सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

Qualification Pack

Transforming the skill landscape

Construction Fitter

QP Code: CON/Q1205

Version: 2.0

NSQF Level: 4

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Contents

CON/Q1205: Construction Fitter

Brief Job Description

Construction Fitter is responsible for conducting fitup operation on structural steel elements or assemblies as per requirements and under supervision.

Personal Attributes

The individual is expected to be physically fit and mentally alert to be able to work across various location and height withstanding extreme condition while working, preferably not be suffering from any respiratory disorder, vision defects and skin allergies due to exposure to light and heat. They should have good communication skills and shall be able to work within a team to handle various tools and materials.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. CON/N1208: Carry out marking on structural steel elements to complete the fitup in accordance with shop drawings
2. CON/N1209: Carry out fitup of assemblies in fabrication yard
3. CON/N8001: Work effectively in a team to deliver desired results at the workplace
4. CON/N9001: Work according to personal health, safety and environment protocol at construction site

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7214.70

Minimum Educational Qualification & Experience	10th Class with 2-3 Years of experience as a certified Assistant Construction Fitter, Gas Cutter or Grinder OR 10th Class with 3-5 Years of experience in case of a Non trained worker: as a Certified Assistant Construction Fitter, Gas Cutter or Grinder
Minimum Level of Education for Training in School	10th Class
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	04/03/2020
Next Review Date	24/07/2023
Deactivation Date	24/07/2023
NSQC Approval Date	22/08/2019
Version	2.0
Reference code on NQR	2019/CON/CSDCI/3300
NQR Version	2

CON/N1208: Carry out marking on structural steel elements to complete the fitup in accordance with shop drawings

Description

This unit describes the skills and knowledge required to carry out marking structural steel elements and assemblies for completing fitup operations in accordance with shop drawings

Scope

The scope covers the following :

- Compute dimensions of assemblies or components from shop drawings
- Select the correct work pieces
- Make accurate markings on work pieces

Elements and Performance Criteria

Compute the dimensions of assemblies or components from shop drawings

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

PC1. identify the correct drawing and section there in as per requirement

PC2. compute required dimensions as from the section using linear calculations

PC3. note the orientation of the sections

PC4. simplify and reproduce the drawing as a hand sketch for subordinates for explaining the work requirements

PC5. read development drawing of plates

Select the correct work pieces

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

PC6. refer the drawing for identifying the correct material based upon its dimensions

PC7. measure the dimensions of the identified the material to check its compliance with job if the said is not marked

PC8. check the work piece for its preparation such as beveling, scalloping etc

Make accurate markings on work pieces

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

PC9. clean the surface of the section to remove any dust, paint, oil, rust etc

PC10. identify the start point for measuring and marking the dimensions on the section as per drawing

PC11. use appropriate tools and instruments for measurement

PC12. use correct tools and instruments for marking such as scribers etc

PC13. make accurate and distinguishable markings on the external surface of sections

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedure for construction fitting works
KU2. safety rules and regulation for marking structural steel elements and performing fitting operations
KU3. personal protection including use of safety gears and equipment
KU4. service request procedures for tools, materials and equipment
KU5. the technical nomenclature of the assemblies under fabrication
KU6. how to read the correct dimensions from the sectional drawings
KU7. interpret the required parameters such as
KU8. dimension of sections
KU9. orientation of section in terms of edge preparation
KU10. different symbols on the drawing sheet and their correct interpretations
KU11. identify material based upon its shape, dimension and grade
KU12. basics of arithmetic and geometry.
KU13. other procedures involved in fabrication such as gas cutting and using the heating torch grinding, different types of portable and installed grinders, their applications and different types of blades available in the market process of drilling and various equipments used in grinding work other methods of cutting a metal section such as shearing. procedure of installing bolts, importance of washers and torque requirements procedure of installing rivets, different equipment used in the process
KU14. correct methodology to be followed while straightening or bending different types of sections or plates
KU15. selection of different marking instruments based upon the surface and other requirements
KU16. use of different marking instruments as per requirements
KU17. selection of different measuring instruments and tools based upon the work requirements
KU18. use of different measurement instruments and tools
KU19. the correct procedure for measuring and marking the sections

Generic Skills (GS)

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

GS1. write in one or more language, preferably in the local language of the site
GS2. read one or more language, preferably in the local language of the site
GS3. read /sketches/routine working drawing or instructions provided for thework
GS4. read various, sign boards, safety rules and safety tags , instructions relatedto exit routes during emergency at the workplace
GS5. speak in one or more language, preferably in one of the local language of the site
GS6. listen and follow instructions given by the superior
GS7. orally communicate with co-workers regarding support required to complete the respective work
GS8. identify correct drawings and decide upon the sections to work upon after evaluating the shop drawings
GS9. decide the tools and instruments to be used for measuring and marking on the base metal

GS10. decide if the marking is distinguishable and clear

GS11. plan self work as per work sequence and instructions

GS12. complete work as per agreed time and quality

GS13. assess work piece for its preparation and make necessary corrections

GS14. confirm with superiors in case off any ambiguity in computation of dimensions, marking the same on base metal

GS15. assess, identify and use correct tools and instruments for markings (eg. - scribers) and make accurate and distinguishable markings on external surfaces

GS16. confirm the orientation of the material

GS17. check the dimensions of the identified materials and confirm that it is notundulated or distorted

GS18. analyze actions of self that may result in wastage of materials and consumables so as to optimize their use

GS19. identify and assess actions of self that can cause unsafe conditions

GS20. evaluate the complexity of the tasks to and seek assistance and support wherever required from the superior

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Compute the dimensions of assemblies or components from shop drawings	**9**	**21**	**-**	**-**
PC1. identify the correct drawing and section there in as per requirement	-	-	-	-
PC2. compute required dimensions as from the section using linear calculations	-	-	-	-
PC3. note the orientation of the sections	-	-	-	-
PC4. simplify and reproduce the drawing as a hand sketch for subordinates for explaining the work requirements	-	-	-	-
PC5. read development drawing of plates	-	-	-	-
Select the correct work pieces	**9**	**21**	**-**	**-**
PC6. refer the drawing for identifying the correct material based upon its dimensions	-	-	-	-
PC7. measure the dimensions of the identified the material to check its compliance with job if the said is not marked	-	-	-	-
PC8. check the work piece for its preparation such as beveling, scalloping etc	-	-	-	-
Make accurate markings on work pieces	**12**	**28**	**-**	**-**
PC9. clean the surface of the section to remove any dust, paint, oil, rust etc	-	-	-	-
PC10. identify the start point for measuring and marking the dimensions on the section as per drawing	-	-	-	-
PC11. use appropriate tools and instruments for measurement	-	-	-	-
PC12. use correct tools and instruments for marking such as scribers etc	-	-	-	-
PC13. make accurate and distinguishable markings on the external surface of sections	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N1208
NOS Name	Carry out marking on structural steel elements to complete the fitup in accordance with shop drawings
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N1209: Carry out fitup of assemblies in fabrication yard

Description

This unit describes the skills and knowledge required to carry out fitup of assemblies in fabrication yard

Scope

The scope covers the following :

- Work according to standard health and safety requirements
- Place and fix the components as per marking
- Carry out adjustments such that the components are properly aligned and accurate
- Check the dimensions post tack welding and offer the same for quality check prior to welding
- Repair any defects found in the components

Elements and Performance Criteria

Work according to standard health and safety requirements

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

PC1. identify any potential hazard in the work area related to own work and report the same to appropriate authority

PC2. avoid any unsafe act by self particularly while working at site

PC3. avoid wearing any loose clothing and preferably wear the yard jumpsuit or any other uniform issued at site

PC4. select and correctly use personnel protective equipment as per work requirement

PC5. dispose of any unwanted material from the work area as per instructions

PC6. participate in safety drills organized at site

PC7. participate in prep talks and tool box talks organized at site

Placing and fixing the components as per marking

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

PC8. estimate the required number of fixtures such as clamps etc for completing the assigned task

PC9. decide the locations and position for erecting temporary supports and anchors

PC10. erect temporary support and anchors at identified locations as per work requirement

PC11. check the working condition of fixtures

PC12. inspect the fabrication bed before commencing the fit-up

PC13. estimate the scope of grinders and gas cutters for completing the job

PC14. identify the orientation of the components as shown in the drawings

PC15. assist in lowering of heavy sections at proper location as per work requirement

PC16. anchor the section at proper location to restrict its movement

PC17. place the sections as per markings

PC18. ensure that proper root gap is maintained throughout the assembly for welded connections

PC19. oversee the preparation of fabrication bed and other fitting activities such as placing and tightening the clamps, jacking and striking etc.

Carry out adjustments such that the components are properly aligned and accurate

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

PC20. check the accuracy of positioning of sections as per requirement

PC21. identify any defects in positioning of components in reference to the markings

PC22. carry out operations such as striking, realignment etc. for accurate positioning of structural components

PC23. identify locations for tack welding such that root gap is maintained consistent and the joint is stable

PC24. check the requirements for preheating in consultation with superiors

PC25. supervise the finishing of the tack weld as carried out by grinder

PC26. oversee the finishing of the surface

Check the dimensions post tack welding and offer the same for quality check prior to welding

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

PC27. check the tack weld visually to ensure no defects in welding

PC28. recheck the dimensions post tack welding to ensure that change due to shrinkage is within tolerance limit

PC29. submit the fitted assembly to superiors for inspection

PC30. rectify any repairs indicated by superior by following standard procedure

PC31. assist the foreman in preparation of fit-up report

Repair any defects found in the components

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

PC32. conduct straightening and bending operations on sections if required

PC33. locate the distortions identified by superiors

PC34. apply suitable method for correcting distortions like application of heat, application of force or a combination there off

PC35. oversee or conduct heating of distorted material as per instruction

PC36. use vice or jack efficiently to remove distortion

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard procedure for tack welding works

KU2. safety rules and regulation for preparing and handling relevant tools and equipment

KU3. personal protection including the use of relevant safety gears & equipment

KU4. service request procedures for tools, materials and equipment

KU5. how to estimate the requirements of fitup like: the space required for completing the fit-up work, the requirements of number of clamps and fixture for restricting the movement of sections, the requirements for erecting temporary supports and anchorages at required places as per need of fit-up

KU6. how to check the workability of the clamps and fixtures

KU7. what are the ideal conditions for an anchor point
KU8. how to decide the anchor points
KU9. need and importance of Tack welding
KU10. how to identify the location of tack welding
KU11. importance of preparing fabrication platform or bed
KU12. what is root gap, why is it required
KU13. basic maintenance of different tools, tackles and equipments
KU14. different hazards associated with fabrication activities
KU15. types of fires and different fire safety equipments used
KU16. safety evacuation points
KU17. safety guidelines for working in a fabrication yard
KU18. identification and disposal of waste and scarp materials at workplace
KU19. different methods and process for making connections in metal sections
KU20. how to place and position sections of different shapes, dimensions etc
KU21. how to align the sections as per the markings
KU22. different types of jacks(based upon mechanics, principle of functioning, manufacture and capacity), their application and use
KU23. how to operate different jacks, vices, clamps and other fixtures
KU24. different equipments used for load lifting and shifting
KU25. visual inspection of weld to check cracks, undercut, spatters etc.
KU26. definition of distortion, its causes and physical effects
KU27. procedures employed to correct distortion (application of heat, application of force)
KU28. process of bending plates or sections using bending machines
KU29. types of bending machines, their application and limitations

Generic Skills (GS)

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

GS1. write in one or more language, preferably in the local language of the site
GS2. read one or more language, preferably in the local language of the site
GS3. read /sketches/routine working drawing or instructions provided for thework
GS4. read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
GS5. speak in one or more language, preferably in one of the local language of the site
GS6. listen and follow instructions given by the superior
GS7. orally communicate with co-workers regarding support required to completethe respective work
GS8. decide the number and location of temporary support and anchorss
GS9. decide the conformance of fabrication platform for conducting required works
GS10. decide if the fitted assembly is accurate before proceeding with quality checks

GS11. decide on the appropriate locations to erect temporary anchors and supports as per requirements

GS12. arrange for required manpower and consumables as per work requirements

GS13. arrange for required fixtures as per work requirements

GS14. complete work as per agreed time and quality

GS15. dispose off unwanted material from area where work is being carried out

GS16. carry out any repairs as indicated by the superior

GS17. provide heat inputs for carrying out adjustments and tack welds if requiredpost approval from appropriate authority

GS18. identify hazardous conditions prevailing at the workplace

GS19. analyze actions of self that may result in wastage of materials and consumables so as to optimize their use

GS20. identify and assess actions of self that can cause unsafe conditions

GS21. confirm the orientation and edge preparation of the component before fixing the same

GS22. employ methods and processes to reduce the consumption of consumables without compromising the quality and safety aspects of the work

GS23. identify and assess how violation of any safety norms may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Work according to standard health and safety requirements	**5**	**10**	**-**	**-**
PC1. identify any potential hazard in the work area related to own work and report the same to appropriate authority	-	-	-	-
PC2. avoid any unsafe act by self particularly while working at site	-	-	-	-
PC3. avoid wearing any loose clothing and preferably wear the yard jumpsuit or any other uniform issued at site	-	-	-	-
PC4. select and correctly use personnel protective equipment as per work requirement	-	-	-	-
PC5. dispose of any unwanted material from the work area as per instructions	-	-	-	-
PC6. participate in safety drills organized at site	-	-	-	-
PC7. participate in prep talks and tool box talks organized at site	-	-	-	-
Placing and fixing the components as per marking	**11**	**25**	**-**	**-**
PC8. estimate the required number of fixtures such as clamps etc for completing the assigned task	-	-	-	-
PC9. decide the locations and position for erecting temporary supports and anchors	-	-	-	-
PC10. erect temporary support and anchors at identified locations as per work requirement	-	-	-	-
PC11. check the working condition of fixtures	-	-	-	-
PC12. inspect the fabrication bed before commencing the fit-up	-	-	-	-
PC13. estimate the scope of grinders and gas cutters for completing the job	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. identify the orientation of the components as shown in the drawings	-	-	-	-
PC15. assist in lowering of heavy sections at proper location as per work requirement	-	-	-	-
PC16. anchor the section at proper location to restrict its movement	-	-	-	-
PC17. place the sections as per markings	-	-	-	-
PC18. ensure that proper root gap is maintained throughout the assembly for welded connections	-	-	-	-
PC19. oversee the preparation of fabrication bed and other fitting activities such as placing and tightening the clamps, jacking and striking etc.	-	-	-	-
Carry out adjustments such that the components are properly aligned and accurate	**6**	**15**	**-**	**-**
PC20. check the accuracy of positioning of sections as per requirement	-	-	-	-
PC21. identify any defects in positioning of components in reference to the markings	-	-	-	-
PC22. carry out operations such as striking, realignment etc. for accurate positioning of structural components	-	-	-	-
PC23. identify locations for tack welding such that root gap is maintained consistent and the joint is stable	-	-	-	-
PC24. check the requirements for preheating in consultation with superiors	-	-	-	-
PC25. supervise the finishing of the tack weld as carried out by grinder	-	-	-	-
PC26. oversee the finishing of the surface	-	-	-	-
Check the dimensions post tack welding and offer the same for quality check prior to welding	**4**	**9**	**-**	**-**
PC27. check the tack weld visually to ensure no defects in welding	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC28. recheck the dimensions post tack welding to ensure that change due to shrinkage is within tolerance limit	-	-	-	-
PC29. submit the fitted assembly to superiors for inspection	-	-	-	-
PC30. rectify any repairs indicated by superior by following standard procedure	-	-	-	-
PC31. assist the foreman in preparation of fit-up report	-	-	-	-
Repair any defects found in the components	**4**	**11**	**-**	**-**
PC32. conduct straightening and bending operations on sections if required	-	-	-	-
PC33. locate the distortions identified by superiors	-	-	-	-
PC34. apply suitable method for correcting distortions like application of heat, application of force or a combination there off	-	-	-	-
PC35. oversee or conduct heating of distorted material as per instruction	-	-	-	-
PC36. use vice or jack efficiently to remove distortion	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N1209
NOS Name	Carry out fitup of assemblies in fabrication yard
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Fabrication
NSQF Level	4
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N8001: 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 :

- Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams
- Support co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task

Elements and 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 the same

PC5. communicate to team members/subordinates for appropriate work technique and method

PC6. seek clarification and advice as per the requirement and applicability

Support co-workers to execute project requirements

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

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 Understanding (KU)

The individual on the job needs to know and understand:

KU1. own roles and responsibilities

KU2. importance of effective communication and establishing strong working

KU3. risks of a failure in teamwork in terms of effects on project outcomes, timelines, safety at the construction site, etc.

KU4. different modes of communication, and its appropriate usage

KU5. importance of creating healthy and cooperative work environment among the gangs of workers

KU6. different activities within his work area where an interaction with other workers is required

KU7. applicable techniques of work, properties of materials used, tools and tackles used, safety standards that co- workers might need as per the requirement

KU8. importance of proper and effective communication and the expected adverse

KU9. importance and need of supporting co-workers facing problems for smooth

Generic Skills (GS)

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

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

GS2. read in one or more languages, preferably the local language of the site

GS3. read communication from team members regarding work completed, materials used, tools and tackles used, support required

GS4. speak in one or more languages, preferably in one of the local language of the site

GS5. listen and follow instructions / communication shared by superiors/ co-workers regarding team requirements or interfaces during work processes

GS6. orally communicate with co-workers regarding support required to complete the respective work

GS7. decide on what information is to be shared with co-workers within the team or from interfacing gang of workers

GS8. plan work and organize required resources in coordination with team members

GS9. complete all assigned task in coordination with team members

GS10. take initiative in resolving issues among co-workers or report the same to superiors

GS11. ensure best ways of coordination among team members

GS12. communicate with co-workers considering their educational / social background

GS13. evaluate the complexity of task and determine if any guidance is required from superiors

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Interact and communicate in effective and conclusive manner	**18**	**42**	**-**	**-**
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 the same	-	-	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	-	-	-	-
PC6. seek clarification and advice as per the requirement and applicability	-	-	-	-
Support co-workers to execute project requirements	**12**	**28**	**-**	**-**
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	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N8001
NOS Name	Work effectively in a team to deliver desired results at the workplace
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	4.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

CON/N9001: 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

The scope covers the following :

- Follow safety norms as defined by organization
- Adopt healthy & safe work practices
- Implement good housekeeping and environment protection process and activities

Elements and 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

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

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

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

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 Understanding (KU)

The individual on the job needs to know and understand:

KU1. reporting procedures in cases of breaches or hazards for site safety, accidents, and emergency situations as per guidelines
KU2. types of safety hazards at construction sites
KU3. basic ergonomic principles as per applicability
KU4. the procedure for responding to accidents and other emergencies at site
KU5. use of appropriate personal protective equipment to be used based on various working conditions
KU6. importance of handling tools, equipment and materials as per applicable
KU7. health and environments effect of construction materials as per applicability
KU8. various environmental protection methods as per applicability
KU9. 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 and any other flammable wastes
KU10. how to use hazardous material, in a safe and appropriate manner as per applicability
KU11. types of fire
KU12. procedure of operating different types of fire extinguishers
KU13. safety relevant to tools, tackles, & requirement as per applicability
KU14. housekeeping activities relevant to task

Generic Skills (GS)

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

GS1. write in at least one language, preferably in the local language of the site
GS2. fill safety formats for near miss, unsafe conditions and safety suggestions
GS3. read in one or more language, preferably in the local language of the site
GS4. read sign boards, notice boards relevant to safety
GS5. speak in one or more language, preferably in one of the local language of the site
GS6. listen instructions / communication shared by site EHS and superiors regarding site safety, and conducting tool box talk
GS7. communicate reporting of site conditions, hazards, accidents, etc.
GS8. not create unsafe conditions for others
GS9. keep the workplace clean and tidy
GS10. 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
GS11. assess and analyze areas which may affect health, safety and environment protocol on the site
GS12. ensure personal safety behavior

GS13. respond to emergency

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Follow safety norms as defined by organization	**9**	**21**	**-**	**-**
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	**15**	**35**	**-**	**-**
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	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	**6**	**14**	**-**	**-**
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	-	-	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N9001
NOS Name	Work according to personal health, safety and environment protocol at construction site
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	4
Credits	TBD
Version	4.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the knowledge part will be based on knowledge bank of questions created by Assessment Bodies subject to approval by SSC

3. Individual assessment agencies will create unique question papers for knowledge/theory part for assessment of candidates as per assessment criteria given below

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on assessment criteria.

5. The passing percentage for each QP will be 70%. To pass the Qualification Pack, every trainee should score a minimum of 70% individually in each NOS.

6. The Assessor shall check the final outcome of the practices while evaluating the steps performed to achieve the final outcome.

7. The trainee shall be provided with a chance to repeat the test to correct his procedures in case of improper performance, with a deduction of marks for each iteration.

8. After the certain number of iteration as decided by SSC the trainee is marked as fail, scoring zero marks for the procedure for the practical activity.

9. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack within the specified timeframe set by SSC.

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

Minimum Aggregate Passing % at QP Level : 70

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

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N1208.Carry out marking on structural steel elements to complete the fitup in accordance with shop drawings	30	70	-	-	100	30
CON/N1209.Carry out fitup of assemblies in fabrication yard	30	70	-	-	100	50
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	5
CON/N9001.Work according to personal health, safety and environment protocol at construction site	30	70	-	-	100	15
Total	**120**	**280**	**-**	**-**	**400**	**100**

Acronyms

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

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
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 organisation.
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 (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

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