Qualification Pack

Mason Form Finished & Special Concrete

QP Code: CON/Q0108

Version: 1.0

NSQF Level: 4

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CON/Q0108: Mason Form Finished & Special Concrete

Brief Job Description

The job role is responsible for placing, levelling and finishing concrete, in form finished concrete structures, complex structure and in extreme weather conditions.

Personal Attributes

The individual is expected to be physically fit and should be able to work across various locations in extreme weather conditions while working at the site. The person must be able to work within a team and handle the various concreting tools and materials with independent decision making ability

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. CON/N0123: Place, level and finish concrete for form finished concrete structures and work with self - compacting concrete
2. CON/N0124: Carry out concreting in extreme environment as per requirement
3. CON/N0128: Carry out concreting on complex structures including slip form concreting
4. CON/N8001: Work effectively in a team to deliver desired results at the workplace
5. CON/N8002: Plan and organize work to meet expected outcomes
6. 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	Masonry
Country	India
NSQF Level	4
Credits	NA

Aligned to NCO/ISCO/ISIC Code	NCO-2004/7123.90
Minimum Educational Qualification & Experience	8th Class with 2-3 Years of experience as a certified General Mason OR 8th Class with 5-10 Years of experience in case of a Non trained worker, in same occupation
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	23/05/2015
Next Review Date	30/09/2021
Deactivation Date	30/09/2021
NSQC Approval Date	05/08/2015
Version	1.0
Reference code on NQR	2015/CON/CSDCI/01152
NQR Version	1.0

CON/N0123: Place, level and finish concrete for form finished concrete structures and work with self - compacting concrete

Description

This unit describes the skills and knowledge required to place, level and finish concrete for form finished concrete structures and work with self - compactingconcrete

Scope

The scope covers the following:

- Read & interpret specifications, standards and GFC drawings relevant to concreting works
- Carry out preparatory works for form finished concrete structures
- Place, level and finish concrete for form finished concrete structures
- Carry out concreting with self
- compacting concrete (SCC) in situ

Elements and Performance Criteria

Read & interpret specifications, standards and GFC drawings relevant to concreting works

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

PC1. read and interpret details & specifications provided in relevant structural drawings

PC2. read and understand method statement for concreting of form finished structure

PC3. read and understand schedule of concrete pour

Carry out preparatory works for form finished concrete structures

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

PC4. perform visual checks to ensure safe condition of access and sufficient work space around concrete pouring point

PC5. check and ensure formwork is clean prior to commencement of work

PC6. point out any misalignment in formwork/reinforcement prior to pour

PC7. check that cover blocks are adequately provided

PC8. check that release agents is applied evenly and is not coming into contact with reinforcement, pre-stressing tendons and anchorages

PC9. in case of contamination due to release agents, ensure it is removed prior to placing of concrete

PC10. visually assess the workability and usability of concrete

Place, level and finish concrete for form finished concrete structures

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

PC11. adhere to method statement and scheduled time line for concreting activity

PC12. ensure concrete is poured in specified layers

PC13. ensure concrete pour is continuous and uninterrupted

PC14. ensure placing ,leveling & compaction activities take place in a synchronized manner w.r.t the rate of pour

PC15. maintain correct vibration depth and ensure that the previous layer is not affected during vibration

PC16. maintain sufficient and uniform compaction of concrete with efficient use of equipment to avoid air voids

PC17. avoid over vibration and formation of laitance and cold joints

PC18. work efficiently considering the setting time of concrete while pouring and ensure pouring takes place within specified time

PC19. re-vibrate the top of a vertical pour after specified time to eliminate color banding at top

PC20. provide construction joints as per specification

PC21. carry out remedial work by patching tie holes as per specification & as per requirement

PC22. use sealant efficiently to improve weathering/maintenance as per requirement

Carry out concretingwith self - compacting concrete(SCC) in situ

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

PC23. pour the self - compacting concrete (SCC) at a fast rate to avoid setting

PC24. pour the SCC from a specified height to avoid air to be entrained

PC25. ensure sealing of forms after pouring

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard practices for masonry concreting works

KU2. safety rules and regulations for handling and storing required tools, equipment and materials related to masonry works

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

KU4. how to request tools and materials as per set procedures

KU5. maintenance of tools and equipments

KU6. standard sizes of all masonry concreting tools

KU7. basic principles of measurement

KU8. how to provide cover as per size of reinforcement bars

KU9. basic properties of concrete

KU10. different grades of concrete and nominal mixes

KU11. different type of high quality concrete finish

KU12. sequence of pouring process

KU13. variation of slump w.r.t rate of pour

KU14. whether or not the concrete requires compaction

KU15. different type of vibrators used(internal/external vibrators)

KU16. accessibility of vibrators and their influence area

KU17. appropriate technique for vibrating of concrete

KU18. vibration in congested areas

KU19. knowledge of construction joints

KU20. cold joints in concrete and ways to avoid them

KU21. appropriate technique and extent to which control joints must be cut
KU22. avoiding color banding and junction cracks in concrete
KU23. technique for patching tie holes
KU24. curing technique of form finished concrete
KU25. various applications and uses of self compact concrete
KU26. how to control the flow of concrete to maintain uniform layers
KU27. why the concrete is to be poured in layers of specified thickness
KU28. initial and final setting of concrete and their checking
KU29. correct positioning of the pump hose when pumping the SCC

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 or more language, preferably the local language at the site
GS3. read instructions, guidelines, sign boards, safety rules and safety tags
GS4. read instructions and exit routes during emergency
GS5. speak in one or more language, preferably in one of the local languages of the site
GS6. listen and follow instructions given by supervisor
GS7. orally and effectively communicate with team members
GS8. decide whether the work place is safe for working and also relevant task is not creating hazardous condition for others
GS9. decide whether work is adequately defined for the day , work front is clear , and adequate materials and tools are available for performing work
GS10. decide the sequence of pouring process
GS11. plan & organize required resources in coordination with team members andsuperiors
GS12. plan for visual checking of overall concreting work
GS13. complete work as per agreed time schedule and quality
GS14. ensure acceptance of quality of form finished and special concrete work forcomplex structures by immediate superior
GS15. ensure satisfaction for level of productivity under given site condition
GS16. resolve and solve any conflict within the team
GS17. assess quantity and quality of materials for day work
GS18. check for quality of scaffolding/working platform from all aspects of safety
GS19. dispose of construction debris & keep workplace safe and tidy for working
GS20. ensure uniform compaction of concrete
GS21. optimize resources efficiently
GS22. minimize wastage in the workplace
GS23. start and finish levels for day work
GS24. reconcile material consumption
GS25. analyze the workability of finished concrete

GS26. evaluate the complexity of the task and seek assistance and support wherever required
GS27. bring to the notice of the superiors any requirement of the requisite material resources
GS28. bring to the notice of the superiors violation of any safety norms which may lead to accidents
GS29. point out misalignments in formwork/reinforcement prior to pour

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Read & interpret specifications, standards and GFC drawings relevant to concreting works	**6**	**14**	**-**	**-**
PC1. read and interpret details & specifications provided in relevant structural drawings	2	4	-	-
PC2. read and understand method statement for concreting of form finished structure	2	5	-	-
PC3. read and understand schedule of concrete pour	2	5	-	-
Carry out preparatory works for form finished concrete structures	**3**	**7**	**-**	**-**
PC4. perform visual checks to ensure safe condition of access and sufficient work space around concrete pouring point	0.5	1	-	-
PC5. check and ensure formwork is clean prior to commencement of work	0.5	1	-	-
PC6. point out any misalignment in formwork/reinforcement prior to pour	0.5	1	-	-
PC7. check that cover blocks are adequately provided	0.5	1	-	-
PC8. check that release agents is applied evenly and is not coming into contact with reinforcement, pre-stressing tendons and anchorages	0.25	1	-	-
PC9. in case of contamination due to release agents, ensure it is removed prior to placing of concrete	0.25	1	-	-
PC10. visually assess the workability and usability of concrete	0.5	1	-	-
Place, level and finish concrete for form finished concrete structures	**15**	**35**	**-**	**-**
PC11. adhere to method statement and scheduled time line for concreting activity	1	2	-	-
PC12. ensure concrete is poured in specified layers	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. ensure concrete pour is continuous and uninterrupted	1	2	-	-
PC14. ensure placing ,leveling & compaction activities take place in a synchronized manner w.r.t the rate of pour	2	5	-	-
PC15. maintain correct vibration depth and ensure that the previous layer is not affected during vibration	2	5	-	-
PC16. maintain sufficient and uniform compaction of concrete with efficient use of equipment to avoid air voids	1	2	-	-
PC17. avoid over vibration and formation of laitance and cold joints	1	3	-	-
PC18. work efficiently considering the setting time of concrete while pouring and ensure pouring takes place within specified time	2	4	-	-
PC19. re-vibrate the top of a vertical pour after specified time to eliminate color banding at top	1	2	-	-
PC20. provide construction joints as per specification	1	3	-	-
PC21. carry out remedial work by patching tie holes as per specification & as per requirement	1	3	-	-
PC22. use sealant efficiently to improve weathering/maintenance as per requirement	1	2	-	-
Carry out concretingwith self - compacting concrete(SCC) in situ	**6**	**14**	**-**	**-**
PC23. pour the self - compacting concrete (SCC) at a fast rate to avoid setting	2	7	-	-
PC24. pour the SCC from a specified height to avoid air to be entrained	2	4	-	-
PC25. ensure sealing of forms after pouring	2	3	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0123
NOS Name	Place, level and finish concrete for form finished concrete structures and work with self - compacting concrete
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Masonry
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	23/05/2017

CON/N0124: Carry out concreting in extreme environment as per requirement

Description

This unit describes the skills and knowledge required to carry out concreting in extreme environment as per requirement

Scope

The scope covers the following:

- Carry out concrete pouring and curing at extremely cold temperatures
- Carry out concrete pouring and curing at extremely hot temperatures

Elements and Performance Criteria

Carry out concrete pouring and curing at extremely cold temperatures

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

PC1. read & interpret specifications, standards and GFC drawing for relevant work ensure use of windproof and weather proof heated enclosures for placing concrete

PC2. ensure use of windproof and weather proof heated enclosures for placing concrete

PC3. visually check the workability and usability of concrete

PC4. ensure preparation of concrete mix as per specified slump with minimal water cement ratio by using appropriate admixturesfor decreasing setting time on cold surfaces

PC5. cover the finished concrete with curing / insulationblankets as per requirement

PC6. monitor curing using live steam/liquid membrane forming compound for early curing as per specification or as per applicability

PC7. ensure gradual cooling of concrete to limit rapid temperature changes in concrete & to prevent thermal cracking

Carry out concrete pouring and curing at extremely hottemperatures

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

PC8. moisten the surface receiving concrete, steel reinforcement and form work prior to concrete placement

PC9. ensure usage of sunshades or windbreaks around the pour area to reduce possible harsh conditions on concrete

PC10. visually check the workability and usability of concrete prior to concrete pour

PC11. ensure concrete used is of specified consistency suitable for rapid placement and consolidation

PC12. protect the concrete surface during placement using plastic sheet or evaporative retarder to maintain moisture in concrete mixture

PC13. work efficiently considering the rapid setting of concrete during hot weather conditions

PC14. place the concrete with control joints spaced at specified intervals

PC15. ensure finished concrete is sufficiently moist during curing period

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard practices for concreting in extreme weather conditions
KU2. safety rules and regulations for handling and storing required tools, equipment and materials related to concreting works
KU3. personal protection including the use of related safety gears & equipment
KU4. how to request tools and materials as per set procedures
KU5. maintenance of tools and equipments
KU6. how to read drawing and specifications related to concreting
KU7. principles of measurement
KU8. different grades of concrete and nominal mixes
KU9. different type of heater used for cold weather concreting
KU10. different type of vibrators used(internal/external vibrators)
KU11. accessibility of vibrators and their influence area
KU12. appropriate technique for vibrating of concrete
KU13. vibration in congested areas
KU14. uses and application of construction joints
KU15. cold joints in concrete and methodologies to avoid them
KU16. appropriate technique and extent to which control joints must be cut
KU17. types of hardening and sealing components to cure surfaces
KU18. type of finishes of concrete surfaces
KU19. how to screed the concrete to correct levels and grades
KU20. different types of concrete shrinkage
KU21. advantages of using pumping method of concrete pouring
KU22. major risks associated with hot and cold weather concrete pouring
KU23. wind breaks, wind velocity and their effect on concrete
KU24. delayed finishing and early curing in concreting
KU25. methods to supply moisture to concrete surface

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 or more language, preferably the local language at the site
GS3. read instructions, guidelines, sign boards, safety rules and safety tags
GS4. read instructions and exit routes during emergency
GS5. speak in one or more language, preferably in one of the local languages of the site
GS6. listen and follow instructions given by supervisor
GS7. orally and effectively communicate with team members

GS8. decide whether the work place is safe for working and also relevant task is not creating hazardous condition for others

GS9. decide whether work is adequately defined for the day , work front is clear , and adequate materials and tools are available for performing work

GS10. decide the method of placing concrete with control joints with accurate spacing

GS11. plan & organize required resources in coordination with team members and superiors

GS12. plan for cutting of control joints

GS13. complete work as per agreed time schedule and quality

GS14. ensure acceptance of quality of form finished and special concrete work for complex structures by immediate superior

GS15. ensure satisfaction for level of productivity under given site condition

GS16. resolve and solve any conflict within the team

GS17. assess quantity and quality of materials for day work

GS18. check for quality of scaffolding/working platform from all aspects of safety

GS19. dispose of construction debris & keep workplace safe and tidy for working

GS20. use a correct evaporative retarder on concrete

GS21. optimize resources efficiently

GS22. minimize wastage in the workplace

GS23. start and finish levels for day work

GS24. reconcile material consumption

GS25. ensure correct mixing of concrete for extreme temperatures

GS26. evaluate the complexity of the task and seek assistance and support wherever required

GS27. bring to the notice of the superiors any requirement of the requisite material and resources

GS28. bring to the notice of the superiors violation of any safety norms which may lead to accidents

GS29. prevent thermal cracking of concrete using correct measures

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Carry out concrete pouring and curing at extremely cold temperatures	**15**	**35**	**-**	**-**
PC1. read & interpret specifications, standards and GFC drawing for relevant work ensure use of windproof and weather proof heated enclosures for placing concrete	2	5	-	-
PC2. ensure use of windproof and weather proof heated enclosures for placing concrete	1	5	-	-
PC3. visually check the workability and usability of concrete	2	5	-	-
PC4. ensure preparation of concrete mix as per specified slump with minimal water cement ratio by using appropriate admixturesfor decreasing setting time on cold surfaces	3	5	-	-
PC5. cover the finished concrete with curing / insulationblankets as per requirement	2	5	-	-
PC6. monitor curing using live steam/liquid membrane forming compound for early curing as per specification or as per applicability	2	5	-	-
PC7. ensure gradual cooling of concrete to limit rapid temperature changes in concrete & to prevent thermal cracking	3	5	-	-
Carry out concrete pouring and curing at extremely hottemperatures	**15**	**35**	**-**	**-**
PC8. moisten the surface receiving concrete, steel reinforcement and form work prior to concrete placement	1	3	-	-
PC9. ensure usage of sunshades or windbreaks around the pour area to reduce possible harsh conditions on concrete	2	5	-	-
PC10. visually check the workability and usability of concrete prior to concrete pour	2	4	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. ensure concrete used is of specified consistency suitable for rapid placement and consolidation	2	3	-	-
PC12. protect the concrete surface during placement using plastic sheet or evaporative retarder to maintain moisture in concrete mixture	2	5	-	-
PC13. work efficiently considering the rapid setting of concrete during hot weather conditions	2	5	-	-
PC14. place the concrete with control joints spaced at specified intervals	2	5	-	-
PC15. ensure finished concrete is sufficiently moist during curing period	2	5	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0124
NOS Name	Carry out concreting in extreme environment as per requirement
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Masonry
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	23/05/2017

CON/N0128: Carry out concreting on complex structures including slip form concreting

Description

This unit describes the skills and knowledge required to carry out concreting on complex structures including slip form concreting.

Scope

The scope covers the following:

- Carry out concreting on inclined surfaces with top and bottom shutters
- Carry out concreting on complex shaped structures
- Carry out slip form concreting

Elements and Performance Criteria

Carry out concreting on inclined surfaces with top and bottom shutters

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

PC1. ensure slump of concrete is within specified limit

PC2. visually check the workability and usability of concrete prior to concrete pour

PC3. ensure uniform rate of pour of concrete

PC4. carry out rapid placement of concrete to avoid cold joints

PC5. ensure that concrete placement is to begin from lowest point of form and proceed towards highest point

PC6. work effectively with the designed slump maintaining completion of entire member prior to setting of concrete

PC7. maintain sufficient and uniform compaction of concrete with efficient use of equipment to avoid air voids

PC8. carry out curing for specified length of time

Carry out concreting on complex shaped structures

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

PC9. ensure slump of concrete is within specified limit

PC10. visually check the workability and usability of concrete

PC11. ensure uniform rate of pour of concrete and carry out placement of concrete in synchronized manner

PC12. ensure that rate of placement of concrete is to be uniform to avoid cold joints

PC13. ensure that concrete placement is to begin from lowest point of form and proceed towards highest point

PC14. ensure proper compaction of concrete using specified equipment

PC15. carry out curing for specified length of time

Carry out slip form concreting

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

PC16. carry out concrete pouring at a uniform rate
PC17. ensure placing of concrete in layers of uniform thickness
PC18. ensure proper compaction of concrete using specified equipment
PC19. ensure that rate of pour should be with respect to the speed of movement of slip form

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. standard practices for handling form finished concrete
KU2. safety rules and regulations for handling and storing required tools, equipment and materials related to masonry works
KU3. personal protection including the use of related safety gears & equipment
KU4. how to request tools and materials as per set procedures
KU5. maintenance of tools and equipments
KU6. simple and complex technical drawings and principles relevant to concreting works
KU7. principles of measurement
KU8. types of hardening and sealing components to cure surfaces
KU9. different type of vibrators used(internal/external vibrators)
KU10. accessibility of vibrators and their influence area
KU11. appropriate technique for vibrating of concrete
KU12. vibration in congested areas
KU13. cold joints in concrete and methodologies to avoid them
KU14. appropriate technique and extent to which control joints must be cut
KU15. types of hardening and sealing components to cure surfaces
KU16. type of finishes of concrete surfaces
KU17. how to screed the concrete to correct levels and grades
KU18. different types of concrete shrinkage
KU19. advantages of using pumping method of concrete pouring
KU20. concreting on inclined surface
KU21. proper curing of concrete
KU22. use of retarders
KU23. method of placement of concrete in case of inclined surfaces
KU24. method of placement of concrete in case of inclined surfaces and slip form concreting

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 or more language, preferably the local language at the site
GS3. read instructions, guidelines, sign boards, safety rules and safety tags at theconstruction site

GS4. read instructions related to exit routes during emergency
GS5. speak in one or more language, preferably in one of the local languages of the site
GS6. listen and follow instructions given by supervisor
GS7. orally and effectively communicate with team members
GS8. decide whether the work place is safe for working and also relevant task is not creating hazardous condition for others
GS9. decide whether work is adequately defined for the day , work front is clear , and adequate materials and tools are available for performing work
GS10. decide the method of placing concrete with control joints with accuratespacing
GS11. plan & organize required resources in coordination with team members andsuperiors
GS12. plan for cutting of control joints
GS13. complete work as per agreed time schedule and quality
GS14. ensure acceptance of quality of form finished and special concrete work for complex structures by immediate superior
GS15. ensure satisfaction for level of productivity under given site condition
GS16. resolve and solve any conflict within the team
GS17. assess quantity and quality of materials for day work
GS18. check for quality of scaffolding/working platform from all aspects of safety
GS19. dispose of construction debris & keep workplace safe and tidy for working
GS20. ensure uniform rate of concrete pouring
GS21. optimize resources efficiently
GS22. minimize wastage in the workplace
GS23. start and finish levels for day work
GS24. reconcile material consumption
GS25. use correct rate of placement of concrete to be uniform to avoid cold joints
GS26. evaluate the complexity of the task and seek assistance and support wherever required
GS27. bring to the notice of the superiors any requirement of the requisite material and resources
GS28. bring to the notice of the superiors violation of any safety norms which may lead to accidents

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Carry out concreting on inclined surfaces with top and bottom shutters	**12**	**28**	**-**	**-**
PC1. ensure slump of concrete is within specified limit	1	2	-	-
PC2. visually check the workability and usability of concrete prior to concrete pour	2	4	-	-
PC3. ensure uniform rate of pour of concrete	1	2	-	-
PC4. carry out rapid placement of concrete to avoid cold joints	2	6	-	-
PC5. ensure that concrete placement is to begin from lowest point of form and proceed towards highest point	1	2	-	-
PC6. work effectively with the designed slump maintaining completion of entire member prior to setting of concrete	2	5	-	-
PC7. maintain sufficient and uniform compaction of concrete with efficient use of equipment to avoid air voids	2	4	-	-
PC8. carry out curing for specified length of time	1	3	-	-
Carry out concreting on complex shaped structures	**12**	**28**	**-**	**-**
PC9. ensure slump of concrete is within specified limit	1	3	-	-
PC10. visually check the workability and usability of concrete	2	5	-	-
PC11. ensure uniform rate of pour of concrete and carry out placement of concrete in synchronized manner	2	5	-	-
PC12. ensure that rate of placement of concrete is to be uniform to avoid cold joints	2	5	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. ensure that concrete placement is to begin from lowest point of form and proceed towards highest point	2	4	-	-
PC14. ensure proper compaction of concrete using specified equipment	2	4	-	-
PC15. carry out curing for specified length of time	1	2	-	-
Carry out slip form concreting	**6**	**14**	**-**	**-**
PC16. carry out concrete pouring at a uniform rate	2	4	-	-
PC17. ensure placing of concrete in layers of uniform thickness	1	3	-	-
PC18. ensure proper compaction of concrete using specified equipment	1	3	-	-
PC19. ensure that rate of pour should be with respect to the speed of movement of slip form	2	4	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N0128
NOS Name	Carry out concreting on complex structures including slip form concreting
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Masonry
NSQF Level	4
Credits	TBD
Version	1.0
Next Review Date	23/05/2017

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	**14**	**34**	**-**	**-**
PC1. pass on work related information/ requirement clearly to the team members	2	5	-	-
PC2. inform co-workers and superiors about any kind of deviations from work	2	5	-	-
PC3. address the problems effectively and report if required to immediate supervisor appropriately	3	7	-	-
PC4. receive instructions clearly from superiors and respond effectively on the same	2	5	-	-
PC5. communicate to team members/subordinates for appropriate work technique and method	3	7	-	-
PC6. seek clarification and advice as per the requirement and applicability	2	5	-	-
Support co-workers to execute project requirements	**16**	**36**	**-**	**-**
PC7. hand over the required material, tools tackles, equipment and work fronts timely to interfacing teams	8	18	-	-
PC8. work together with co-workers in a synchronized manner	8	18	-	-
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	3
Credits	TBD
Version	1.1
Last Reviewed Date	23/05/2015
Next Review Date	31/03/2022
NSQC Clearance Date	21/07/2016

CON/N8002: Plan and organize work to meet expected outcomes

Description

This unit describes the knowledge and the skills required for an individual to plan and organize own work in order to meet expected outcome

Elements and Performance Criteria

Prioritize work activities to achieve desired results

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

PC1. understand clearly the targets and timelines set by superiors

PC2. plan activities as per schedule and sequence

PC3. provide guidance to the subordinates to obtain desired outcome

PC4. plan housekeeping activities prior to and post completion of work

Organize desired resources prior to commencement of work

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

PC5. list and arrange required resources prior to commencement of work

PC6. select and employ correct tools, tackles and equipment for completion of desired work

PC7. complete the work with allocated resources

PC8. engage allocated manpower in an appropriate manner

PC9. use resources in an optimum manner to avoid any unnecessary wastage

PC10. employ tools, tackles and equipment with care to avoid damage to the same

PC11. organize work output, materials used, tools and tackles deployed

PC12. processes adopted to be in line with the specified standards and instructions

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. importance of proper housekeeping

KU2. policies, procedures and work targets set by superiors

KU3. roles and responsibilities in executing the work for subordinates and self

KU4. standard practices of work to be adopted for assigned task

KU5. how to use available resources in a judicious and appropriate manner to minimize wastages or damage

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. list out the assigned works and targets

GS3. read in one or more language, preferably the local language at the site

GS4. read communication from co-workers, superiors and notices from other departments as per requirement of the level

GS5. speak in one or more language, preferably one of the local language at the site

GS6. listen and follow communication shared by co-workers regarding standard work processes, resources available, timelines, etc.

GS7. communicate effectively with co-workers and subordinates

GS8. decide on what sequence is to be adopted for execution of work

GS9. plan and organize the materials, tools, tackles and equipment required to execute the work

GS10. complete all assigned task with proper planning and organizing

GS11. arrange or seek help to arrange for material, tools and tackles in case of shortfall

GS12. analyze areas of work which could result in a delay of work, wastage of material or damage to tools and tackles

GS13. evaluate potential solutions to minimize avoidable delays and wastages at the construction site

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prioritize work activities to achieve desired results	**9**	**22**	**-**	**-**
PC1. understand clearly the targets and timelines set by superiors	2	5	-	-
PC2. plan activities as per schedule and sequence	2	5	-	-
PC3. provide guidance to the subordinates to obtain desired outcome	3	7	-	-
PC4. plan housekeeping activities prior to and post completion of work	2	5	-	-
Organize desired resources prior to commencement of work	**21**	**48**	**-**	**-**
PC5. list and arrange required resources prior to commencement of work	3	7	-	-
PC6. select and employ correct tools, tackles and equipment for completion of desired work	3	7	-	-
PC7. complete the work with allocated resources	3	7	-	-
PC8. engage allocated manpower in an appropriate manner	3	6	-	-
PC9. use resources in an optimum manner to avoid any unnecessary wastage	3	6	-	-
PC10. employ tools, tackles and equipment with care to avoid damage to the same	2	5	-	-
PC11. organize work output, materials used, tools and tackles deployed	2	5	-	-
PC12. processes adopted to be in line with the specified standards and instructions	2	5	-	-
NOS Total	**30**	**70**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	CON/N8002
NOS Name	Plan and organize work to meet expected outcomes
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	1.0
Last Reviewed Date	23/03/2015
Next Review Date	31/03/2022
NSQC Clearance Date	19/05/2015

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. 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:

PC6. 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)

PC7. handle all required tools, tackles , materials & equipment safely

PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines

PC9. install and apply properly all safety equipment as instructed

PC10. follow safety protocol and practices as laid down by site EHS department

Implement good housekeeping practices

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

PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes

PC12. 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. appropriate personal protective equipment to used based on various

KU6. importance of handling tools, equipment and materials as per applicable

KU7. health and environments effect of construction materials as per

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 any other flammable wastes

KU10. how to use hazardous material, in a safe and appropriate manner as per

KU11. safety relevant to tools, tackles, & requirement as per applicability

KU12. 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	**11**	**27**	**-**	**-**
PC1. identify and report any hazards, risks or breaches in site safety to the appropriate authority	2	5	-	-
PC2. follow emergency and evacuation procedures in case of accidents, fires, natural calamities	2	5	-	-
PC3. follow recommended safe practices in handling construction materials, including chemical and hazardous material whenever applicable	3	7	-	-
PC4. participate in safety awareness programs like Tool Box Talks, safety demonstrations, mock drills, conducted at site	2	5	-	-
PC5. identify near miss , unsafe condition and unsafe act	2	5	-	-
Adopt healthy & safe work practices	**15**	**33**	**-**	**-**
PC6. 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)	3	7	-	-
PC7. handle all required tools, tackles , materials & equipment safely	2	5	-	-
PC8. follow safe disposal of waste, harmful and hazardous materials as per EHS guidelines	2	5	-	-
PC9. install and apply properly all safety equipment as instructed	4	8	-	-
PC10. follow safety protocol and practices as laid down by site EHS department	4	8	-	-
Implement good housekeeping practices	**4**	**10**	**-**	**-**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. collect and deposit construction waste into identified containers before disposal, separate containers that may be needed for disposal of toxic or hazardous wastes	2	5	-	-
PC12. apply ergonomic principles wherever required	2	5	-	-
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	3
Credits	TBD
Version	1.2
Last Reviewed Date	23/05/2015
Next Review Date	31/03/2022
NSQC Clearance Date	21/07/2016

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) (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 theory part will be based on knowledge bank of questions created by the SSC.

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

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

5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

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/N0123.Place, level and finish concrete for form finished concrete structures and work with self - compacting concrete	30	70	-	-	100	30
CON/N0124.Carry out concreting in extreme environment as per requirement	30	70	-	-	100	15
CON/N0128.Carry out concreting on complex structures including slip form concreting	30	70	-	-	100	26
CON/N8001.Work effectively in a team to deliver desired results at the workplace	30	70	-	-	100	7
CON/N8002.Plan and organize work to meet expected outcomes	30	70	-	-	100	7
CON/N9001.Work according to personal health, safety and environment protocol at construction site	30	70	-	-	100	15
Total	**180**	**420**	**-**	**-**	**600**	**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.