understand how to:  SB7. determine any violation from organizational and standard safety norms











### Assist in carrying out staging for heavy RCC work

# **NOS Version Control**

NOS Code	CON/N0704		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	06/04/2018
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Rigging	Next review date	24/07/2023











### Assist in in-situ RCC piling works

# National Occupational Standard



## **Overview**

This NOS covers the skills and knowledge required by a workman to be proficient in assisting in insitu RCC piling works.



# National Occupational Standards





### Assist in in-situ RCC piling works

N/1NU/U5	Assist in in-situ RCC piling works
Unit Code	CON/N0705
Unit Title (Task)	Assist in In-situ RCC piling works
Description	This unit describes the skills and knowledge required to assist in in-situ RCC piling works
Scope	The scope covers the following:
Performance Criteria (	PC) w.r.t. the Scope
Element	Performance Criteria
Carry out preparatory works  Assist in piling works	To be competent, the user / individual on the job must be able to:  PC1. identify, shift and stack tools and accessories required for piling works at specified work location as per instruction  PC2. assist in erection of piling tripod at appropriate positions  PC3. assist in establishing winch, pumps and pipelines required for piling operation at specified locations  PC4. erect barricading, safety signage at the work location as per instruction  PC5. clean piling tools and accessories as per requirement prior and post concreting work
Assist in piling works	<ul> <li>PC6. apply bentonite to the earth - pit as per requirement and instruction</li> <li>PC7. clean sludge, muck generated from the boreholes manually and dispose the same at appropriate location.</li> <li>PC8. carry out cleaning and greasing of concreting tremie, funnel and other accessories as per requirement</li> <li>PC9. assist in shifting and lowering of reinforcement cage in to the bored hole of the pile prior to concreting work</li> <li>PC10. carry out manual earthwork according to work requirement and as per instruction</li> </ul>
Knowledge and Un	derstanding (K)
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. standard procedure for construction rigging works  KA2. safety rules and regulations for construction rigging works  KA3. personal protection including use of safety gears and equipment  KA4. safe working methods and movements while performing relevant tasks  KA5. request procedure for tools & materials

KA6. housekeeping & other administrative rules









### Assist in in-situ RCC piling works

B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. tools used for piling works such as tripod, funnel, auger chisel, tremie etc.  KB2. use of lifting tools and equipments in bore hole piling works such as pulley, chain block, winch machine, wire rope etc.  KB3. how to operate tremie pipes during manual boring and concreting work  KB4. how to erect tripod and its accessories  KB5. method of barricading at worksite  KB6. use of bentonite in piling works and its physical properties  KB7. cleaning of muck and debris from earth pit  KB8. signage requirements at piling site		
Skills (S)			
A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. write in one or more languages, preferably in the local language of the site		
	Reading Skills		
	The user/ individual on the job needs to know and understand how to:  SA2. read in one or more languages, preferably in the local language of the site  SA3. read instructions, guidelines, sign boards, safety rules, safety tags and 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 languages, preferably in one of the local language of the site  SA5. listen and follow instructions / communication shared by superiors/ coworkers regarding team requirements or interfaces during work processes  SA6. orally communicate with co-workers regarding support required to complete the respective work		
B. Professional	Decision Making		
Skills	The user/individual on the job needs to know and understand how to:  SB1. decide whether the workplace is safe for working and also that the work is not creating hazardous conditions for other  SB2. decide on the usability and type of rigging gears to be used for piling works  Plan and Organize  The user/individual on the job needs to know and understand how to:  SB2. plan self work as per the direction (close supervision of a level 3 riggers and		
	SB3. plan self-work as per the direction /close supervision of a level-3 riggers and above		









### Assist in in-situ RCC piling works

	Customer centricity
The	user/individual on the job needs to know and understand how to:
SE	84. ensure work is done within time and as per desired quality as per
	instructions provided by superiors
	Problem solving
SE	B5. N.A
	Analytical Thinking
SE	B6. N.A
	Critical Thinking
The	user/individual on the job needs to know and understand how to:
SE	B7. determine any violation from organizational and standard safety norms











### Assist in in-situ RCC piling works

# **NOS Version Control**

NOS Code	CON/N0705		
Credits (NSQF)	TBD	Version number	1.1
Industry	Construction	Drafted on	06/04/2018
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019
Occupation	Rigging	Next review date	24/07/2023











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

# National Occupational Standard



## **Overview**

This NOS covers the skill and knowledge required to work effectively within a team to achieve the desired results.



# National Occupational Standards





### CON/N8001

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

Unit Code	CON/N8001				
Unit Title (Task)	Work effectively in a team to deliver desired results at the workplace				
Description	This unit describes the skills and knowledge required to work effectively within a team to achieve the desired results.				
Scope	The scope covers the following:				
	<ul> <li>Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams</li> <li>Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task</li> </ul>				
Performance Criteria	(PC) w.r.t. the Scope				
Element	Performance Criteria				
Interact and communicate in effective and conclusive manner	To be competent, the user / individual on the job must be able to:  PC1. pass on work related information/ requirement clearly to the team members  PC2. inform co-workers and superiors about any kind of deviations from work  PC3. address the problems effectively and report if required to immediate supervisor appropriately  PC4. receive instructions clearly from superiors and respond effectively on same  PC5. communicate to team members/subordinates for appropriate work technique and method  PC6. seek clarification and advice as per requirement and applicability				
Support co-workers to execute project requirements	PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams  PC8. work together with co-workers in a synchronized manner				
Knowledge and U	nderstanding (K)				
A. Organizational Context (Knowledge of the company / organization and its processes)	<ul> <li>The user/individual on the job needs to know and understand:</li> <li>KA1. own roles and responsibilities</li> <li>KA2. importance of effective communication and establishing strong working relationships with co-workers</li> <li>KA3. risks of a failure in teamwork in terms of effects on project outcomes, Timelines, safety at the construction site, etc.</li> <li>KA4. different modes of communication, and its appropriate usage</li> <li>KA5. importance of creating healthy and cooperative work environment among the gangs of workers</li> </ul>				
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. different activities within his work area where an interaction with other				









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

		workers is required  KB2. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co- workers might need as per the requirement
		KB3. importance of proper and effective communication and the expected adverse effects in case of failure relating to quality, timelines, safety, risks at the construction project site
		KB4. importance and need of supporting co-workers facing problems for smooth functioning of work
	Skills (S)	
A.	Core Skills/	Writing Skills
	Generic Skills	The user/ individual on the job needs to know and understand how to:
		SA1. write in one or more languages, preferably in the local language of the site
		Reading Skills
		The user/ individual on the job needs to know and understand how to:
		SA2. read in one or more languages, preferably the local language of the site
		SA3. read communication from team members regarding work completed,
		materials used, tools and tackles used, support required
		Oral Communication (Listening and Speaking skills)
		The user/ individual on the job needs to know and understand how to:  SA4. speak in one or more languages, preferably in one of the local language of the site
		SA5. listen and follow instructions / communication shared by superiors/ co-
		workers regarding team requirements or interfaces during work processes
		SA6. orally communicate with co-workers regarding support required to complete the respective work
В.	Professional Skills	Decision Making
	SKIIIS	The user/individual on the job needs to know and understand how to:
		SB1. decide on what information is to be shared with co-workers within the team
		or from interfacing gang of workers
		Plan and Organise
		The user/individual on the job needs to know and understand how to:
		SB2. plan work and organize required resources in coordination with team members
		Customer centricity









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

The user/individual on the job needs to know and understand how to: SB3. complete all assigned task in coordination with team members

### **Problem solving**

The user/individual on the job needs to know and understand how to:

SB4. take initiative in resolving issues among co-workers or report the same to superiors

### **Analytical Thinking**

The user/individual on the job needs to know and understand how to:

- SB5. ensure best ways of coordination among team members
- SB6. communicate with co-workers considering their educational / social background

#### **Critical Thinking**

The user/individual on the job needs to know and understand how to:

SB7. evaluate the complexity of task and determine if any guidance is required from superiors









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

# **NOS Version Control**

NOS Code	CON/N8001					
Credits (NSQF)	TBD	Version number	1.1			
Industry	Construction	Drafted on	06/04/2018			
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019			
Occupation	Rigging	Next review date	24/07/2023			











\_\_\_\_\_\_

# 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.









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	<ul> <li>The scope covers the following:</li> <li>Follow safety norms as defined by organization</li> <li>Adopt healthy &amp; safe work practices</li> <li>Implement good housekeeping and environment protection process and activities</li> </ul>					
Performance Criteria (	PC) w.r.t. the Scope					
Element	Performance Criteria					
Follow safety norms as defined by organization	To be competent, the user / individual on the job must be able to:  PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority  PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities  PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable  PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site  PC5. select and operate different types of fire extinguishers corresponding to types of fires as per EHS guideline  PC6. identify near miss , unsafe condition and unsafe act					
Adopt healthy & safe work practices	PC7. use appropriate Personal Protective Equipment (PPE) as per work requirements including:  • Head Protection (Helmets)  • Ear protection  • Fall Protection  • Foot Protection  • Face and Eye Protection,  • Hand and Body Protection  • Respiratory Protection (if required)  PC8. handle all required tools, tackles, materials & equipment safely PC9. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines  PC10. install and apply properly all safety equipment as instructed PC11. follow safety protocol and practices as laid down by site EHS department					









	PC12. undertake and pass height pass test as per EHS guideline			
Implement good housekeeping practices	PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes  PC14. apply ergonomic principles wherever required			
Knowledge and Ur	nderstanding (K)			
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand:  KA1. reporting procedures in cases of breaches or hazards for site safety, accidents and emergency situations as per guidelines  KA2. types of safety hazards at construction sites  KA3. basic ergonomic principles as per applicability			
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. the procedure for responding to accidents and other emergencies at site  KB2. appropriate personal protective equipment to used based on various  working conditions  KB3. importance of handling tools, equipment and materials as per applicable  KB4. health and environments effect of construction materials as per  applicability  KB5. various environmental protection methods as per applicability  KB6. storage of waste including the following at appropriate location:  • non-combustible scrap material and debris  • combustible scrap material and debris  • general construction waste and trash (non-toxic, non-hazardous)  • any other hazardous wastes  • any other flammable wastes  KB7. how to use hazardous material, in a safe and appropriate manner as per  applicability  KB8. knowledge about types of fire  KB9. Procedure of operating different types of fire extinguishers  KB10. safety relevant to tools, tackles, & requirement as per applicability  KB11. housekeeping activities relevant to task			
Skills (S)				
A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. write in one or more language, preferably in the local language of the site SA2. fill safety formats for near miss, unsafe conditions and safety suggestions  Reading Skills			









	The user/ individual on the job needs to know and understand how to:
	SA3. read in one or more language, preferably in the local language of the site
	SA4. read sign boards, notice boards relevant to safety
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to:
	SA5. speak in one or more language, preferably in one of the local language of the site
	SA6. listen instructions / communication shared by site EHS and superiors
	regarding site safety, and conducting tool box talk
	SA7. communicate reporting of site conditions, hazards, accidents, etc.
B. Professional	Decision Making
Skills	The user/individual on the job needs to know and understand how to:
	SB1. not create unsafe conditions for others
	SB2. keep the workplace clean and tidy
	Plan and Organise
	SB3. N.A
	Customer centricity
	SB4. N.A
	Problem solving
	The user/individual on the job needs to know and understand how to:
	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
	Analytical Thinking
	The user/individual on the job needs to know and understand how to:
	SB6. assess and analyze areas which may affect health, safety and environment
	protocol on the site
	·
	Critical Thinking
	The user/individual on the job needs to know and understand how to:
	SB7. ensure personal safety behavior
	SB8. respond to emergency
	l l



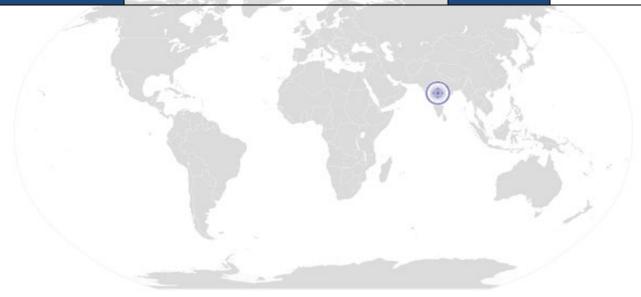






# **NOS Version Control**

NOS Code	CON/N9001					
Credits (NSQF)	TBD	Version number	1.3			
Industry	Construction	Drafted on	06/04/2018			
Industry Sub-sector	Real Estate and Infrastructure Construction	Last reviewed on	24/07/2019			
Occupation	Rigging	Next review date	24/07/2023			







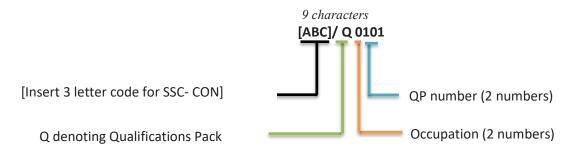




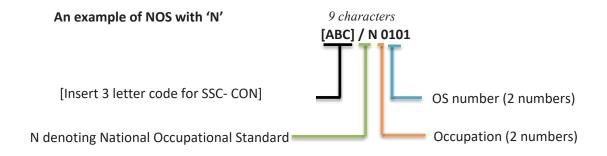
### Annexure

### **Nomenclature for QP and NOS**

### **Qualifications Pack**



### **Occupational Standard**



Back to top...









The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Real Estate and Infrastructure	1-35
Rural Infrastructure Construction	36-50
Scope for new Sub-Sectors	51-99

Sequence	Description	Example
Three letters	Construction Skill Development Council of India	CON
Slash	/	/
Next letter	Whether <b>Q</b> P or NOS	Q
Next two numbers	Occupation code	12
Next two numbers	OS number	01









### **CRITERIA FOR ASSESSMENT OF TRAINEES**

Job Role Khalasi (Assistant Rigger)

Qualification PackCON/Q0701Sector Skill CouncilConstruction

### **Guidelines for Assessment**

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

				Marks Allocation	
Assessment outcomes	Assessment Criteria for outcomes	Total Mark	Out Of	Theory	Skills Practical
CON/N0701: Shift RCC Precast / Structural Steel units at construction site	PC1. identify and select appropriate rigging gears required for heavy material lifting and shifting works at construction site  PC2. isolate faulty rigging gears and store them separately as per instruction  PC3. select appropriate hand tools to be used for heavy material rigging works  PC4. select and use appropriate PPEs for lifting operations	100	20	6	14









	PC5. carry out checks to the rigging gears and hand tools for its usability during and prior to material lifting and shifting work  PC6. remove obstructions (if any) from equipment movement route as per instructions  PC7. check location of lifting for suitability of unloading of loads as per instructions  PC8. prepare loads for lifting as per instructions  PC9. assist to the earth moving equipments or compactors in order to Prepare base for heavy lifting equipments		30	9	21
	PC10. check for presence of safety signage, illumination, barricading at the route of material shifting as per agreed work plan  PC11. report clearly and concisely to senior in case of unsafe condition for material lifting and shifting  PC12. place prescribed supports, frames, blocking and cushioning at the deck of transporting vehicle to prevent in-transit damage of the unit or vehicle as per instruction  PC13. anchor units to the right locations and hook up with the prescribed lifting equipment by using slings, shackle, rope or lifting hooks and secure properly against slipping or deflection as per instruction  PC14. assist in loading of precast or structural steel units to the transporting vehicle as per instruction  PC15. control position of suspended components while being shifted directly by using equipments by pulling efficiently by ropes as per instruction  PC16. offload units from vehicle to ground at heavy lifting point by assisting lifting equipments under close supervision  PC17. place suitable materials like wooden sleepers, stools etc. on the base as per instruction to create ground clearance to the materials and provision for further lifting  PC18. offload, place and de-sling material on the sleepers safely as per instructions		50	15	35
	The per section of the per secti	Total	100	30	70
CON/N0702: Prepare surface of RCC precast units or structural steel units prior to erection	PC1. check surroundings to ensure safe condition for sandblasting PC2. erect obstructing arrangement surrounding to the area of sand blasting operations as per instruction PC3. adjust the air compressor and sandblaster gauges to the correct or desired pressure PC4. Grade abrasive materials as per instruction prior to start blasting operation	100	70	20	50



# National Occupational Standards





	PC5. Connect compressor and blasting equipment prior to undertake blasting activity  PC6. carry out sandblasting as per instruction and ensure proper cleaning of unwanted substances from RCC or metal surface				
	PC7. clean existing dust, laitance, unwanted articles from the joints between RCC precast components where gluing is to be done as per instruction PC8. prepare glue-mix (if required) as per instruction PC9. apply glue to the concrete surface as per specification or instruction using suitable means of		30	10	20
	application	Takal	100	20	70
CON/N0703: Lay	PC1. carry out visual checks to the pipe segments for	Total	100	30	70
and dismantle	usability				
pump-line for concreting	PC2. shift and stack pipe segments as per instruction to appropriate location		35	10	25
	PC3. select and shift clamps and required hand tools to the work location as per instruction		35	10	23
	PC4. carry out cleaning of pipe segments as per requirement prior and during concreting work				
	PC5. join pipe segments using clamps, turn-buckles, hand tools and supporting tools under supervision				
	PC6. construct working platforms at intervals for maintenance of pump line				
	PC7. lift pipe segments at heights using rigging tools as per work requirement	100			
	PC8. carry out ramming of external pipes in order to check continuity of flow of concrete during concreting works as per instruction		C.F.	20	45
	PC9. align pipeline efficiently providing required support at instructed locations to provide stability and water tightness		65	20	45
	PC10. use standard bent pipes as per instruction to ensure desired flow of concrete in pipeline				
	PC11. join, cut, clean and realign pump lines according to need of concreting works as per instruction				
	PC12. dismantle, lower pump line safely, using appropriate hand tools				
0001/00704		Total	100	30	70
CON/N0704: Assist in carrying out staging for heavy	PC1. identify and select staging components such as trestles, heavy duty H- frames, acrospans, base jacks, clamps etc.	100	35	10	25
RCC work	PC2. carry out visual checks on staging components to ensure their physical condition is safe for working				









	PC3. shift and stack required staging materials at proper location as per direction  PC4. shift and stack chain pulleys, ropes, hooks, shackles required for erection of staging to the work location as per instruction  PC5. check base of scaffolding for adequate compaction or rigidity and level  PC6. assist in erection of vertical and bracing components at specified intervals as per instruction  PC7. assist in lifting staging components at required				
	locations using appropriate tools and tackles like chain hoist, pulley, hooks etc.  PC8. provide supports at appropriate location using appropriate formwork component as per direction  PC9. carry out housekeeping work at work site as per instruction		65	20	45
		Total	100	30	70
CON/N0705: Assist in In-situ RCC piling works	PC1. identify, shift and stack tools and accessories required for piling works at specified work location as per instruction  PC2. assist in erection of piling tripod at appropriate positions  PC3. assist in establishing winch, pumps and pipelines required for piling operation at specified locations  PC4. erect barricading, safety signage at the work location as per instruction  PC5. clean piling tools and accessories as per requirement prior and post concreting work  PC6. apply bentonite to the earth - pit as per	100	50	15	35
	requirement and instruction  PC7. clean sludge, muck generated from the boreholes manually and dispose the same at appropriate location.  PC8. carry out cleaning and greasing of concreting tremie, funnel and other accessories as per requirement  PC9. assist in shifting and lowering of reinforcement cage in to the bored hole of the pile prior to concreting work  PC10. carry out manual earthwork according to work requirement and as per instruction		50	15	35
CON/NG004 : 14/- ::1	DC1 pass on work related information / requirement	Total	100	30	70
con/n8001: Work effectively in a team to deliver desired results at	PC1. pass on work related information/ requirement clearly to the team members  PC2. inform co-workers and superiors about any kind of deviations from work	100	60	18	42









40	12	28	
100	Total	30	70
			20
30		10	
50	100	15	35









by site EHS department				
PC 12. undertake and pass height pass test as per EHS guidelines				
PC13. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes  PC14.apply ergonomic principles wherever required		20	5	15
The state of the s	Total	100	30	70