Model Curriculum

QP Name: Assistant Facade Installer

QP Code: CON/Q1102

QP Version: 2.0

NSQF Level: 2

Model Curriculum Version: 1.0

Construction Skill Development Council of India|| Construction Skill Development Council of India (CSDCCI), CPB – 103 & 104, Block-4B, DLF corporate Park, Phase – III, MG Road Gurugram – 122002
Near Guru Dronacharya Metro Station

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Training Parameters

Sector	Construction Skill Development Council of India
Sub-Sector	Real Estate and Infrastructure Construction
Occupation	Interior & Exterior Finishes
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2004/7135.10
Minimum Educational Qualification and Experience	5th Standard Pass
Pre-Requisite License or Training	N.A
Minimum Job Entry Age	18 Years
Last Reviewed On	24/07/2019
Next Review Date	24/07/2023
NSQC Approval Date	22/08/2019
QP Version	Version number 2.0
Model Curriculum Creation Date	19/06/2020
Model Curriculum Valid Up to Date	24/07/2023
Model Curriculum Version	Version number 1.0
Minimum Duration of the Course	350 hrs.
Maximum Duration of the Course	350 hrs.

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Use hand and power tools relevant to facade installation works.
- Perform preparatory works for installation of façade panels.
- Demonstrate marking, cutting and drilling of façade panels and frame members.
- Provide assistance in fixing and installing the façade panels.
- Fix the frames and other interface structures for installing facades with different type of framing materials.
- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams.
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.
- Identify various hazards at construction site.
- Use PPE's relevant to façade installation task.
- Perform safe waste disposal at construction site.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
Bridge Module	8:00 hrs	00:00	--	--	**8:00 hrs**
CON/N1108 *Identify & handle hand and power tools relevant to façade installation* **NOS Version No. 1.1** **NSQF Level 3**	**24:00 hrs**	**56:00 hrs**	**--**	**--**	**80:00 hrs**
Use hand and power tools relevant to façade installation works	24:00 hrs	56:00 hrs	--	--	80:00 hrs
CON/N1109 *Assist in fixing and installing the façade panels into the frames* **NOS Version No. 1.1** **NSQF Level 3**	**16:00 hrs**	**62:00 hrs**	**--**	**--**	**78:00 hrs**
Provide assistance in fixing and installing panels into frames	16:00 hrs	62:00 hrs	--	--	78:00 hrs
CON/N1110 *Fix the interface structures including brackets, frames for installing facades with different type of framing materials* **NOS Version No.1.1**	**24:00 hrs**	**64:00 hrs**	**--**	**--**	**84:00 hrs**

NSQF Level 3					
Perform fixing of interface structure with different types of framing materials.	24:00 hrs	64:00 hrs	--	--	84:00 hrs
CON/N8001 *Work effectively in a team to deliver results at a construction site* NOS Version No.1.1 NSQF Level 3	**16:00 hrs**	**32:00 hrs**	**--**	**--**	**48:00 hrs**
Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams	16:00 hrs	32:00 hrs	--	--	48:00 hrs
CON/N9001 *Work according to personal health, safety and environment protocol at construction site* NOS Version No.1.3 NSQF Level 2	**16:00 hrs**	**32:00 hrs**	**--**	**--**	**48:00 hrs**
Follow safety norms as defined by organization, adopt healthy and safe work practices	16:00 hrs	32:00 hrs	--	--	48:00 hrs
Total Duration	**104:00 hrs**	**246:00 hrs**	**--**		**350:00 hrs**

Module Details

Module 1: Bridge Module: Introduction to the job role of Assistant Facade Installer

Terminal Outcomes:

- Explain the role and responsibilities of Assistant Facade Installer.
- Identify the career progression options for Assistant Facade Installer.

Duration: *08:00*	**Duration**: *00:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Recall the basic terms used in facade installation works. • Describe the role and responsibilities of an Assistant façade installer. • Describe the personal attributes required in interior and exterior finishes occupation. • Explain the career progression options of an Assistant façade installer.	
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
N/A	

Module 2: Use hand and power tools relevant to façade installation works

Mapped to CON/N1108

Terminal Outcomes:

- Identify hand and power tools relevant to facade installation works.
- Select hand and power tools and check its serviceability.

Duration: *24:00*	**Duration**: *56:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Identify the various hand and power tools used in façade installation works. • Interpret the manufacturer specifications and operational procedures for hand and power tools. • Describe steps taken for safe storage of tools. • Describe the type of material used for application of each type of hand and power tool.	• Select hand and power tools relevant to facade installation work. • Perform checks for serviceability of tools and equipment. • Handle hand and power tools safely as per manufacturer's guidelines. • Follow safety precautions to prevent damage to material and self while using hand and power tools. • Demonstrate steps taken for safe storage of power tools after use.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Measuring tape, Scale, Right angle, Framing square, Chalk line, pencil, Line dori, Plumb bob Spirit level, Pliers, Punch pliers, Hammers, Taping knife, Sanding tool, Hand circular saw, Hack saw, Jig saw, Rake angle, Screw driver set, Screw gun, Hammer Drill machine, Rivet gun, Metal cutter, Silicon gun/caulk gun, Stapler, Clutch angle, Utility knife, tungsten wheel glass cutter, speed cutter, circle cutters, radius and oval cutters, vacuum straight edge, lever and vacuum lifter, plate and running pliers, pop rivet pliers , plunge routers and sanders, bench drills and grinders, Portable pneumatic drills, nail and staple guns, up-cut saws etc.	

Module 3: Provide assistance in fixing and installing panels into frames

Mapped to CON/N1109

Terminal Outcomes:

- Perform preparatory works for installation of façade panels.
- Demonstrate marking, cutting and drilling of façade panels and frame members.
- Provide assistance in fixing and installing the façade panels.

Duration: *16:00*	**Duration**: *62:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the standard practices of façade installation works. • Interpret sketches for façade installation • Interpret manufacturer's instructions for façade installation. • Describe different type of glasses used for panels in façade installation. • Describe different type of frame materials used in façade installation. • Distinguish different types of curtain walls such as panelised curtain wall, unitised curtain wall, stick system curtain wall, rain screens and similar other curtain walls. • Distinguish different types of panelling material (aluminium composite panel, glass, glass fibre reinforced concrete, stone, ceramic). • Explain the impact of temperature and vapour on façade. • Explain the different types of joints used in frames for façade installation. • Describe different flashing and interface and their construction as per drawings and specifications. • Describe need of providing spacing between panels. • Describe the process of stacking joints for use as interlocked split. • Describe the fastening methods used for fixing of panels in façade installation works. • Explain use of lifting devices for lifting heavy panels to the required places. • Explain allowable tolerance limit for panel positioning and joints.	• Select required tools and equipment relevant to façade installation works as per specifications. • Perform checks for serviceability and safety of tools and equipment relevant to façade installation works. • Perform visual checks to assess the glass panels for type, size and imperfections. • Perform manual lifting of panels using suitable lifting devices. • Demonstrated marking on façade panels as per specifications/instructions. • Demonstrate cutting and drilling of façade panels such as aluminium composite panel, glass, glass fibre reinforced concrete, stone and ceramic materials as per specifications using suitable tools. • Demonstrate alignment of panels in line and level. • Select components of different type of curtain walls such as facades curtain wall, pressure equalized facades etc. • Demonstrate installation of mullions, sill and base flashings as per specification. • Demonstrate installation of various penetrations through the cladding. • Demonstrate installation of first panel in a critical transition area like a corner. • Assist in fixing of different type of facade systems such as drained and ventilated curtain wall, pressure equalized facades etc. as per instructions.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Measuring tape, Scale, Right angle, Framing square, Chalk line, pencil, Line dori, Plumb bob Spirit level, Pliers, Punch pliers, Hammers, Taping knife, Sanding tool, Hand circular saw, Hack saw, Jig saw, Rake angle, Screw driver set, Screw gun, Hammer Drill machine, Rivet gun, Metal cutter, Silicon gun/caulk gun, Stapler, Clutch angle, Utility knife	

Module 4: Perform fixing of interface structure with different types of framing materials

Mapped to CON/N1110

Terminal Outcomes:

- Fix the frames and other interface structures using timber, steel, aluminium, PVCU and composite materials all as per drawing and specifications.
- Demonstrate relevant material and stability checks.

Duration: *24:00*	**Duration**: *64:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Interpret drawings and specifications related to fixing of sub structures. • Interpret method statement / manufacturer's instructions for installation of horizontal and vertical frames / brackets. • Explain about different type of joints used in frames. • Explain the importance of providing uniform space between frames as per board dimension and layout. • Describe the method of fixing frames through use of expansion screws or shooting nails. • Describe the method of fixing flashing for drainage. • Describe the different type of framing materials like timber, steel, aluminium, PVCU and composite frames. • Explain about aluminium frames and its application in stick system curtain walls, glazing screens and shop fronts.	• Demonstrate the process of cleaning walls, floors and other possible relevant areas prior to placing of brackets / frames. • Demonstrate the process of conducting checks to confirm steel frames are galvanised and powder coated. • Demonstrate fixing of façade frames providing uniform spacing as per layout. • Demonstrate fixing of ceiling, floor or facade frame with necessary joints using appropriate fasteners as per applicability. • Demonstrate the process of conducting checks to ensure stability of structure by providing joints for the frame. • Provide control joints as per specifications. • Demonstrate checks to ensure horizontal bracings used for stud partitions are as per approved standard procedures. • Demonstrate fixing of weather proofing for façade installation. • Demonstrate fixing of coping and parapets for façade installation. • Demonstrate fixing of flashing under coping, at penetrations, window and door opening, at the base of walls as per instructions. • Demonstrate fixing of different types of frames such as timber, stainless steel, aluminium, PVC and composites as per instructions/specifications.
Classroom Aids:	
Computer, printer, projector, white board/ flip chart, marker and duster	
Tools, Equipment and Other Requirements	
Measuring tape, Scale, Right angle, Framing square, Chalk line, pencil, Line dori, Plumb bob Spirit level, Pliers, Punch pliers, Hammers, Taping knife, Sanding tool, Hand circular saw, Hack saw, Jig saw, Rake angle, Screw driver set, Screw gun, Hammer Drill machine, Rivet gun, Metal cutter, Silicon gun/caulk gun, Stapler, Clutch angle, Utility knife	

Module 5: Interact and communicate effectively with co-workers, superiors and sub-ordinates across different teams

Mapped to CON/N8001

Terminal Outcome:

- Demonstrate effective communication with co-workers, superiors and sub-ordinates across different teams.
- Provide support to co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.

Duration: *16:00*	**Duration**: *32:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Interpret work sketches, façade installation works formats, permits, protocols, checklists etc. • Interpret scope of façade installation works. • Explain effect and benefit of timely actions relevant to façade installation works with examples. • Explain importance of team work and its effects relevant to façade installation works with examples. • Explain importance of proper and effective communication and its adverse effects in case of failure of proper communication.	• Demonstrate effective communication skills while interacting with co-workers and trade seniors during the assigned task. • Demonstrate effective reporting to seniors as per applicable organisational norms. • Instruct subordinates in a clear and precise manner with respect to facade installation works. • Demonstrate team work during assigned task.
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
N/A	

Module 6: Follow safety norms as defined by organization, adopt healthy and safe work practices

Terminal Outcome:

- Identify various hazards at construction site.
- Use PPE's relevant to façade installation task.
- Perform safe waste disposal at construction site.

Duration: *16:00*	**Duration**: *32:00*
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the types of hazards at the construction sites and identify the hazards specific to the facade installation work. • Recall the safety control measures and actions to be taken under emergency situation. • Explain the classes of fire and types of fire extinguishers. • Explain the importance of participation of workers in safety drills. • Explain the reporting procedure to the concerned authority in case of emergency situations. • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories. • Explain different types of waste at construction sites and their disposal method. • Explain the purpose and importance of vertigo test at construction site. • List out basic medical tests required for working at construction site. • Explain the types and benefits of basic ergonomic principles, which should be adopted while carrying out specific task at the construction sites. • Explain the importance of housekeeping works.	• Demonstrate the operating procedure of the fire extinguishers. • Demonstrate different methods involved in providing first aid to the affected person. • Use PPEs as per work requirements during facade installation job. • Demonstrate vertigo test. • Demonstrate safe waste disposal practices followed at construction site. • Demonstrate safe housekeeping practices.
Classroom Aids:	
Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts, Safety tags, Safety Notice board, registers and other teaching aids	
Tools, Equipment and Other Requirements	
Safety Helmets, Face shield, Overalls, Knee pads, Safety shoes, Safety belts, Safety harness, Safety Gloves, Safety goggles, Particle masks, Ear Plugs, Reflective jackets, Fire Extinguisher, Fire prevention kit, First Aid box, Safety tags, Safety Notice board	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Post-Graduation/Graduation in Engineering	M. Tech in Civil/B. Tech in civil	Half Year	Civil Engineering	0	Civil Engineering	As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience
Diploma	Diploma in Civil	One year	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pas	Two years	Working as façade installer/Interior and Exterior finishes domain /supervisory work of Interior and Exterior finishes domain	0	Working as façade installer/Interior and Exterior finishes domain /supervisory work of Interior and Exterior finishes domain	

Trainer Certification	
Domain Certification	**Platform Certification**
Trainer- 70 % in each NOS of Qualification Pack "CON/Q1104 v 2.0" & 80% overall.	Trainers - 70% in each NOS of Qualification Pack "MEP/Q2601"and 80% overall.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training/Assessment Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
Post-Graduation/Graduation in Engineering	M. Tech in Civil/B. Tech in civil	One year	Civil Engineering	0	Civil Engineering	As a pre-requisite for new entrant, no prior experience in training /assessment is mandatory. However if someone with prior experience in requisite domain joins, experience will be measured in terms of relevant industry experience
Diploma	Diploma in Civil	Two years	Civil Engineering	0	Civil Engineering	
Graduation/ Ex. Army /ITI /12th pass	General B.A./B.Sc./ Graduation certificate from Army/ITI certificate in relevant trade/12th pas	Three years	Working as façade installer/Interior and Exterior finishes domain /supervisory work of Interior and Exterior finishes domain	0	Working as façade installer/Interior and Exterior finishes domain /supervisory work of Interior and Exterior finishes domain	

Assessor Certification	
Domain Certification	**Platform Certification**
Assessor- 70% in each NOS of Qualification Pack "CON/Q1104 v 2.0" & 80% overall ,	Assessor-80% in each NOS of Qualification Pack "MEP/Q2701", and overall 80%

Assessment strategy

Assessment system Overview

Assessment is done through CSDCI affiliated Assessment Agencies. Assessors are trained & certified by CSDCI after training of assessors program. Assessments is conducted to gauge and assess the trainee's skill and knowledge competency in the specified areas. The assessment will have both theory and practical components in 30:70 ratio for Assistant facade installer job role.

During the practical task, trainees are assessed on their workmanship, quality of finished product and time management .They will be graded for all their assessments based on the approved assessment strategy which is signed off by CSDCI. The Assessor submits an assessment plan to CSDCI prior to assessments.

The assessment plan contains the following information:

- What will be assessed, i.e. the competency based on each NOS based on theory and practical questions
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- duration of assessment
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- The criteria for decision making i.e. those aspects that will guide judgments and
- Where appropriate, any supplementary criteria used to make a judgment on the level of performance.

Testing Environment

Training partner shares the batch start date and end date, number of trainees and the job role.

Assessment will be fixed for a day after the end date of training. It could be next day or later. Assessment will be conducted at the training venue/test center.

The knowledge/theory assessments is conducted with proper seating arrangements with enough space between the candidates to prevent copying.

Question set for theory and practical will be distributed to each candidate by the Assessor. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on his theoretical knowledge of the subject. The skill /practical assessments will be conducted in the approved test centers. The training provider will ensure adequate tools and materials are available to conduct the practical test.

If number of candidates are more than 30, more assessors will be organized on same day to complete the assessment.

The assessment has to comprise of two components, namely:
1. Knowledge assessment (theory/viva assessment)
2. Skill assessment (practical/hands-on skill assessment)

Mode of assessment

1. Demonstration/Practical for Performance /Skill Assessment
2. Synoptic multiple choice question test } For Knowledge Assessment
3. Viva

Performance/skill assessment: The performance/skill assessment will be conducted through demonstration/practical

For the practical test trainees are assessed through a given task, which they have to complete correctly for them to be marked as passed.

The assessment is conducted in a simulated working environment. Due to this fact, the assessors must note that the naturally occurring evidence of competence is unavailable or infrequent. Simulation must be undertaken in a Realistic Working Environment which provides an environment that replicates the key characteristics of the workplace in which the skill to be assessed is normally employed**.**

Knowledge Assessment: The knowledge assessments are conducted through written test/ viva.

Synoptic test is used for this. It is an MCQ (Multiple Choice Question) test which are prepared externally and externally marked, meaning by agency having no link with training partners. The test may be conducted by the assessor in the oral mode, if required, considering the lack of reading and comprehending acumen (skills) of trainees. In such cases, the assessor will mention it on top of the MCQ submitted to CSDCI.

The assessment strategy, weightage and duration of assessment for Assistant facade installer is summarized below

Assessment Type	**Formative or Summative**	**Strategies**	**Weightage**	**Duration (hours)**
Knowledge	Summative	MCQ/Viva	30	1.0
skill	Summative	Structured practical task	70	5.0

Assessment Quality Assurance framework

CSDCI has developed assessment criteria framework for each Qualification pack as per National Occupational Standards. The criteria framework includes weightages/marks for each criteria under knowledge and skill. This criteria ensures quality assurance as it ensures valid, consistent and fair assessments at all locations. Issued to the affiliated Assessment body. The Assessment body develop questions based on CSDCI issued assessment criteria.

Evidences in the form of answer sheets in case of knowledge assessments are collected. For skill assessments videos and photographs are prepared as evidence. These are submitted by the assessor

to the assessment agency. CSDCI does random checks of the same with the participant/ trainee's ID and ascertains authenticity and validity of assessments

The training partner will intimate the time of arrival of the assessor and time of leaving the venue. Random spot checks/audit is conducted by CSDCI to monitor assessment.

Methods of Validation

Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, ID verification is carried out. Aadhar card number is part of registering the candidate for training. This forms the basis of further verification during the assessment.

Assessor conducts the assessment through theory and practical questions developed in accordance with the assessment criteria and guidelines issued by CSDCI. This too is verified by random audits carried out by CSDCI.

Evidences for assessments are to be collected and submitted to CSDCI for verification as per demand.

Assessment agency is responsible to put details in SIP. CSDCI will also validate the data and result received from the assessment agency.

Method of assessment documentation and access

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by CSDCI assessment team. After upload, only CSDCI can access this data.
CSDCI approves the results within five days after which results are uploaded on SIP by Assessment Agency.

References

Glossary

Term	Description
Declarative Knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning Outcome	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills.
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do **upon the completion of the training**.
Terminal Outcome	Terminal outcome is a statement of what a learner will know, understand and be able to do **upon the completion of a module.** A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
QP	Qualification Pack
NSQF	National Skills Qualification Framework
NSQC	National Skills Qualification Committee
NOS	National Occupational Standards
CSDCI	Construction Skill development Council of India
MCQ	Multiple Choice Question