

Model Curriculum

Circular loom operator (Shuttle type)

SECTOR: TEXTILE
SUB-SECTOR: TECHNICAL TEXTILES
OCCUPATION: WEAVING, TECHNICAL TEXTILES
REF ID: TSC/Q 8401, V1.0
NSQF LEVEL: 4



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

TEXTILE SECTOR SKILL COUNCIL
for the

MODEL CURRICULUM

Complying to National Occupational Standards of Job Role
Qualification Pack: **Circular loom operator (Shuttle type) QP No. 'TSC/Q.84.01' NSQF Level 4'**

Date of Issuance: July, 07th, 2017
Valid up to: July, 07th, 2020

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

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Circular loom operator (Shuttle type)

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a Circular loom operator (Shuttle type)", in the "Textile" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Circular loom operator (Shuttle type)		
Qualification Pack Name & Reference ID.	Circular loom operator (Shuttle type) TSC/Q8401		
Version No.	1.0	Version Update Date	09-07-2017
Pre-requisites to Training	10 th Standard		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Perform taking charge of shift and handing over shift to circular loom operator • Operate the Circular loom (Shuttle type) • Perform warp threading in circular loom • Achieve quality weaving in circular loom • Maintain work area, tools and machines • Gain behavioral skill for team working • Maintain health, safety and security at work place • Comply with industry and organizational requirement 		

This course encompasses 8 out of 8 National Occupational Standards (NOS) of “Circular loom operator (Shuttle type) Qualification Pack issued by “TSC: Textile Sector Skill Council”

	Module	Key Learning Outcomes	Equipment Required
1	<p>Taking Charge of Shift and handing over shift to Circular loom operator (Shuttle type)</p> <p>Theory Duration (hh:mm) 16:00</p> <p>Practical Duration (hh:mm) 36:30</p> <p>Corresponding NOS Code TSC/N 8401</p>	<ul style="list-style-type: none"> Keep general discipline in work place Try the basic skills of communication Perform the role of Circular loom (Shuttle type) operator Perform tasks while taking charge of shift and handing over shift Perform faults identification and rectification 	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
2	<p>Running Circular loom shuttle type</p> <p>Theory Duration (hh:mm) 23:30</p> <p>Practical Duration (hh:mm) 55:30</p> <p>Corresponding NOS Code TSC/N 8402</p>	<ul style="list-style-type: none"> Run the Circular loom Perform maintenance of loom parts Perform break attending by using spiral knots Perform weft replenishing 	<p>1. common for every batch: poster/video visuals for work method</p> <p>2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
3	<p>Undertake warp threading in Circular loom (shuttle type)</p> <p>Theory Duration (hh:mm) 08:00</p> <p>Practical Duration (hh:mm) 18:00</p> <p>Corresponding NOS Code TSC/N 8403</p>	<ul style="list-style-type: none"> Perform creeling for various types tape fabric like check, stripe etc. Perform drawing of tapes as described Perform inching and check the produced fabric for desired quality requirements 	<p>1. common for every batch: poster/video visuals for work method</p> <p>2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>

<p>4</p>	<p>Contribute quality weaving in Circular loom (Shuttle type)</p> <p>Theory Duration (hh:mm) 15:30</p> <p>Practical Duration (hh:mm) 36:30</p> <p>Corresponding NOS Code TSC/N 8404</p>	<ul style="list-style-type: none"> Identify fabric and warp tape tension for desired quality Perform cleaning activities on the machines and surrounding frequently Reporting procedure for the deviation in quality as well as production 	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
<p>5</p>	<p>Maintain the work area, tools and machines in raffia sector</p> <p>Theory Duration (hh:mm) 09:00</p> <p>Practical Duration (hh:mm) 21:00</p> <p>Corresponding NOS Code TSC/N 9011</p>	<ul style="list-style-type: none"> Perform Handling of the polymer, tapes and other auxiliaries Understand the Material Handling Equipments and its importance Keep the machine cleanliness and workplace cleanliness 	<p>1. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
<p>6</p>	<p>Working in a team in raffia sector</p> <p>Theory Duration (hh:mm) 04:00</p> <p>Practical Duration (hh:mm) 11:00</p> <p>Corresponding NOS Code TSC/N 9012</p>	<ul style="list-style-type: none"> Importance of team work in the raffia sector Submit daily report of machine performance, production etc. Follow company policy and standards 	<p>1. <u>A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoe, 2. <u>common for every batch:</u> first aid materials, fire extinguisher, work method posters/pictures, 3. <u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>

<p>7</p>	<p>Maintain health, Safety and security at workplace in raffia sector</p> <p>Theory Duration (hh:mm) 09:30</p> <p>Practical Duration (hh:mm) 20:30</p> <p>Corresponding NOS Code TSC/N 9013</p>	<ul style="list-style-type: none"> Follow general safety Rules Identify the importance of personal protective equipment like apron, cap, earplugs, nose mask etc. and their application under different working conditions. Identify and select right equipment such as fire extinguisher & based on type of fire. Perform good practice on first aid, fire fighting etc. 	<p>Class room requirements: 25 people seating capacity with a screen and projector</p>
<p>8</p>	<p>Comply with industry and organizational requirements at raffia sector</p> <p>Theory Duration (hh:mm) 04:30</p> <p>Practical Duration (hh:mm) 11:00</p> <p>Corresponding NOS Code TSC/N 9014</p>	<ul style="list-style-type: none"> Implement the organizational and industry standards in work List out the requirements for self-development Follow the Organizational & Industry rules 	<p>Class room requirements: 25 people seating capacity with a screen and projector</p>
<p>Total Duration: (hh:mm) 300:00</p> <p>Theory Duration (hh:mm) 90:00</p> <p>Practical Duration (hh:mm) 210:00</p>	<p>Unique Equipment Required: Apron, head cap, nose mask, earplug, shoe, Drawing hook, Scissors, Thrums</p>		

Grand Total Course Duration: 300 Hours, 0 Minutes

*(This syllabus/ curriculum has been approved by **TSC: Textile Sector Skill Council**)*

Trainer Prerequisites for Job role: “Circular loom operator (Shuttle type)” mapped to Qualification Pack: “Circular loom operator (Shuttle type)/ TSC Q 8401, Version 1.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “Circular loom operator (Shuttle type)/ TSC/ Q 8401, Version 1.0
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-organized and focused, eager to learn and keep oneself
3	Minimum Educational Qualifications	10 th Standard pass, Preferably
4a	Domain Certification	Certified for Job Role: “Circular loom operator (Shuttle type)” mapped to QP: “Circular loom operator (Shuttle type) TSC/Q8401, Version 1.0”. Minimum accepted score 80%.
4b	Platform Certification	Recommended that the Trainer is certified for the Job role: "Trainer", mapped to the Qualification Pack:"MEP/Q 0102". Minimum accepted % as per respective SSC guidelines is 80%
5	Experience	Minimum 4 years experience with Circular loom operator (Shuttle type)

Annexure: Assessment Criteria

Job Role: Circular loom operator (Shuttle type)
Qualification Pack: TSC/Q8401
Sector Skill Council: Textile Sector Skill Council

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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/ option NOS/ set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% in aggregate marks to successfully clear the assessment
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Total Marks: 700	Compulsory NOS			Marks allocation	
	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
TSC/N 8401 Taking Charge of Shift and handing over shift to Circular loom operator (Shuttle type)	PC1. Come at least 10 - 15 minutes earlier to the work spot	100	10	4	6
	PC2. Bring the necessary operational tools like "J Hook", "knife" etc		10	4	6
	PC3. Check for the availability of the weft & the condition of the same		10	4	6
	PC4. Enquire with the previous shift operator for running parameters of fabric such as PPM, Mesh, Denier etc		10	4	6
	PC5. Ensure the correct parameters are showing on the loom display		10	4	6
	PC6. Check the condition of the running creels, for cross ends, ends pulling out particularly at the crease or side fold		10	4	6
	PC7. Check the fabric for the running damages like end out, wrong winding, Side slippage,		10	4	6

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
	hole in fabric, weft catching, weft lashing in etc				
	PC8. Check for the size of the fabric roll & to see whether any indication is there in the cloth rolls		10	4	6
	PC9. Check the cleanliness of the machines & other work areas		5	2	3
	PC10. Check whether any spare/raw material/ tool / fabric/ any other material is under the machines or in the other work areas		10	4	6
	PC11. Question the previous shift operator for any deviation		5	2	3
		Total	100	40	60
TSC/N 8402 Running Circular loom shuttle type	PC1. Do patrol of the allotted looms	150	10	4	6
	PC2. Check the signal lamp and identify the reason for loom stoppage		10	4	6
	PC3. Attend the loom for warp breakage		10	4	6
	PC4. Ensure the weavers/Spiral knot size is small with minimum tail end		10	4	6
	PC5. Draw the mended warp tape using J hook through Heald wire, Reed ring as per the drawing order		20	8	12
	PC6. Ensure the mended warp tape is passing through Creel Guide, Drop wire/ Tension rod, Maxi drug roller, Comb, Compensator, Heald wire, Reed ring		10	4	6
	PC7. Replace with new Creel bobbin of the same denier for exhaust		10	4	6
	PC8. Attend the loom for weft breakage		10	4	6
	PC9. Ensure the weft tape is passing through shuttle guide, magnetic disc		20	8	12
	PC10. Replace with new weft bobbin of the same denier for weft exhaust		10	4	6

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	PC11. Ensure the bobbin is fixed firmly inside the shuttle assembly		10	4	6
	PC12. Bring the insertion finger to the front centre to see that there is no gap between the round ceramic & the fell of the fabric.		10	4	6
	PC13. Run the loom by pressing inching		10	4	6
		Total	150	60	90
TSC/N 8403 Undertake warp threading in Circular loom (shuttle type)	PC1. Place the full bobbins in the creel stand	50	5	2	3
	PC2. Place the colour bobbin in their respective peg for production of coloured fabric (Check/Stripe fabric)		5	2	3
	PC3. Draw the tapes through their respective ceramic guides in creel stand and Drop wire/ Tension rod		5	2	3
	PC4. Draw the tapes through the Intake comb through Maxidrag roller in creel zone		3	1	2
	PC5. Draw the tapes through Water tray and sponge roller in creel zone		5	2	3
	PC6. Draw the tapes through small comb via guide rollers creel zone		5	2	3
	PC7. Draw the tapes through Eyelet bow and eyelet plate on loom		5	2	3
	PC8. Draw the tapes through compensator		5	2	3
	PC9. Draw the tapes through heald wire and reed ring based on type of weave like Plain, Leno, Antiskid, Ventilated, etc.		5	2	3
	PC10. Draw the tapes through the weave ring and tie up with the previously formed fabric at fabric spreader bracket		2	1	1
	PC11. Run the loom by pressing inching		2	1	1
	PC12. Ensure the formed fabric as per required specification		3	1	2
		Total	50	20	30
TSC/N 8404 Contribute	PC1. Ensure the running warp tape tension is in required level,		5	2	3

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
quality weaving in Circular loom (Shuttle type)	adjust if required with the help of fitter	100			
	PC2. Ensure the fabric tension at fabric winding zone is in required level, adjust if required with the help of fitter		5	2	3
	PC3. Ensure the proper working of take up proximity sensor, Magnetic sensor and Colour sensor		5	2	3
	PC4. Clean the colour sensor at regular intervals for better working		5	2	3
	PC5. Correct the fabric defects immediately like wrong drawing, wrong denting , end out, double end etc.		10	4	6
	PC6. Collect all the tape waste with the “waste bag” provided		5	2	3
	PC7. Ensure that all the stop motions, preventive mechanisms etc., function properly to avoid fabric defects		10	4	6
	PC8. Double ends have to be removed should report to superiors for any deviation in the same & for any other quality issue		10	4	6
	PC9. Ensure the allotted looms are stopped for a minimum possible down time		10	4	6
	PC10. Check the fabrics for the defects at constant interval		5	2	3
	PC11. Check for the reasons for the frequent warp/ weft breaks and same has to be reported to the mechanics/ fitters/ superiors		10	4	6
	PC12. Report to the supervisor for defective bobbin package		10	4	6
	PC13. Report to the supervisor for fabric damage		10	4	6
	Total		100	40	60
TSC/N 9011 Maintain the work area, tools and	PC1. handle Polymer materials, machinery, equipment and tools with care and use them in proper way		10	4	6

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
machines at raffia sector	PC2. use correct lifting and handling procedures of Polymer bags, Tape bobbins etc.	100	10	4	6
	PC3. use materials to minimize waste of Polymer Granules, Tapes bobbins etc		10	4	6
	PC4. maintain a clean and hazard free working area inside the Tape plant and circular loom department		10	4	6
	PC5. ensure the maintenance are carried out within agreed schedules for Tape plant/ Circular looms		10	4	6
	PC6. carry out maintenance and/or cleaning within one's responsibility		10	4	6
	PC7. report unsafe conditions like Pressure deviation, Temperature deviation and other dangerous occurrences to the fitter		5	2	3
	PC8. ensure that the correct machine guards are in their place		5	2	3
	PC9. work in a comfortable position with the correct posture while handling Godet rollers, weaving ring etc.		5	2	3
	PC10. use cleaning equipment like brush, air compressor to clean the winding area, loom creels etc.		5	2	3
	PC11. Clean the quenching tank as per prescribed interval		5	2	3
	PC12. dispose of tape waste in the designated location/ bins		5	2	3
	PC13. store cleaning equipment at allotted place and close the air compressor valve safely after use		5	2	3
	PC14. carry out cleaning of machines according to schedules and limits of responsibility		2	1	1
	PC15. handle Polymer materials, machinery, equipment and tools with care and use them in proper way		3	1	2

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
		Total	100	40	60
TSC/N 9012 Working in a team in raffia sector	PC1. be accountable to the own role in whole process of Extruding/ Winding/ Weaving etc	50	5	2	3
	PC2. Perform your duty with full responsibility inside the tape plant/ circular loom department		3	1	2
	PC3. be effective and efficient to avoid the tape waste, Fabric waste etc		3	1	2
	PC4. properly communicate about company policies with colleagues		3	1	2
	PC5. report all problems faced during the process with respective fitter, Spinning plant / Circular loom		5	2	3
	PC6. submit process log report of tape plant in your shift without fail		5	2	3
	PC7. submit daily report of own performance		5	2	3
	PC8. adjust in different work situations		5	2	3
	PC9. give due importance to others' point of view		5	2	3
	PC10. avoid conflicting situations		3	1	2
	PC11. develop new ideas for work procedures		5	2	3
	PC12. improve upon the existing techniques to increase process efficiency		3	1	2
		Total	50	19	31
TSC/N 9013 Maintain health, Safety and security at workplace in raffia sector	PC1. comply with health and safety related instructions applicable for the raffia sector	100	5	2	3
	PC2. use and maintain personal protective equipment such as "ear plug", " nose mask ", " head cap" etc., as per protocol		5	2	3
	PC3. carry out the activities in extrusion line/ loom with approved guidelines and procedures		5	2	3
	PC4. Follow safety methods while handling Heating zones, Melt pump, Breaker plate etc		5	2	3

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
	PC5. Do not exceed the line speed/ Loom speed unsafe for existing condition		5	2	3
	PC6. identify and correct the malfunctions in winders, within limits of responsibility		5	2	3
	PC7. store raw materials and equipment in line with organisational requirements		5	2	3
	PC8. report any service malfunctions that cannot be rectified		5	2	3
	PC9. store materials and equipment in line with organisational requirements		5	2	3
	PC10. safely handle the molten polymer, tapes as per approved protocols		5	2	3
	PC11. minimize health and safety risks to self and others due to own actions		5	2	3
	PC12. seek clarifications, from supervisors or other authorized personnel in case of perceived risks while handling with extruder/ winder/ loom		5	2	3
	PC13. monitor the workplace and work processes for potential risks and threat		5	2	3
	PC14. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		5	2	3
	PC15. report hazards and potential risks/ threats to supervisors or other authorized personnel inside the Extrusion/ Loom department		5	2	3
	PC16. participate in mock drills/ evacuation procedures organized at the workplace		5	2	3
	PC17. undertake first aid, fire-fighting and emergency response training, if asked to do so		5	2	3
	PC18. take action based on instructions in the event of fire, emergencies or accidents		3	1	2

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	PC19. follow organisation procedures for shutdown of Tape plant/ loom and		2	1	1
	PC20. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		2	1	1
	PC21. recognise other possible security issues existing in the workplace		2	1	1
	PC22. recognise different measures to curb the hazards		2	1	1
	PC23. communicate the safety plan to colleagues/ trainee workers in the plant department		2	1	1
	PC24. attach disciplinary rules with the implementation		2	1	1
		Total	100	41	59
TSC/N 9014 Comply with industry and organizational requirements at raffia sector	PC1. perform own duties effectively in the raffia sector	50	5	2	3
	PC2. take responsibility for own actions		5	2	3
	PC3. be accountable towards the job role and assigned duties		5	2	3
	PC4. take initiative to minimize the tape waste		5	2	3
	PC5. focus on self-learning and improvement within the various positions in raffia sector		4	1	3
	PC6. co-ordinate with all the team members and colleagues for effective information sharing		4	2	2
	PC7. communicate politely with co workers		4	2	2
	PC8. avoid conflicts and miscommunication		4	2	2
	PC9. know the organisational standards		4	2	2
	PC10. implement them in your performance		4	2	2
	PC11. motivate others to follow them		2	1	1
	PC12. know the industry standards		2	1	1
	PC13. align them with organisation standards		2	1	1
		Total	50	22	28