

# Model Curriculum

## Gill Box Draw Frame Machine Operator – Jute/ Wool

**SECTOR** : TEXTILE  
**SUB-SECTOR** : SPINNING  
**OCCUPATION** : SPINNING PREPARATORY  
**REF ID** : TSC/Q0109, V 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: 'Gill Box Draw frame machine operator– Jute/ Wool'  
QP No. 'TSC/Q0109' **NSQF Level 4**'

Date of Issuance: **Feb, 11<sup>th</sup>, 2019**

Valid up to: **Feb, 10<sup>th</sup>, 2021**

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

(Dr. Swapna Mishra)  
Director (C&T)

(Textile Sector Skill Council)

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# Gill Box Draw Frame Machine Operator

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Gill Box Draw Frame Machine Operator – Jute/ Wool”, in the “Textile” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	<b>Gill Box Draw Frame Machine Operator</b>		
<b>Qualification Pack Name &amp; Reference ID.</b>	TSC/Q0109, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	11.02.2019
<b>Pre-requisites to Training</b>	Basic Literacy & Numeracy		
<b>Training Outcomes</b>	<p><b>After completing this programme, participants will be able to:</b></p> <ul style="list-style-type: none"> <li>• Demonstrate the activities involved in taking charge and Handling over of shift</li> <li>• Operate Gill box draw frame machine as per Standard Operating Procedure</li> <li>• Carry out Preventive Maintenance &amp; Cleaning Activities in Gill box draw frame machine</li> <li>• Manage the work area, tools and machines as per industry guidelines</li> <li>• Demonstrate team working</li> <li>• Describe the importance of health, safety and security at work place</li> <li>• Summarize the industry and organizational requirement</li> </ul>		

This course encompasses 7 out of 7 National Occupational Standards (NOS) of “Gill Box Draw Frame Machine Operator – Jute/ Wool” Qualification Pack issued by “TSC: Textile Sector Skill Council”

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1.	<p><b>Textile Terms and Process flow</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 33:00</p> <p><b>Corresponding NOS Code</b> TSC/N0129</p>	<ul style="list-style-type: none"> <li>Explain the different types of Fabrics and its usage</li> <li>Describe the textile manufacturing process and various stages involved in conversion of fibre to garment using flow charts</li> <li>Describe the Yarn manufacturing using Flow chart</li> <li>Describe the Fabric manufacturing process using Flow charts</li> <li>Describe Textile wet processing using Flow charts</li> <li>Recall the material flow in the wool/jute industry</li> <li>Describe the role of Gill Box draw frame operator</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>
2	<p><b>Taking charge and Handing over of shift</b></p> <p><b>Theory Duration</b> (hh:mm) 12:00</p> <p><b>Practical Duration</b> (hh:mm) 33:00</p> <p><b>Corresponding NOS Code</b> TSC/N0129</p>	<ul style="list-style-type: none"> <li>List the need and importance Operational tools required for gill box draw frame machine</li> <li>Discuss the issues faced in the shift with supervisor and machine operator</li> <li>Discuss the production information with the incoming and outgoing counterpart</li> <li>Identify the faults and report as per the industry standard</li> <li>Draft the work assignment for the Gill box drawing operator</li> <li>Record the technical details/ information in the given log book or ledger</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>
3	<p><b>Technical details Observation</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> TSC/N0130</p>	<ul style="list-style-type: none"> <li>Inspect the Operational tools before starting of work</li> <li>Identify the count board/ summary report displayed in the Gill box Draw frame machine</li> <li>Define the work assignment with respect to the different counts</li> <li>Demonstrate count change procedure</li> <li>Identify the quality deviations as per SOP</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>
4	<p><b>Operating Gill box draw frame machine</b></p> <p><b>Theory Duration</b></p>	<ul style="list-style-type: none"> <li>Operate the Gill box draw frame machine</li> <li>Identify the quality of the raw material and defects</li> <li>Check the proper functioning of</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 15:00  <b>Practical Duration</b> (hh:mm) 30:00  <b>Corresponding NOS Code</b> TSC/N0130	the machine <ul style="list-style-type: none"> <li>• Demonstrate the broken slivers piecing as per standard piecing method</li> <li>• Doff the full sliver can and store in the specified place</li> <li>• Maintain the sliver quality as per company's quality standard</li> </ul>	
5	<b>Preventive Maintenance &amp; Cleaning Activities</b>  <b>Theory Duration</b> (hh:mm) 13:00  <b>Practical Duration</b> (hh:mm) 32:00  <b>Corresponding NOS Code</b> TSC/N0131	<ul style="list-style-type: none"> <li>• Clean the Gill box draw frame machine as per specified instruction</li> <li>• Replace the defective faller bars</li> <li>• Assist fitters in maintenance operation</li> <li>• Identify the defective spares in Gill box draw frame machine</li> <li>• Describe the quality systems followed in Jute/ wool mill</li> </ul>	<ul style="list-style-type: none"> <li>• Gill box draw frame machine</li> <li>• Sliver cans with Jute/ Wool Sliver</li> <li>• Cleaning hook/ brush</li> </ul>
6	<b>Work area, tools and machine maintenance</b>  <b>Theory Duration</b> (hh:mm) 05:00  <b>Practical Duration</b> (hh:mm) 10:00  <b>Corresponding NOS Code</b> TSC/N9001	<ul style="list-style-type: none"> <li>• Maintain the work place clean and neat</li> <li>• Describe the functions of basic hand tools</li> <li>• List out the available material handling equipment in wool/ jute mill</li> <li>• List the various maintenance activities for the Gill Box draw frame machine</li> <li>• Demonstrate the correct way of lifting tools/ equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Gill box draw frame machine</li> <li>• Sliver cans with Jute/ Wool Sliver</li> <li>• Cleaning hook/ brush</li> </ul>
7	<b>Team Work</b>  <b>Theory Duration</b> (hh:mm) 05:00  <b>Practical Duration</b> (hh:mm) 10:00  <b>Corresponding NOS Code</b> TSC/N9002	<ul style="list-style-type: none"> <li>• Discuss the importance of team work</li> <li>• List out the advantages of team work</li> <li>• Explain the company policies</li> <li>• Submit daily report of their own performance</li> <li>• Report the daily work done to supervisory as per company's protocol.</li> </ul>	<ul style="list-style-type: none"> <li>• Gill box draw frame machine</li> <li>• Sliver cans with Jute/ Wool Sliver</li> <li>• Cleaning hook/ brush</li> </ul>

Sr. No.	Module	Key Learning Outcomes	Equipment Required
8	<p><b>Health &amp; Safety</b></p> <p><b>Theory Duration</b> (hh:mm) 09:00</p> <p><b>Practical Duration</b> (hh:mm) 21:00</p> <p><b>Corresponding NOS Code</b> TSC/N9003</p>	<ul style="list-style-type: none"> <li>Follow general safety Rules</li> <li>Discuss the importance of healthy environment in the work place</li> <li>Handle the tools and waste as per company standard</li> <li>Monitor the work place for possible health hazards</li> <li>Identify the right firefighting equipment based on fire type</li> <li>Describe the evacuation methods during emergency period</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>
9	<p><b>Organizational Compliance</b></p> <p><b>Theory Duration</b> (hh:mm) 04:00</p> <p><b>Practical Duration</b> (hh:mm) 11:00</p> <p><b>Corresponding NOS Code</b> TSC/N9004</p>	<ul style="list-style-type: none"> <li>Describe the role responsibilities of Gill box draw frame machine operator</li> <li>Communicate with team mates politely</li> <li>Discuss the company rules and standards to the team</li> <li>Discuss the new methods to develop the existing work practice</li> <li>Report to the superiors effectively</li> </ul>	<ul style="list-style-type: none"> <li>Gill box draw frame machine</li> <li>Sliver cans with Jute/ Wool Sliver</li> <li>Cleaning hook/ brush</li> </ul>
<p><b>Total Duration:</b> (hh:mm) <b>300:00</b></p> <p><b>Theory Duration</b> (hh:mm) <b>90:00</b></p> <p><b>Practical Duration</b> (hh:mm) <b>210:00</b></p>		<p><b>Unique Equipment Required:</b></p> <p>Gill box draw frame machine, Sliver cans with Jute/ Wool Sliver, Cleaning hook/ brush</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: “Gill Box Draw Frame Machine Operator” mapped to Qualification Pack: “Gill Box Draw Frame Machine Operator/ TSC/Q0109, Version 1.0”

Sr. No.	Area	Details
1	<b>Description</b>	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “ <u>Gill Box Draw Frame Machine Operator – Jute/ Wool / TSC/Q0109, Version 1.0</u> ”.
2	<b>Personal Attributes</b>	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	<b>Minimum Educational Qualifications</b>	Basic Literacy and Numeracy
4a	<b>Domain Certification</b>	Certified for Job Role: Gill Box Draw Frame Machine Operator” mapped to QP: “ <u>Gill Box Draw Frame Machine Operator – Jute/ Wool / TSC/Q0109, Version 1.0</u> ”. Minimum accepted score 80%.
4b	<b>Platform Certification</b>	Required that the Trainer is certified for MEP/Q 0102 Job Role: “Trainer” with at least 80% score
5	<b>Experience</b>	4 year as Trainer and 2 year as Gill Box machine operator



## Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>Gill Box Draw Frame Machine Operator – Jute/ Wool</b>
<b>Qualification Pack</b>	<b>TSC/Q0109, v1.0</b>
<b>Sector Skill Council</b>	<b>Textile Sector Skill Council</b>

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 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 80%.
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

Total Marks: 1000	Compulsory NOS			Marks Allocation		
	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
TSC/N0129 Taking charge and Handing over of shift to Gill box draw frame machine Operator	PC1. Come at least 10 - 15 minutes earlier to the work place.	300	20	5	10	5
	PC2. Bring the necessary operational tools to the department. Like Setting gauges & tools		30	10	10	10
	PC3. Meet the previous shift operator and discuss with him regarding quality, production, spare, safety or any other specific instruction or any issues faced by them etc.		35	10	15	10
	PC4. Get specification on feeding quality and sliver to be processed in the Gill box machine and check the settings accordingly		35	10	15	10
	PC5. Record the technical details of material and machine properly on the job card		20	5	10	5
	PC6. Write lot details on the sliver cans produced and store it in the specified place		20	5	10	5
	PC7. Note the problem, abnormalities in the gill box draw frame machine and reported to the supervisor.		20	5	10	5
	PC8. Check the faller bars position and condition		15	5	5	5
	PC9. Handover the necessary operational tools to the department. Like Setting Gauges & tools.		15	5	5	5

Total Marks: 1000	Compulsory NOS			Marks Allocation		
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
	PC10. Meet the next shift operator and discuss with him regarding quality, production, spare, safety or any other specific instruction or any issues faced by them etc.		35	10	15	10
	PC11. Give the specification on feeding quality and sliver to be processed in the Gill box machine to next shift Gill box draw frame operator		35	10	15	10
	PC12.Handover the record of problem, abnormalities in the gill box draw frame machine and reported to the supervisor.		20	5	10	5
		<b>Total</b>	<b>300</b>	<b>85</b>	<b>130</b>	<b>85</b>
TSC/N0130 Operating Gill box draw frame machine	PC1. Ensure sliver quality and feed as per SOP	300	20	5	10	5
	PC2. start the gill box draw frame machine by control switches		10	5	5	-
	PC3. ensure proper functioning of machine by verifying gill box draw frame display panel		20	10	5	5
	PC4. ensure the gill box draw frame is running in the set speed		10	5	5	-
	PC5. Ensure the stop motion is working		10	5	5	-
	PC6. Check condition and operation of moving parts of the machine periodically		30	10	15	5
	PC7. Check all moving parts are running in right direction and speed		30	10	15	5
	PC8. doff the full sliver can and store it in the specified place		15	-	10	5
	PC9. Check subjectively the flow and quality of materials on running machine in all stages of the gill box process continuously to ensure production of good quality sliver.		40	15	20	5
	PC10. Maintain specified mixing ratio of wool lubricating oil & water.		20	5	10	5
	PC11. Ensure the storage tank has specified level of lubricating oil.		10	5	5	-
	PC12. Check the Spray nozzles are working in order with specified pressure and identification number.		20	10	10	-
	PC13. check and replace defective faller		15	5	5	5

Total Marks: 1000	Compulsory NOS			Marks Allocation		
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
	bars to ensure good quality sliver.					
	PC14. Identify contaminated sliver cans and report to the supervisor		15	5	5	5
	PC15. Perform piecing as per standards of quality, time and safety.		35	10	15	10
		<b>Total</b>	300	105	140	55
TSC/N0131 Carry out Preventive Maintenance & Cleaning Activities of Gill box draw frame machine	PC1. Clean the gill box draw frame machine periodically	150	15	5	5	5
	PC2. Restart the machine after completion of cleaning		15	5	10	-
	PC3. Check condition and operation of moving parts after restarting the machine.		20	5	10	5
	PC4. ensure the working area is clean		10	-	5	5
	PC5. Replace the defective faller bar as per prescribed standards		20	5	10	5
	PC6. Perform greasing and oiling as per the schedule		20	5	10	5
	PC7. Check all recommended parts are replaced as per schedule as recommended by machine manufacturer		25	10	10	5
	PC8. Check complete operation of the machine within limits of responsibility		25	10	10	5
		<b>Total</b>	150	45	70	35
TSC/N9001 Maintain work area and tools in handloom sector	PC1. handle materials, machinery, equipment and tools with care and use them in the correct way	50	5	2	2	1
	PC2. use correct lifting and handling procedures		4	1	2	1
	PC3. use materials to minimize waste		4	2	1	1
	PC4. maintain a clean and hazard free working area		3	1	1	1
	PC5. Maintain tools and equipments		4	2	1	1
	PC6. carry out running maintenance within agreed schedule.		4	1	2	1
	PC7. carry out maintenance and/or cleaning within one's responsibility		4	1	2	1
	PC8. report unsafe equipment and other dangerous occurrences		3	1	2	0
	PC9. ensure that the correct machine guards are in place		3	1	1	1

Total Marks: 1000	Compulsory NOS			Marks Allocation		
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
	PC10. work in a comfortable position with the correct posture		3	1	1	1
	PC11. use cleaning equipment and methods appropriate for the work to be carried out		3	1	1	1
	PC12. dispose of waste safely in the designated location		4	1	2	1
	PC13. store cleaning equipment safely after use		3	1	1	1
	PC14. carry out cleaning according to schedule and limits of responsibility		3	1	1	1
		<b>Total</b>	<b>50</b>	<b>17</b>	<b>20</b>	<b>13</b>
		<b>Weightage%</b>		<b>34%</b>	<b>40%</b>	<b>26%</b>
TSC/N9002 Working in a team in handloom sector	PC1. be accountable to the own role in whole process	50	4	2	1	1
	PC2. perform all roles with full responsibility		4	2	1	1
	PC3. be effective and efficient at workplace		3	1	2	0
	PC4. properly communicate about company policies		4	1	2	1
	PC5. report all problems faced during the process		4	1	2	1
	PC6. talk politely with other team members and colleagues		4	2	1	1
	PC7. submit daily report of own performance		5	2	2	1
	PC8. adjust in different work situations		3	1	1	1
	PC9. give due importance to others' point of view		4	2	1	1
	PC10. avoid conflicting situations		5	2	2	1
	PC11. develop new ideas for work procedures.		5	1	3	1
	PC12. improve upon the existing techniques to increase process efficiency .		5	2	2	1
			<b>Total</b>	<b>50</b>	<b>19</b>	<b>20</b>
	<b>Weightage%</b>		<b>38%</b>	<b>40%</b>	<b>22%</b>	
TSC/N9003 Maintain health, safety and security at work place in handloom sector	PC1. comply with health and safety related instructions applicable to the workplace	100	6	2	2	2
	PC2. use and maintain personal protective equipment such as " ear plug" " nose mask " " head cap" etc., as per protocol		6	2	2	2
	PC3. carry out own activities in line with approved guidelines and procedures		6	2	2	2

Total Marks: 1000	Compulsory NOS			Marks Allocation		
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
	PC4. maintain a healthy lifestyle and guard against dependency on intoxicants		6	2	2	2
	PC5. follow environment management system related procedures		6	2	2	2
	PC6. identify and correct (if possible) malfunctions in machinery and equipment		5	2	2	1
	PC7. report any service malfunctions that cannot be rectified		5	2	2	1
	PC8. store materials and equipment in line with organizational requirements		5	2	2	1
	PC9. safely handle and remove waste		5	2	2	1
	PC10. minimize health and safety risks to self and others due to own actions		4	1	2	1
	PC11. seek clarifications, from supervisors or other authorized personnel in case of perceived risks		5	1	2	2
	PC12. monitor the workplace and work processes for potential risks and threat		4	1	2	1
	PC13. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		4	1	2	1
	PC14. report hazards and potential risks/ threats to supervisors or other authorized personnel		4	1	2	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		4	1	2	1
	PC17. take action based on instructions in the event of fire, emergencies or accidents		4	1	2	1
	PC18. follow organization procedures for shutdown and evacuation when required		3	1	1	1
	PC19. identify different kinds of possible hazards (environmental, personal, ergonomic, chemical) of the industry		3	1	1	1
	PC20. recognize other possible security issues existing in the workplace		3	1	1	1
	PC21. recognize different measures to curb the hazards		3	1	1	1
	PC22. communicate the safety plan to everyone		3	1	1	1
	PC23. attach disciplinary rules with the implementation		3	1	1	1
		<b>Total</b>	<b>100</b>	<b>32</b>	<b>40</b>	<b>28</b>
		<b>Weightage%</b>		<b>32%</b>	<b>40%</b>	<b>28%</b>

Total Marks: 1000	Compulsory NOS			Marks Allocation		
Assessable Outcomes	Assessment Criteria	Total Marks	Out of	Theroy	Skills Practical	Viva
TSC/N9004 Comply with work place requirements in handloom sector	PC1. perform own duties effectively	50	5	1	2	2
	PC2. take responsibility for own actions		5	1	2	2
	PC3. be accountable towards the job role and assigned duties		4	1	2	1
	PC4. take initiative and innovate the existing methods		3	1	1	1
	PC5. focus on self-learning and improvement		4	1	2	1
	PC6. co-ordinate with all the team members and colleagues		4	1	2	1
	PC7. communicate politely		4	1	1	2
	PC8. avoid conflicts and miscommunication		4	1	2	1
	PC9. know the organizational standards		3	1	1	1
	PC10. implement them in your performance		4	1	2	1
	PC11. motivate others to follow them		3	1	1	1
	PC12. know the industry standards		3	2	1	0
	PC13. align them with organization standards		4	2	1	1
	<b>Total</b>	<b>50</b>	<b>15</b>	<b>20</b>	<b>15</b>	
	<b>Weightage%</b>	<b>100%</b>	<b>30%</b>	<b>40%</b>	<b>30%</b>	