

Model Curriculum

Tape Plant Operator

SECTOR: TEXTILE

SUB-SECTOR: TECHNICAL TEXTILES

OCCUPATION: SPINNING - TECHNICAL TEXTILES

REF ID: TSC/Q8201, V3.0

NSQF LEVEL: 3



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 "Tape Plant operator" QP No. 'TSC/Q 8201' NSQF Level 3

Date of Issuance: **March, 31st 2022**

Valid up to: **March, 31st 2025**

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



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Director (C&T)
(Textile Sector Skill Council)

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Tape plant operator

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Tape plant operator”, in the “Textile” Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Tape plant operator		
Qualification Pack Name & Reference ID.	Tape plant operator TSC/Q8201		
Version No.	3.0	Version Update Date	31.03.2022
Pre-requisites to Training	<ul style="list-style-type: none"> • Grade 9 with No Experience (OR) • Grade 8 pass and pursuing continuous schooling in regular school with vocational subject with no experience (OR) • 8th grade pass with 1 year of relevant experience (OR) • 5th grade pass with 4 years of relevant experience (OR) • Ability to read and write with 5 years of experience" 		
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 Tape plant operator • Operate the Tape plant machine • Achieve quality extrusion in Tape plant line • 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 7 out of 7 National Occupational Standards (NOS) of “Tape plant operator”
Qualification Pack issued by “TSC: Textile Sector Skill Council”

S. No	Module	Key Learning Outcomes	Equipment Required
1	Taking Charge of Shift and handing over shift to Tape Plant operator Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 30:00 Corresponding NOS Code TSC/N8201	<ul style="list-style-type: none"> Gain knowledge about general discipline Gain Knowledge about basic skills of communication Understand the role of Tape plant operator Perform tasks while taking charge of shift and handing over shift Familiar in faults identification 	<u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector
2	Running Tape plant line Theory Duration (hh:mm) 30:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code TSC/N 8202	<ul style="list-style-type: none"> Gain knowledge on machine parts & its function Gain knowledge on maintenance of parts Perform preparation of raw material for feeding Reporting procedure in case of abnormalities Gain knowledge about the various processing parameters for running tape deniers. 	1. common for every batch: poster/video visuals for work method 2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector
3	Contribute quality extrusion in Tape plant line Theory Duration (hh:mm) 15:00 Practical Duration (hh:mm) 60:00 Corresponding NOS Code TSC/N 8203	<ul style="list-style-type: none"> Gain knowledge on quality parameters of the tape Gain knowledge on adjusting the processing parameters to achieve the desired tape quality Handling of tape waste Perform maintenance activities required for desired quality 	1. common for every batch: poster/video visuals for work method 2. <u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector

4	<p>Maintain the work area, tools and machines in raffia sector</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TSC/N 9011</p>	<ul style="list-style-type: none"> Gain knowledge about the handling of the polymer, tapes and other auxiliaries Gain knowledge about material handling Gain knowledge about the machine safety and importance of cleanliness at the workplace 	<p><u>1. Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
5	<p>Working in a team in raffia sector</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TSC/N 9012</p>	<ul style="list-style-type: none"> Importance of team work in the raffia sector Gain knowledge about the submission of daily report of machine performance, production etc. Gain knowledge on importance of Company policy and standards 	<p><u>1. A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoe, <u>2. common for every batch:</u> first aid materials, fire extinguisher, work method posters/pictures, <u>3. Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
6	<p>Maintain health, Safety and security at workplace in raffia sector</p> <p>Theory Duration (hh:mm) 15:00</p> <p>Practical Duration (hh:mm) 30:00</p> <p>Corresponding NOS Code TSC/N 9013</p>	<ul style="list-style-type: none"> Gain knowledge on general safety Rules Gain knowledge about the importance of personal protective equipment like apron, cap, earplugs, nose mask etc. and their application under different working conditions. Gain knowledge on various health hazards relevant to workplace and basic first aid training. Identify and select right equipment such as fire extinguisher & based on type of fire. Perform good practice on first aid, fire fighting etc. 	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
7	<p>Comply with industry and organizational requirements at raffia sector</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 10:00</p> <p>Corresponding NOS Code TSC/N 9014</p>	<ul style="list-style-type: none"> Know about organizational and industry standards Know the requirements for self-development Gain knowledge on Organizational & Industry standards 	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>

8	<p>Employability Skills (30 Hours)</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 18:00</p>	<ul style="list-style-type: none"> • Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. • Show how to practice different environmentally sustainable practices • Discuss 21st century skills. • Display positive attitude, self-motivation, problem solving, time management skills and continuous learning mindset in different situations. • Use appropriate basic English sentences/phrases while speaking • Demonstrate how to communicate in a well-mannered way with others. • Demonstrate working with others in a team • Show how to conduct oneself appropriately with all genders and PwD • Discuss the significance of reporting sexual harassment issues in time • Discuss the significance of using financial products and services safely and securely. • Explain the importance of managing expenses, income, and savings. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws • Show how to operate digital devices and use the associated applications and features, safely and securely • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely. • Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges. • Differentiate between types of customers • Explain the significance of identifying customer needs and addressing them • Discuss the significance of maintaining hygiene and dressing appropriately. • Create a biodata • Use various sources to search and apply for jobs • Discuss the significance of dressing up neatly and maintaining hygiene for an interview • Discuss how to search and register for apprenticeship opportunities. 	<p>Class room requirements: 25 people seating capacity with a screen and projector</p>
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Total Duration: (hh:mm) 330:00	Unique Equipment Required: Apron, head cap, nose mask, earplug, shoe, Drawing hook, Scissors, Thrums
Theory Duration (hh:mm) 102:00	
Practical Duration (hh:mm) 228:00	

Grand Total Course Duration: 330 Hours, 0 Minutes

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

Trainer Prerequisites for Job role: “Tape plant operator” mapped to Qualification Pack: “Tape plant operator /TSC Q 8201, Version 3.0”

Sr. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “Tape plant operator /TSC Q 8201, Version 3.0
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	Class 10th
4a	Domain Certification	Certified for Job Role: “Tape plant operator” mapped to QP: “Tape plant operator TSC/ Q8201, Version 3.0”. Minimum accepted score 80%.
4b	Platform Certification	Required that the Trainer is certified for MEP/Q2601 Job Role: “Trainer” with at least 80% score
5	Experience	Minimum 4 years experience with Tape plant as a trainer and 1 year as operator

Employability Trainer Prerequisites

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Graduate/CITS	Any Discipline			2	Teaching Experience	Prospective ES trainer should: <ul style="list-style-type: none"> • have good communication skills • be well versed in English • have digital skills • have attention to detail • be adaptable • have willingness to learn
Current ITI Trainers	Employability Skills Training (3 days full-time course done between 2019-2022)					
Certified current EEE trainers (155 hours)	from Management SSC (MEPSC)					
Certified Trainer	Qualification Pack: Trainer (MEP/Q0102)					

Annexure: Assessment Criteria

Job Role: Tape plant operator

Qualification Pack: TSC/Q8201

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 50% in aggregate marks to successfully clear the assessment
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Compulsory :

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
TSC/N8201 Taking Charge of Shift and handing over shift to Tape Plant operator	PC1. Come at least 10 - 15 minutes earlier to the work spot	100	10	4	6
	PC2. Check for the availability of feed raw materials like polymer granules, Filler, Additives etc		10	4	6
	PC3. Enquire with the previous shift operator for quality issues like tape fibrillation, Filter choking, Melt pump issues etc		10	4	6
	PC4. Check the running parameters of tape plant like line Speed, Pump Pressure, Temperature at various zones, roller pressure etc. at Control panel		10	4	6

Total Marks: 700		Compulsory NOS		Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
	PC5. Get Production Planning report and Process control log sheet from the Previous shift in charge/ Plant Supervisor		10	4	6
	PC6. Question the previous shift operator for any deviation in the above and should bring the same to the knowledge of his/ her shift superior as well that of the previous shift as well		10	4	6
	PC7. Check the cleanliness of the machines at various unit of Tape plant line		10	4	6
	PC8. Hand over the shift to the incoming operator in a proper manner & get clearance from the incoming counterpart before leaving the work spot		10	4	6
	PC9. Convey instruction to the incoming shift operator if any		5	2	3
	PC10. Report to his/ her shift superiors in case of absenteeism of incoming shift operator		10	4	6
	PC11. Report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift		5	2	3
		Total	100	40	60
TSC/N8202 Running Tape plant line	PC1. pre - dry the Fillers (CaCO_3) to remove the Moisture Content using Drier	200	20	8	12
	PC2. Weigh the Polymers, Fillers, Additives based on the ratio in Production planning with the helper		20	8	12
	PC3. Place the Granules inside the drum and do manual mixing		20	8	12
	PC4. Place the suction tube inside the drum		20	8	12
	PC5. Set the mixing ratio in the control panel in case the Tape plant is provided with		20	8	12

Total Marks: 700		Compulsory NOS		Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
	Compound Dosing and Mixing Unit (CDMU)				
	PC6. Ensure the complete availability of polymer, additives, fillers required to run the shift		20	8	12
	PC7. Report to the supervisor in case of raw material requirement based on Production planning		20	8	12
	PC8. Report to the supervisor in case of any abnormalities, deviation found while Mixing and Feeding		20	8	12
	PC9. Ensure the correctness of process parameters frequently through the shift for any deviation in Temperature, Pressure, Stretching ratio etc.		20	8	12
	PC10. Cut the back winding immediately on the godets to reduce the tape breakage		10	4	6
	PC11. Allow the edges to Edge Trim Unit for recycling		10	4	6
		Total	200	80	120
TSC/N8203 Contribute quality extrusion in Tape plant line	PC1. Monitor the tape thickness with dial micro meter	100	10	4	6
	PC2. Check the Die -lip opening using Filler gauge		10	4	6
	PC3. Adjust the die-lip opening through die bolt in case of thickness variation		10	4	6
	PC4. Change the screen mesh if mesh is choked with combinations like 46,60,80,100,120 mesh types		10	4	6
	PC5. Check the condition of thermocouple when deviation in temperature of screen changer/ Breaker plate zone		10	4	6
	PC6. Set the slitting unit in proper position provided with industrial blade of 0.1 to 0.2 mm thickness		10	4	6

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	PC7. Change the temperature at Barrel, Die and RPM of Godet to get required denier		10	4	6
	PC8. Collect all the tape waste in a waste collection bag		10	4	6
	PC9. Ensure no raw material/ cloth/ spare/ tool / any other material is thrown under/ near the machines or in the other work areas.		10	4	6
	PC10. Perform cleaning and maintenance activity within the limits of responsibility		10	4	6
		Total	100	40	60
TSC/N9011 Maintain the work area, tools and machines in raffia sector	PC1. handle Polymer materials, machinery, equipment and tools with care and use them in proper way	100	10	4	6
	PC2. use correct lifting and handling procedures of Polymer bags, Tape bobbins etc.		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		5	2	3

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	handling Godet rollers, weaving ring etc.				
	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	100	40	60
TSC/N9012 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

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	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/N9013 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
	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

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skills
	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
	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

Total Marks: 700	Compulsory NOS			Marks allocation	
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Practical Skills
	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/N9014 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

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation	
				Theory Marks	Practical Marks
DGT/VSQ/N0101 – Employability Skills	Introduction to Employability Skills			1	1
	1. understand the significance of employability skills in meeting the job requirements				
	Constitutional values – Citizenship			1	1
	2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices.				
	Becoming a Professional in the 21st Century			1	3
	3. explain 21st Century Skills such as Self-Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.				
	Basic English Skills			2	3
	4. speak with others using some basic English phrases or sentences				
	Communication Skills			1	1
	5. follow good manners while communicating with others				
	6. work with others in a team				
	Diversity & Inclusion			1	1
	7. communicate and behave appropriately with all genders and PwD				
	8. report any issues related to sexual harassment				
	Financial and Legal Literacy			3	4
	9. use various financial products and services safely and securely				
	10. calculate income, expenses, savings etc.				
	11. approach the concerned authorities for any exploitation as per legal rights and laws				

	Essential Digital Skills		4	6
	12. operate digital devices and use its features and applications securely and safely			
	13. use internet and social media platforms securely and safely			
	Entrepreneurship		3	5
	14. identify and assess opportunities for potential business			
	15. identify sources for arranging money and associated financial and legal challenges			
	Customer Service		2	2
	16. identify different types of customers			
	17. identify customer needs and address them appropriately.			
	18. follow appropriate hygiene and grooming standards.			
	Getting ready for apprenticeship & Jobs		1	3
	19. create a basic biodata			
	20. search for suitable jobs and apply			
	21. identify and register apprenticeship opportunities as per requirement			
	NOS Total	50	20	30
	Grand Total	750	302	448



Textile Sector Skill Council

15th Floor, Nirmal Tower, Barakhamba Road, New Delhi-110 001