

Model Curriculum

Stenter Machine Operator

SECTOR: TEXTILE
SUB-SECTOR: PROCESSING
OCCUPATION: PROCESSING
REF. ID: TSC/Q 5401, VERSION 1.0
NSQF LEVEL: 4



Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

TEXTILE SECTOR SKILL COUNCIL

for the

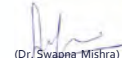
MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: 'STENTER MACHINE OPERATOR' QP No. 'TSC/ Q 5401' **NSQF Level 4'**

Date of Issuance: **January, 18th, 2016**

Valid up to: **January 17th, 2017**

* 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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Stenter Machine Operator

CURRICULUM / SYLLABUS

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

Program Name	Stenter Machine Operator		
Qualification Pack Name & Reference ID.	Stenter Machine Operator, TSC/Q5401, version 1.0		
Version No.	1.0	Version Update Date	30-12-2015
Pre-requisites to Training	Preferably equivalent to 10 th standard		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Become well verse with taking charge of shift and handing over shift • Learn and familiar to operate the stenter machine • Preparing the finishing chemicals for stenter • Maintain work area, tools and machines • Gain behavioural skill for team working • Maintain health, safety and security at work place • Comply with industry and organisational requirement 		

This course encompasses 7 out of 7 National Occupational Standards (NOS) of “Stenter Machine Operator” Qualification Pack issued by “TSC: Textile Sector Skill Council”

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Taking charge of shift and handing over shift to stenter machine operator</p> <p>Theory Duration (hh:mm) 05:00</p> <p>Practical Duration (hh:mm) 44:30</p>	<ul style="list-style-type: none"> • Learning general discipline • Become well verse with basic skills of communication • Understand the role of stenter machine Operator • Perform tasks while taking charge of shift and handing over shift • Become familiar in faults identification 	<p><u>Class room requirements:</u> a batch of 25 people seating capacity with a screen and projector</p>
2	<p>Operating the stenter machine</p> <p>Theory Duration (hh:mm) 02:30</p> <p>Practical Duration (hh:mm) 41:00</p> <p>Corresponding NOS Code TSC/N 5402</p>	<ul style="list-style-type: none"> • Clean the machine properly including filters, radiators, entry exit rails, rolls etc. • Feed the fabric from trolley using guide rolls, compensating, fabric centering devices • Check the fabric width & set the machine • Knowing the operation of the machine • Read & understand the process being followed to do the task • Set the width max. & min. once a day to keep even tension on fabric through out the process. • Keep optimum pressure of the squeezer rolls to get specified results. • Set required temp & fan speed in all chamber • Feed the fabric to the stenter chain. • Adjust the overfeed device as per requirement • Start the machine & take out the fabric at the delivery end. • Check various control parameters such as temp. fabric width, pressure etc. • Make sure the machine is kept clean • Follow the preventive maintenance schedule & ensure m/c is running smoothly • Check that all controls are functioning properly • Ensure the right quality of water, steam & air is available • Cool down the m/c after completion of job 	<p><u>1. A sample of following items for each trainee:</u> Fabric samples</p> <p><u>2. common for every batch:</u> Stenter machine, squeezing rollers, weighing balance, trolley, width measuring device</p> <p><u>3. Class room requirements:</u> 25 people seating capacity with a screen and projector</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
3	<p>Preparing the finishing chemicals for stenter</p> <p>Theory Duration (hh:mm) 02:00</p> <p>Practical Duration (hh:mm) 09:30</p> <p>Corresponding NOS Code TSC/N 5403</p>	<ul style="list-style-type: none"> Dissolve the pre weighted or dispensed chemicals in the drum Stir & mix the chemicals properly to make a homogenous liquid. Adjust the ph, temp & concentration of the mixture as specified in the recipe. Filter through filtering cloth and, feed the chemicals either manually or via pump to the mangle trough Adjust the mangle pressure to get the required pick up. 	<p><u>1. A sample of following items for each trainee:</u> Fabric samples, Ph meter scale, temperature sensor, scissor, pen/pencil/marker</p> <p><u>2. common for every batch:</u> weighing balance, Chemicals, Squeezing rollers, stenter machine, carrying trolley</p> <p><u>3. Classroom requirements:</u> 25 people seating capacity with a screen and projector</p>
4	<p>Maintain work area, tools and machines</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 22:30</p> <p>Corresponding NOS Code TSC/N 9001</p>	<ul style="list-style-type: none"> Gain knowledge on Housekeeping system Well verse in Identification of tools required for packing handling equipments perform Maintenance activities for handling equipments 	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
5	<p>Working in a team</p> <p>Theory Duration (hh:mm) 12:00</p> <p>Practical Duration (hh:mm) 19:00</p> <p>Corresponding NOS Code</p>	<ul style="list-style-type: none"> Understanding the team work and its importance Knowing the basic requirements for team working 	<p><u>Class room requirements:</u> 25 people seating capacity with a screen and projector</p>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
6	<p>TSC/N 9002</p> <p>Maintain health, safety and security at work place</p> <p>Theory Duration (hh:mm) 27:30</p> <p>Practical Duration (hh:mm) 56:00</p> <p>Corresponding NOS Code TSC/N 9003</p>	<ul style="list-style-type: none"> Knowing the general safety Rules Knowing 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. Become good practice on first aid, firefighting etc. 	<p><u>1. A sample of following items for each trainee:</u> apron, head cap, nose mask, ear plug, shoe,</p> <p><u>2. common for every batch:</u> first aid materials, fire extinguisher, work method posters/pictures,</p> <p><u>3. Class room requirements:</u> 25 people seating capacity with a screen and projector</p>
7	<p>Comply with industry and organisational requirement</p> <p>Theory Duration (hh:mm) 14:00</p> <p>Practical Duration (hh:mm) 32:30</p> <p>Corresponding NOS Code TSC/N 9004</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>
	<p>Total Duration:</p> <p>Theory Duration 75:00</p> <p>Practical Duration 225:00</p>	<p>Unique Equipment Required:</p> <ul style="list-style-type: none"> Fabric samples, required chemicals Stenter machine, squeezing rollers, PH metr scale, temperature sensor scissor, width measuring device, pen/pencil/marker Inspection table, weighing balance, trolley Apron, head cap, nose mask, ear plug, shoe, first aid materials, fire extinguisher, work method posters, work method video visuals, projector, screen 	

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: “Stenter Machine Operator” mapped to Qualification Pack: “Stenter Machine Operator/TSC Q 5401, 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 “Stenter Machine Operator/TSC Q5401,
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 updated with the latest in the mentioned field.
3	Minimum Educational Qualifications	Preferably equivalent to 10th (Normal literacy of reading, writing and understanding)
4a	Domain Certification	Certified for Job Role: “Stenter machine Operator” mapped to QP: “Stenter Machine Operator/TSC Q5401, Version 1.0”. Minimum accepted score 85%.
4b	Platform Certification	Required that the Trainer is certified for SSC/Q 1402 Job Role: “Trainer” with atleast 85% score
5	Experience	Minimum 2 years experience with Stenter Machine Operator

Annexure: Assessment Criteria

Assessment Criteria for Packing Checker	
Job Role	Stenter Machine Operator
Qualification Pack	Stenter Machine Operator (TSC/Q 5401)
Sector Skill Council	Textile Sector Skill Council

Sr. 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 & skill practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of question 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 these criteria.
5	To pass the qualification pack, every trainee should score a minimum of 75%.
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.

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
1. TSC/N 5401 (Taking charge of shift and handing over shift to Stenter Machine Operator)	PC1. come at least 10 - 15 minutes earlier to the work place	42	2	0	2	0
	PC2. bring the necessary operational tools to the department		1	0	1	0
	PC3. meet the previous shift operator and discuss with him/ her regarding the issues faced by them with respect to the quality or production or spare or safety or any other specific instruction etc.		3	0	2	1
	PC4. understand the fabric being processed & process running on the machine		3	1	1	1
	PC5. ensure the technical details are mentioned on the job card display on the machine		3	1	1	1
	PC6. check for the availability of the spare trolley for unloading the fabric		1	0	1	0
	PC7. check the next batch to be processed is ready near the machine		1	0	1	0
	PC8. ensure the required dyes & chemicals are already weighed & prepared		1	0	1	0
	PC9. check the cleanliness of the machines & other work areas		2	0	2	0
	PC10. Question the previous shift operator for any deviation in the above and bring the same to the knowledge of his/ her shift superior as well that of the previous shift as well.		2	0	2	0
	PC11. hand over the shift to the incoming operator in a proper manner		1	0	1	0
	PC12. ensure in providing the details regarding fabric quality & the process running on the machine		3	2	0	1
	PC13. Provide all relevant information regarding the stoppages		2	0	2	0

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	or breakdown in the machine, any damage to the fabric or machine.					
	PC14. ensure the empty trolley is near the machine for unloading the fabric		1	0	1	0
	PC15. ensure the next lot to be processed, which is already stitched & arranged properly is ready near the machine		2	0	2	0
	PC16. ensure the required dyes & chemicals for the next lot or next process are weighed & prepared		2	0	2	0
	PC17. get clearance from the incoming counterpart before leaving the work spot		2	0	2	0
	PC18. report to his/ her shift superiors as well as that of the incoming shift operator in case his/ her counterpart doesn't report for the incoming shift		2	0	2	0
	PC19. ensure the shift has to be properly handed over to the incoming shift operator		2	0	2	0
	PC20. report to his/ her shift superior about the quality / production / safety issues/ any other issue faced in his/ her shift and leave the department only after getting concurrence for the same from his/ her superiors		3	0	2	1
	PC21. collect the wastes from waste collection bags, weigh them and transport to storage area		1	0	1	0
	PC22. ensure the machine and its work place is clean		2	0	2	0
	Total		42	4	33	5
	Weightage %			10%	78%	12%
2. TSC/N 5402 (Operating the	PC1. ensure that the machine is clean	37	2	0	2	0

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
Stenter Machine)	PC2. feed the fabric from the batch or trolley in the centre of the machine		2	0	2	0
	PC3. ensure fabric is crease-less and evenly fed into the machine		2	0	2	0
	PC4. know the operations of the machine		2	0	2	0
	PC5. read & understand the process being followed to do the task		3	1	1	1
	PC6. set the width maximum and minimum once a day keep even tension on fabric throughout the process		2	0	1	1
	PC7. keep even tension on fabric throughout the process		2	0	2	0
	PC8. keep optimum pressure of the squeezer rolls to get specified results		2	0	1	1
	PC9. set the required temp & fan speeds in all chambers		3	1	1	1
	PC10. feed the fabric to the stenter chain		1	0	1	0
	PC11. adjust the overfeed device as per the requirement of the fabric		2	0	1	1
	PC12. start the machine & take out the fabric at the delivery end		1	0	1	0
	PC13. check various control parameters such as temp, width, mangle pressure & machine speed at regular interval ,hardness of the padder		3	0	2	1
	PC14. make sure the machine is kept clean at all times ,before loading, while running & after unloading the fabric		2	0	2	0
	PC15. follow the preventive maintenance schedule & ensure the machine is running smoothly		2	0	2	0
	PC16. check that all controls are		2	0	2	0

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	functioning properly					
	PC17. ensure the right quality of water , steam & air is available for proper functioning of machine		2	0	2	0
	PC18. cool down the machine after completion of job		2	0	2	0
	Total		37	2	29	6
	Weightage %			6%	78%	16%
3. TSC/N 5403 (preparing the Finishing Chemicals for stenter)	PC1. dissolve the pre weighed or	10	2	0	2	0
	PC2. stir & mix the chemicals properly to make a homogenous liquid		2	1	1	0
	PC3. adjust the ph., temp & concentration of the mixture as specified in the finishing recipe		3	1	1	1
	PC4. feed the chemicals either manually or via pump to the mangle trough		1	0	1	0
	PC5. adjust the mangle pressure to get the required pick up		2	0	2	0
	Total		10	2	7	1
	Weightage %			20%	70%	10%
4. TSC/ N9001 (Maintain work area, tools and machines)	PC1. handle materials, machinery, equipment and tools with care and use them in the correct way	29	3	1	2	0
	PC2. use correct lifting and handling procedures		1	0	1	0
	PC3. use materials to minimize waste		2	1	1	0
	PC4. maintain a clean and hazard free working area		3	1	1	1
	PC5. maintain tools and equipment		3	1	2	0
	PC6. carry out running maintenance within agreed schedules		2	1	1	0
	PC7. carry out maintenance and/or cleaning within one's responsibility		1	0	1	0
	PC8. report unsafe equipment and other dangerous occurrences		1	1	0	0

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	PC9. ensure that the correct machine guards are in place		2	1	1	0
	PC10. work in a comfortable position with the correct posture		3	1	2	0
	PC11. use cleaning equipment and methods appropriate for the work to be carried out		2	1	1	0
	PC12. dispose of waste safely in the designated location		2	0	2	0
	PC13. store cleaning equipment safely after use		2	0	2	0
	PC14. carry out cleaning according to schedules and limits of responsibility		2	1	1	0
	Total		29	10	18	1
	Weightage %			35%	62%	3%
5.TSC/ N9002 (Working in a team)	PC1. be accountable to the own role in whole process	26	2	1	1	0
	PC2. perform all roles with full responsibility		3	1	2	0
	PC3. be effective and efficient at workplace		4	1	2	1
	PC4. properly communicate about company policies		2	1	0	1
	PC5. report all problems faced during the process		1	1	0	0
	PC6. talk politely with other team members and colleagues		2	1	1	0
	PC7. submit daily report of own performance		1	0	1	0
	PC8. adjust in different work situations		2	0	2	0
	PC9. give due importance to others' point of view		2	1	0	1
	PC10. avoid conflicting situations		3	1	1	1
	PC11. develop new ideas for work procedures		2	1	1	0
	PC12. improve upon the existing techniques to increase process efficiency		2	1	1	0

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	Total		26	10	12	4
	Weightage %			39%	46%	15%
6. TSC/ N9003 (Maintain health, safety and security at workplace)	PC1. comply with health and safety related instructions applicable to the workplace	71	5	1	3	1
	PC2. use and maintain personal protective equipment such as “ear plug”, “ nose mask “, “ head cap” etc., as per protocol		5	1	3	1
	PC3. carry out own activities in line with approved guidelines and procedures		3	1	2	0
	PC4. maintain a healthy lifestyle and guard against dependency on intoxicants		2	1	0	1
	PC5. follow environment management system related procedures		3	1	2	0
	PC6. identify and correct (if possible) malfunctions in machinery and equipment		3	1	1	1
	PC7. report any service malfunctions that cannot be rectified		2	1	0	1
	PC8. store materials and equipment in line with organisational requirements		2	0	1	1
	PC9. safely handle and remove waste		2	0	2	0
	PC10. minimize health and safety risks to self and others due to own actions		3	1	1	1
	PC11. seek clarifications, from supervisors or other authorized personnel in case of perceived risks		3	1	1	1
	PC12. monitor the workplace and work processes for potential risks and threat		2	0	2	0
	PC13. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		3	2	0	1

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	PC14. report hazards and potential risks/ threats to supervisors or other authorized personnel		3	2	0	1
	PC15. participate in mock drills/ evacuation procedures organized at the workplace		3	1	2	0
	PC16. undertake first aid, fire-fighting and emergency response training, if asked to do so		5	2	2	1
	PC17. take action based on instructions in the event of fire, emergencies or accidents		4	1	2	1
	PC18. follow organisation procedures for shutdown and evacuation when required		2	0	2	0
	PC19. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		5	1	3	1
	PC20. recognize other possible security issues existing in the workplace		3	1	1	1
	PC21. attach disciplinary rules with the implementation		3	1	2	0
	PC22. communicate the safety plan to everyone		3	2	0	1
	PC23. attach disciplinary rules with the implementation		2	1	1	0
	Total		71	23	33	15
	Weightage %			32%	47%	21%
7. TSC/ N9004 (Comply with industry and organisational requirement)	PC1. perform own duties effectively	39	4	1	2	1
	PC2. take responsibility for own actions		4	1	2	1
	PC3. be accountable towards the job role and assigned duties		3	1	1	1
	PC4. take initiative and innovate the existing methods		4	1	2	1
	PC5. focus on self-learning and improvement		3	1	1	1

National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks	Out Of	Marks Allocation		
				Theory	Skills Practical	Viva
	PC6. co-ordinate with all the team members and colleagues		3	1	2	0
	PC7. communicate politely		3	1	2	0
	PC8. avoid conflicts and miscommunication		3	1	2	0
	PC9. know the organisational standards		2	1	1	0
	PC10. implement them in your performance		3	1	2	0
	PC11. motivate others to follow them		3	1	2	0
	PC12. know the industry standards		2	1	0	1
	PC13. align them with organisation standards		2	0	2	0
	Total		39	12	21	6
	Weightage %			31%	54%	15%
	Total		254	63	153	38
Grand Total		254				



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