

Model Curriculum

FRP – Assistant

SECTOR: RUBBER
SUB-SECTOR: PLASTICS PROCESSING
OCCUPATION: FIBRE REINFORCED PLASTICS
REF ID: RSC/Q4813 (CPC/Q1002), V1.0
NSQF LEVEL: 2



Certificate

CURRICULUM COMPLIANCE TO
QUALIFICATION PACK - NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

RUBBER SKILL DEVELOPMENT COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: '**FRP - Assistant**'
QP No. '**RSC/Q4813 (CPC/Q1002) NSQF Level 2**'

Date of Issuance: December 23, 2018

Valid up to: December 22, 2023

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



Authorised Signatory
(Rubber Skill Development Council)

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FRP – Assistant

CURRICULUM / SYLLABUS

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

Program Name	FRP – Assistant		
Qualification Pack Name & Reference ID	RSC/Q4813 (CPC/Q1002), v1.0		
Version No.	1.0	Version Update Date	29/05/2019
Pre-requisites to Training	V th Standard		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Identify and use basic tools, raw materials, resins, fibres (thermoplastic and thermoset materials), machinery and moulds associated with the Fibre Reinforced Plastic (FRP) process to complete the job requirement. • Describe various manufacturing process for FRP products, mould development and selection of suitable process for the product to be produced. • Comply with the health, safety and security procedures stated by the organisation. • Perform allocated work effectively to achieve department/ organisation’s goals. • Read and write basic reports and write reports related to FRP production. • Carry out assistance activities for operator/ supervisor for smooth operations at the workplace. 		

This course encompasses 6 out of 6 NOS (National Occupational Standards) of “FRP – Assistant” Qualification Pack issued by “Rubber Skill Development Council”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	Introduction Theory Duration (hh:mm) 08:00 Practical Duration (hh:mm) 8:00 Corresponding NOS Code Bridge Module	<ul style="list-style-type: none"> List the major milestones in the developmental history of plastic. State the basic industrial scenario of plastics and its prospects. Identify the types of plastic. List the major industrial associations. Describe the roles and responsibilities of an FRP – Assistant. 	White board, marker, duster, laptop/PC, projector, flipcharts, samples – FRP products
2	Identification and use of basic tools, materials, mould and machinery Theory Duration (hh:mm) 14:00 Practical Duration (hh:mm) 24:00 Corresponding NOS Code RSC/N4840 (CPC/N1005)	<ul style="list-style-type: none"> List the required tools for FRP manufacturing Describe the tools for FRP manufacturing and it's uses Select required tool for carrying out allocated process with the help of supervisor/ operator. Perform the allocated activities as per the time limits given by the supervisor. Perform the functionality check of the tools and equipment to be used. Identify the types of the materials, moulds and machinery. Demonstrate assistance to operator in operating different FRP machinery available in the shop floor. 	White board, marker, duster, laptop/PC, projector, steel ruler, steel measuring tape, weighing balance, hammer, screwdriver set with multiple heads, allen key, triangular file, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, cleaning equipment safety goggles, safety gloves, safety shoes, apron, helmet, fire extinguisher, first aid box
3	Assistance in manufacturing FRP products	<ul style="list-style-type: none"> Describe the process of material handling of the raw material Describe the significance of handing material safely at the workplace Describe the process of measurement of resin and other chemicals 	White board, marker, duster, laptop/PC, projector, steel ruler, steel measuring tape,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 14:00 Practical Duration (hh:mm) 54:00 Corresponding NOS Code RSC/N4841 (CPC/N1006)	<ul style="list-style-type: none"> Identify and collect the required raw material from the storage location. Perform material handling of the raw material independently and safely at the workplace. Measure the required quantity of resin and chemicals as instructed by the supervisor. Prepare the mould and machinery as instructed by the operator for manufacturing. Perform cleaning of the machines as per the organization's standard operating procedure (SOP). Operate the machine by following the established guidelines to complete the production plan. Perform material handling of finished FRP product after completing the production cycle. Report any identified abnormalities in the FRP production process. 	weighing balance, hammer, screw driver set with multiple heads, allen key, triangular file, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, cleaning equipment safety goggles, safety gloves, safety shoes, apron, helmet, fire extinguisher, first aid box
4	Health & safety at the workplace Theory Duration (hh:mm) 14:00 Practical Duration (hh:mm) 54:00 Corresponding NOS Code RSC/N4101 (CPC/N0411)	<ul style="list-style-type: none"> Demonstrate safe working practices Use the appropriate fire extinguisher as per the type of fire. Demonstrate rescue techniques during fire hazard. Apply good housekeeping in order to prevent fire hazards. Identify activities which can cause potential injury. Escalate to the concerned authorities on the potential risks identified. Carry out the sorting process on the tools, fixtures and jigs. Perform segregation of waste in hazardous/ non-hazardous waste categories. Demonstrate the technique of waste disposal as per standard operating procedure (SOP). Apply proper labeling mechanism of instruments/ boxes/ containers. 	White board, marker, duster, laptop/PC, projector, flip charts, cleaning equipment, safety goggles, safety gloves, safety shoes, apron, helmet, fire extinguisher, first aid box
5	Work effectively with others Theory Duration (hh:mm) 11:00	<ul style="list-style-type: none"> Use appropriate communication practices at workplace. Apply active listening skills while interacting with others at work. Demonstrate disciplined behavior at the workplace. Demonstrate effective communication 	White board, marker, duster, laptop/PC, projector, flip charts

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 20:00 Corresponding NOS Code RSC/N4842 (CPC/N1008)	by passing on complete and accurate information <ul style="list-style-type: none"> State one's job responsibility accurately. Describe hierarchy in the workplace. Follow the process of escalating grievances and problems to appropriate authority. Discuss the organisation's safety procedure. Identify the reports formats related to his/ her job. 	
6	Reading and writing reports Theory Duration (hh:mm) 14:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code RSC/N4843 (CPC/N1009)	<ul style="list-style-type: none"> Explain the production reports as required in the workplace. Explain the work instructions with technical terms and jargons used in the workplace. Carry out reports filing as per supervisor's instruction. Carry out filing of reports and formats in the prescribed location. Perform maintenance of filing system as per organization's SOP. Demonstrate effective retrieval of the specific reports/files to the supervisor as and when required. 	White board, marker, duster, laptop/PC, projector, flip charts
7	Assistance for smooth manufacturing operation Theory Duration (hh:mm) 05:00 Practical Duration (hh:mm) 20:00 Corresponding NOS Code RSC/N4844 (CPC/N1010)	<ul style="list-style-type: none"> Perform inspection to identify the tools, tackles and hardware required for the current job and remove any unwanted tool or equipment from the work area. Perform checking for availability of tools, tackles and hardware required for the job. Perform checking for functionality of the tools, tackles and hardware required for the job and ensure that they are fit and ready to use. Carry out assisting in operating the machine by providing necessary material and tools. Extend necessary help for smooth and timely completion of the job. Assist in dismantling and assembling of tools tackles and hardware and in carrying out maintenance activities required at the workplace. Perform oiling and greasing of machine parts after completing of the job as per organization's SOP. 	White board, marker, duster, laptop/PC, projector, steel ruler, steel measuring tape, weighing balance, hammer, screwdriver set with multiple heads, allen key, triangular file, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, cleaning equipment safety

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> Perform safe return of the tools, tackles and hardware to the stores. Report to the supervisor on completion of the assigned job. 	goggles, safety gloves, safety shoes, apron, helmet, fire extinguisher, first aid box
	Total Duration: Theory Duration 80:00 Practical Duration 240:00	Unique Equipment Required: White board, marker, duster, laptop/PC, projector, steel ruler, steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, allen key, triangular file, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, cleaning equipment safety goggles, safety gloves, safety shoes, apron, helmet, fire extinguisher, first aid box.	

Grand Total Course Duration: 320 Hours, 0 Minutes.

(This syllabus/ curriculum has been approved by Rubber Skill Development Council)

Trainer Prerequisites for Job role: “FRP - Assistant” mapped to Qualification Pack: “RSC/Q4813 (CPC/Q0103), v1.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ <u>RSC/Q4813 (CPC/Q0103) Version 1.0</u> ”.
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	Any Graduate preferably in plastics technology.
4a	Domain Certification	Certified for Job Role: “ <u>FRP - Assistant</u> ” mapped to QP: “ <u>RSC/Q4813 (CPC/Q0103)</u> ”. Minimum accepted score as per SSC guidelines is 80%.
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “ <u>Trainer</u> ”, mapped to the Qualification Pack: “ <u>MEP/ Q2601</u> ”. Minimum accepted score as per SSC guidelines is 80%.
5	Experience	5+ years of relevant work-experience, above supervisor level.

Annexure: Assessment Criteria

Assessment Criteria	
Job Role:	FRP - Assistant
Qualification Pack Code:	RSC/Q4813 (CPC/Q0103)
Sector Skill Council:	Rubber Skill Development Council

S. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the 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 centre (as per assessment criteria below).
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criteria.
5	To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
6	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.

Assessable Outcome	Assessment Criteria	Total Mark (200)	Out Of	Marks Allocation	
				Theory	Skills Practi- cal
RSC/N 4840 (CPC/N1005) Identification and use of basic tools, materials, mould and machinery	PC1. Identify in consultation with the supervisor the required tools, tackles, equipment and necessary hardware for the job to be carried out.	50	12	3	9
	PC2. Adhere to the time limits given by the supervisor, ensure the required tools tackles equipment and necessary hardware are in proper working condition and match specification as per the job requirement and the list being provided by the supervisor.		12	3	9
	PC3. Identify the types of the materials, moulds and machinery.		8	2	6
	PC4. Assist in operation of various machinery in the shop floor.		8	2	6
	Total		40	10	30
RSC/N 4841 (CPC/N1006) Understand the job requirements for assisting the operator for manufacturing various FRP products by different manufacturing process	PC1. Collect the right type of material from the storage location and carry safely to the workplace.	60	8	2	6
	PC2. Arrange properly measured quantity of resin and chemicals as instructed by the supervisor.		12	3	9
	PC3. Prepare the mould and machinery as Instructed by the operator for manufacturing.		8	2	6
	PC4. Operate the machine and follow the established guidelines to complete the manufacturing process.		12	3	9
	Total		40	10	30
RSC/N4101 (CPC/N0411) Maintain basic health & safety practices at the workplace, 5S	PC1. Wear protective clothing/ equipment for specific tasks and work conditions.	90	2.5	0.5	2
	PC2. Carry out safe working practices while dealing with hazards to ensure the safety of self and others.		2.5	0.5	2
	PC3. Apply good housekeeping practices at all times.		2.5	0.5	2
	PC4. Use the various appropriate fire extinguishers on different types of fires correctly.		2.5	0.5	2
	PC5. Demonstrate rescue techniques applied during fire hazard, demonstrate good housekeeping in order to prevent fire hazards, demonstrate the correct use of a fire extinguisher.		2.5	0.5	2

Assessable Outcome	Assessment Criteria	Total Mark (200)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC6. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise, and identify areas in the plant which are potentially hazardous / unhygienic in nature. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine.		2.5	0.5	2
	PC7. Inform the concerned authorities on the potential risks identified in the processes, workplace area/ layout, materials used etc. Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations.		2.5	0.5	2
	PC8. Create awareness amongst other by sharing information on the identified risks.		2.5	0.5	2
	PC9. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un- necessary items are not cluttering the workbenches or work surfaces.		2.5	0.5	2
	PC10. Ensure segregation of waste in hazardous/ non h hazardous waste as per the sorting work instructions.		2.5	0.5	2
	PC11. Follow the technique of waste disposal and waste storage in the proper bins as per SOP		1.5	0.5	1
	PC12. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places		1.5	0.5	1
	PC13. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions.		1.5	0.5	1
	PC14. Ensure that areas of material storage areas are not overflowing.		1.5	0.5	1
	PC15. Ensure properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required.		1.5	0.5	1
	PC16. Return of extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area.		1.5	0.5	1
	PC17. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards.		1.5	0.5	1
	PC19. Ensure to check the items in the respective areas have been identified as broken or damaged.		1.5	0.5	1
	PC20. Follow the given instructions and check for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.		1.5	0.5	1

Assessable Outcome	Assessment Criteria	Total Mark (200)	Out Of	Marks Allocation	
				Theory	Skills Practi- cal
	PC21. To make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions.		1.5	0.5	1
	Total		40	10	30
RSC/N 4842 (CPC/N1008) Work effectively with other fellow workers to achieve the goals of the organization	PC1. Inspect at the workplace to identify types of tools, tackles and hardware required for the job and the work site is clear from all obstructions.	40	4	1	3
	PC2. Ensure availability of tools, tackles and hardware required for the job. Ensure tools, tackles and hardware required for the job are fit and ready to use.		4	1	3
	PC3. Assist the operator in operation of the machine by providing necessary material and following instructions to complete the process.		6	2	4
	PC4. Extend necessary help for smooth and timely completion of the job, ensure at the workplace is clean before starting the job.		6	2	4
	PC5. Extend help to dismantle, assemble and carry out maintenance activities required at the workplace. Ensure to oil and grease the parts of the equipment post completion of the job.		4	1	3
	PC6. Ensure on completion if the job the tools tackles and hardware to be carried back to department /store. Inform supervisor on completion of the assigned job.		6	1	5
	Total		30	8	22
RSC/N4843 (CPC/N1009) Reading & writing reports	PC1. Able to read the language of reports either in English or any vernacular language.	90	4	1	3
	PC2. Understand the meaning of these reports and its importance.		4	1	3
	PC3. Fill up the reports in time.		5	1	4
	PC4. Filing of the reports and formats in proper location.		4	1	3
	PC5. Retrieval and producing the specific reports/files to the supervisor as and when required.		4	1	3
	PC6. Numbering and orderliness maintenance of files in safe locations.		4	1	3
	Total		25	6	19
RSC/N 4844 (CPC/N1010) Assisting for smooth operation at the work place	PC1. Inspect at the workplace to identify types of tools, tackles and hardware required for the job and the work site is clear from all obstructions.	40	4	1	3
	PC2. Ensure availability of tools, tackles and hardware required for the job, ensure tools, tackles and hardware required for the bob are fit and ready to use.		4	1	3
	PC3. Identify the required tools, tackles and hardware required for any particular job.		5	1	4

Assessable Outcome	Assessment Criteria	Total Mark (200)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC4. Extend necessary assistance for smooth and timely completion of the job. Ensure at the workplace is clean before starting the job.		4	1	3
	PC5. Assist to dismantle, assemble and carry out maintenance activities required at the workplace, ensure to oil and grease the parts of the equipment, post completion of the job.		4	1	3
	PC6. Ensure on completion if the job the tools tackles and hardware to be carried back to department /store. Inform supervisor on completion of the assigned job.		4	1	3
	Total		25	6	19
	Grand Total	200	200	50	150
	<u>Percentage Weightage:</u>			25%	75%
	<u>Minimum Pass% to qualify (aggregate):</u>			70%	