



Model Curriculum

Assistant Construction Fitter

SECTOR: Construction
SUB-SECTOR: Real Estate and Infrastructure Construction
OCCUPATION: Fabrication
REF ID: CON/Q01202, Version 2.0
NSQF LEVEL: 3



  

Certificate

**CURRICULUM COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL
STANDARDS**

is hereby issued by the
CONSTRUCTION SKILL DEVELOPMENT COUNCIL OF INDIA

for the
MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: **'Assistant Construction Fitter'** QP No. **'CON/ Q 1202, V2.0 NSQF Level 3'**

Date of Issuance: **August 16th, 2019**

Valid up to: **July 24th, 2023***

**Valid up to the next review date of the Qualification Pack*


Authorised Signatory
(Construction Skill Development Council of India)



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Assistant construction Fitter

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Assistant construction Fitter”, in the “Construction” Sector/Industry and aims at building the following key competencies amongst the learner

| | | | |
|---|---|----------------------------|------------|
| Program Name | Assistant construction Fitter | | |
| Qualification Pack Name & Reference ID | CON/Q1202, Version 2.0 | | |
| Version No. | 2.0 | Version Update Date | 24-09-2019 |
| Pre-requisites to Training | NIL | | |
| Training Outcomes | After completing this programme, participants will be able to: <ul style="list-style-type: none">• Identify and mark structural elements to assist in the fit-up of the same.• Identify, use various tools, tackles and handle heavy materials used in fit-up of fabricated components.• Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up• Interact, communicate & support effectively with co-workers, superiors and sub-ordinates within the team and across interfacing teams to ensure effective execution of assigned task.• Follow safety norms as defined by organization, adopt healthy and safe work practices | | |

This course encompasses 5 out of 5 National Occupational Standards (NOS) of “Assistant Construction Fitter” Qualification Pack issued by “Construction Skill Development Council of India”.

| Sr. No. | Module | Key Learning Outcomes | Equipment Required |
|---------|---|--|---|
| 1 | <p>Introduction to fabrication occupation</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 00:00</p> <p>Corresponding NOS Code Bridge Module</p> | <ul style="list-style-type: none"> Describe the role and responsibilities of an assistant construction fitter. Explain general hierarchy of fabrication occupation Discuss future possible progression and career options for assistant construction fitter Explain trade terminologies like orientation, alignment etc. used in fabrication occupation | |
| 2 | <p>Identify and mark structural elements to assist in the fit-up of the same</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm) 56:00</p> <p>Corresponding NOS Code CON/N1203</p> | <ul style="list-style-type: none"> Compute dimensions of structural elements by interpreting hand sketches and simple drawings. Determine the location and orientation of sections for marking by interpreting the sketches Explain the process of measuring and marking structural steel Categorize materials used in fit up based upon the weight (light, medium and heavy materials) Describe the ergonomics involved in material shifting Explain various methods of shifting and stacking heavy materials Explain undulations and their effect on the quality of overall output. Identify various sections on basis of shapes Differentiate between sheet and plate sections based on size Identify the sections (I, C, H, UC) from the hand sketches or fabrication shop drawings. Demonstrate measuring and marking on steel sections specifying location of components (plate sections, bar section, rolled sectioned.) | <ul style="list-style-type: none"> Hand Gloves. Apron leather Gas welding Goggles with Colour glass Chipping hammer Chisel Clamps Gas Pressure measuring guage Trolley for cylinder Plasma cutting torch, nozzle with consumables (tip and cap) Cutting cart Head protector Electrodes Cutting guides Power source and compression unit with internal cooling system Exhaust fan Light source |
| 3 | <p>Identify, use various tools, tackles and handle</p> | <ul style="list-style-type: none"> Identify the various tools and instruments used for marking, measuring, anchoring | <ul style="list-style-type: none"> Hand Gloves. Apron leather |

| Sr. No. | Module | Key Learning Outcomes | Equipment Required |
|---------|---|--|--|
| | <p>heavy materials used in fit up of fabricated components</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm) 72:00</p> <p>Corresponding NOS Code CON/N1204</p> | <p>(holding and tightening), cutting and striking, lifting and shifting.</p> <ul style="list-style-type: none"> • Explain the areas of application of each instrument. • List major equipment manufacturers, the models, cost and specifications of instruments and equipment used for fabrication • Use various tools and tackles required for performing lifting and shifting of heavy materials • Apply various do's and don'ts while performing lifting and shifting of heavy materials • Apply safe working practices while lifting and shifting heavy materials • Demonstrate visual checks carried out for serviceability of hand tools • Demonstrate checks performed for ensuring no obstruction of load • Describe process of controlling the position of suspended load • Demonstrate anchoring and control position of suspended object during lifting • Demonstrate material shifting as per standard practices. • Demonstrate safe stacking of heavy materials as per standard practices. | <ul style="list-style-type: none"> • Gas welding Goggles with Colour glass • Chipping hammer • Chisel • Clamps • Gas Pressure measuring guage • Trolley for cylinder • Plasma cutting torch, nozzle with consumables (tip and cap) • Cutting cart • Head protector • Electrodes • Cutting guides • Power source and compression unit with internal cooling system • Exhaust fan • Light source |
| 4 | <p>Assist in preparatory activities, edge preparation and positioning of steel sections for fit-up</p> <p>Theory Duration (hh:mm) 24:00</p> <p>Practical Duration (hh:mm) 70:00</p> <p>Corresponding NOS Code CON/N1205</p> | <ul style="list-style-type: none"> • Explain fit-up, its role and purpose and common trade terminologies • Describe fabrication platform, its preparation and use • Explain scrap and its disposal • Describe and use the anchoring devices, explain their operation and purpose • Introduction to various types of jacks • Interpret the drawings/ hand sketches to obtain relevant details like dimensions, orientation, alignment etc. for edge preparation. • Use equipment and tools for edge preparation • Demonstrate operation of bevelling machine to obtain required edge preparation as per the drawings, following standard safety parameters | |

| Sr. No. | Module | Key Learning Outcomes | Equipment Required |
|---------|---|--|---|
| | | <ul style="list-style-type: none"> • Perform measurements of the edge preparation to confirm its dimensional correction, following standard safety parameters • carryout marking on the structural steel sections from the hand sketches provided • Describe the procedure for placing and fixing the structural steel sections on the fabrication platform • Demonstrate the procedure for placing and fixing the structural steel sections on the fabrication platform | |
| 5 | <p>Work effectively in a team to deliver desired results at the workplace</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 16:00</p> <p>Corresponding NOS Code CON/N8001</p> | <ul style="list-style-type: none"> • Demonstrate effective communication skills while interacting with co-workers, trade seniors and others during the assigned task. • Interpret work sketches, formats, permits, protocols, checklists and work-related requirements which are to be conveyed to other team members • Handle material/ tools by adhering to instructions or consulting with seniors • Demonstrate effective reporting to seniors as per applicable organisational norms • Explain effects and benefits of timely actions relevant to fabrication works with examples • Explain importance of team work and its effects relevant to fabrication works with examples • Demonstrate team work skills during assigned task. | |
| 6 | <p>Work according to personal health, safety and environment protocol at construction site</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 32:00</p> <p>Corresponding NOS Code CON/N9001</p> | <ul style="list-style-type: none"> • Explain the types of hazards at the construction sites • Identify the hazards specific to the fabrication works • Recall the safety control measures and actions to be taken under emergency situations • Explain the classes of fire and types of fire extinguishers • Demonstrate the operation of fire extinguisher • Demonstrate different methods involved in providing first aid to the affected person. • Explain the importance of worker participation in safety/mock drills • Demonstrate the use of all Personal Protective Equipment (PPE) like helmet, safety shoe, safety belt, safe jackets and | <ul style="list-style-type: none"> • safety helmet • reflecting jackets • Safety Belts • safety shoes • gum shoes • hand gloves • fire extinguisher • safety boards • nose mask • ear plug • first aid box • Leather Hand Gloves • Jump suit • Wire brush • Hand & Leg guards leather • Ear protection • Flashback arrestors |

| Sr. No. | Module | Key Learning Outcomes | Equipment Required |
|---------|---|---|---|
| | | <p>other safety equipment relevant to fabrication works requirement</p> <ul style="list-style-type: none"> • Explain the reporting procedures adopted during emergency situations • Describe the standard procedure for handling, storing and stacking of material, tools, equipment and accessories • Explain different types of wastes produced at a construction site including their disposal method • Explain the purpose and importance of vertigo test at construction site • Demonstrate vertigo test • List out basic medical tests required for working at construction site • Explain the types of ergonomic principles adopted while carrying out specific task at the construction • Explain the benefits of basic ergonomic principles used at construction sites. • Explain the importance of housekeeping works • Demonstrate housekeeping practice followed after construction fitter works. | <ul style="list-style-type: none"> • Welding helmet • Welding glass |
| | <p>Total Duration</p> <p>Theory Duration 104:00 hours</p> <p>Practical Duration 246:00 hours</p> | <p>Unique Equipment Required: Hand Gloves, Apron leather, Gas welding Goggles with, Colour glass, Chipping hammer, Chisel, Clamps, Gas Pressure measuring guage, Trolley for cylinder, Plasma cutting torch, nozzle with consumables (tip and cap), Cutting cart, Head protector, Electrodes, Cutting guides, Power source and compression unit with internal cooling system, Exhaust fan Light source, Leather Hand Gloves, Jump suit, Wire brush, Hand & Leg guards' leather, Safety goggles, Nose mask, Ear protection, Fire extinguishers, Sand buckets, Flashback arrestors, Welding helmet, Welding glass</p> <p>Classroom aids (for 30 students): Black/White board, marker, Projector/LED Monitor, Computer, Trade specific charts , Safety tags, Safety Notice board, registers and other teaching aids</p> | |

Grand Total Course Duration: **350 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Construction Skill Development Council of India](#))



Trainer Prerequisites for Job role: “Assistant construction Fitter” mapped to Qualification Pack: “CON/Q1202”, Version 2.0”

| Sr. No. | Area | Details |
|---------|---|---|
| 1 | Description | To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “CON/Q1202, Version 2.0”. |
| 2 | Personal Attributes | Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field |
| 3 | Minimum Educational Qualifications | ITI/12 th standard pass |
| 4a | Domain Certification | Certified for the job role “Assistant construction Fitter” mapped to QP:“CON/Q1202 Version 2.0” Minimum accepted score is 80% |
| 4b | Platform Certification | Certified for the job role “Trainer” mapped to QP:“MEP/Q2601” Minimum accepted score is 80% |
| 5 | Experience | i. Technical Degree holder with minimum three years of Field experience and preferably two years of teaching experience or, ii. In case of a Diploma Holder five years of field experience and preferably two years of teaching experience or, iii. In case of ITI/12 th pass minimum eight years of field experience and preferably two years of teaching Experience. |

Note: For the Assessment Criteria please refer to the QP PDF