



# **APPRENTICESHIP CURRICULUM**

**for**

**Mill Operator**

**Under**

**RUBBER INDUSTRY**

**for**

**NSQF Level 4**

**National Apprenticeship Promotion  
Scheme**

1	<b>Program Title</b>	Mill Operator			
2	<b>Program Code, if any</b>	NA			
3	<b>Any related NSQF approved QP/Course/NOS and code</b>	RSC/0101			
4	<b>Hours for Basic Training(Block I)</b>	350 (2 Months)			
5	<b>Hours for On the Job Training (Block II)</b>	1440 (9 Months)			
6	<b>Certifying body for Basic Training Program</b>	RSDC			
7	<b>Certifying Body for On the Job training</b>	Industry			
8	<b>Any Licensing requirements, wherever applicable</b>	NA			
9	<b>Minimum eligibility criteria (Educational and/ or technical Qualification)</b>  <b>Exemptions, if any –</b>	Class X  10th/12th passed/ITI/Diploma in any engineering stream or In lieu of minimum qualification the employee has worked as a semi-skilled helper for minimum 6 months in the same role.			
10	<b>Trainer’s Qualification and Experience</b>	Any Graduate preferably in rubber or polymer and 5+ year Experience			
11	<b>NCO code and occupation</b>	NCO-2004/8159.36 And Mixing			
12	<b>Proposed NSQF level</b>	4			
13	<b>Indicative list of training tools required to deliver this qualification (may be attached)</b>	As per Annexure I & II			
14	<b>Formal structure of the curriculum</b>				
		<b>Modules</b>	<b>Notional hours-Theory</b>	<b>Notional hours-Practical</b>	<b>Total duration</b>
	<b>Basic Training Program</b>	1. Introduction	15	10	25
		2. Prepare mixing mill and accessories	10	20	30
		3. Mix raw material in mixing mill to prepare rubber compound	20	40	60
		4. Undertake post mixing mill activities	20	30	50
		5. Carry out housekeeping	10	20	30
		6. Carry out reporting and documentation	10	15	25
		7. Carry Out Quality Checks	15	25	40
		8. Carry out problem identification and escalation	10	15	25
		9. Carry out health and safety	20	15	35

	<b>On the Job Training Program</b>	1. Introduction 2. Prepare mixing mill and accessories 3. Mix raw material in mixing mill to prepare rubber compound 4. Undertake post mixing mill activities 5. Carry out housekeeping 6. Carry out reporting and documentation 7. Carry Out Quality Checks 8. Carry out problem identification and escalation 9. Carry out health and safety	<b>24</b> <b>16</b> <b>16</b> <b>16</b> <b>16</b> <b>40</b> <b>16</b> <b>16</b> <b>40</b>	<b>40</b> <b>200</b> <b>400</b> <b>120</b> <b>96</b> <b>96</b> <b>200</b> <b>120</b> <b>128</b>	<b>64</b> <b>216</b> <b>416</b> <b>136</b> <b>112</b> <b>136</b> <b>216</b> <b>136</b> <b>168</b>
<b>15</b>	<b>Total Pass marks</b>				
		<b>Pass Marks-Theory</b>	<b>Pass Marks-Practical</b>	<b>Total</b>	
	<b>Basic Training Program</b>	<b>65</b>	<b>95</b>	<b>160</b>	
	<b>On the Job Training Program</b>	<b>100</b>	<b>700</b>	<b>800</b>	
<b>16</b>	<b>Job description-brief</b>				The mill operator is responsible for feeding the rubber into the two roll mixing machine and carry out mixing and warming of rubber as per cycle times.
<b>17</b>	<b>Progression from the qualification (Please show Professional and academic progression)</b>				Mixing Supervisor and Academic progression to Level 5 program
<b>18</b>	<b>Employment avenues/opportunities</b>				1. Rubber manufacturing units in India: The apprentice may be employed with the biggest player of the trades and be a part of their manufacturing set and deliver quality work. 2. Rubber mixing Unit: The apprentice may be encouraged to set up their own rubber mixing unit and be able to sell pre-mixed rubber compound to rubber manufacturing organizations. 3. Education and Training: They may

		<p>also take up the role of the instructor in this field where they can impart their manufacturing knowledge to the aspiring students.</p>
<p><b>19</b></p>	<p><b>Assessment strategy (Basic training and On the Job Training)</b></p>	<p>For Basic Training &amp; On the Job Training:</p> <ol style="list-style-type: none"> <li>1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each</li> <li>2. 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.</li> <li>3. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.</li> <li>4. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.</li> <li>5. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).</li> <li>6. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this</li> </ol>

		<p>criterion.</p> <p>7. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.</p> <p>8. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.</p> <p>9. The assessment of candidates will be conducted at NOS level.</p> <p>10. Assessment criterion has been defined for each NOS and it includes both theoretical and practical skills on which the candidate will be assessed.</p> <p>11. Practical knowledge is tested through assessor driven evaluation, Situational Judgment Tests and Simulations. A mix of the three is used to evaluate the trainee on his practical knowledge of the QP.</p> <p>12. The candidate is assessed on skills, knowledge and behavioural aspects.</p>
<b>20</b>	<b>Curriculum update version and date</b>	05/03/2019
<b>21</b>	<b>Curriculum revision date</b>	04/03/2020

## Curriculum

Module Name with duration	Key Learning outcomes
<b>Theory/Basic Training Program- Block I</b>	
<p><b>Introduction</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> Bridge Module</p>	<ul style="list-style-type: none"> <li>• Describe development history of rubber.</li> <li>• Describe current industrial scenario of rubber and prospects.</li> <li>• Identify rubber from different sources.</li> <li>• List major rubber associations.</li> <li>• Identify equipment used for “Rubber Mixing Mill Operations”.</li> <li>• Define roles and responsibilities for “Mill Operator”.</li> </ul>
<p><b>Prepare mixing mill and accessories</b></p> <p><b>Theory Duration</b> (hh:mm) 15:00</p> <p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> RSC/N0101</p>	<ul style="list-style-type: none"> <li>• Demonstrate cleaning process of the mixing mill.</li> <li>• Select the tools required for rubber mixing process.</li> <li>• Perform the verification process of the mixing mill functioning.</li> <li>• Perform the process of arranging the raw material for the mixing as per process sheet.</li> <li>• Evaluate that all the available material for process is approved by authorized quality person.</li> <li>• Demonstrate verification process of the mixing mill support equipment.</li> </ul>
<p><b>Mix raw material in mixing mill to prepare rubber compound</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 40:00</p> <p><b>Corresponding NOS Code</b> RSC/N0102</p>	<ul style="list-style-type: none"> <li>• Perform the process of weight verification of each ingredient as specified in the mixing instructions/ organizations Standard Operating Procedure (SOP).</li> <li>• Perform the process of the sequential addition of ingredients strictly, as per instructions /SOP.</li> <li>• Demonstrate temperature control process during milling and mixing.</li> </ul>

<p><b>Undertake post mixing mill activities</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> RSC/N0103</p>	<ul style="list-style-type: none"> <li>• Demonstrate the process of taking off compound from mixing mill.</li> <li>• Demonstrate the process of sheet off the compound.</li> <li>• Perform the process of putting identification and traceability tag as per SOP.</li> <li>• Perform the process of submitting the sample of compound in specified form to lab for testing.</li> <li>• Demonstrate the process of storing of the remaining material at the designated storage area.</li> <li>• Perform cleaning of mixing mill and other used equipment after mixing process is finished for the shift.</li> <li>• Demonstrate the handover process of the equipment to the next shift operator.</li> <li>• Demonstrate the process of disposing off the waste material in safe manner as per company's standard operating procedure (SOP).</li> </ul>
<p><b>Carry out housekeeping</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> RSC/N5001</p>	<ul style="list-style-type: none"> <li>• Describe what is housekeeping?</li> <li>• Explain the importance &amp; purpose of housekeeping.</li> <li>• Describe what is '5S.'</li> <li>• Identify housekeeping equipment.</li> <li>• Perform the process of cleaning of the machines.</li> <li>• Demonstrate the housekeeping of work area with specified equipment and material.</li> </ul>
<p><b>Carry out reporting and documentation</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 15:00</p> <p><b>Corresponding NOS Code</b> RSC/N5002</p>	<ul style="list-style-type: none"> <li>• Explain the importance of documentation.</li> <li>• Interpret the common documentation used in the rubber industry.</li> <li>• Explain the importance of reporting.</li> <li>• Discuss of organization policies and guidelines.</li> <li>• Describe the purpose of procedures in an organization.</li> <li>• Use work instruction for working in an organization.</li> <li>• Use the communication process during day to day work.</li> <li>• Demonstrate the process of overcoming problems in communication.</li> <li>• Apply the traits of active listening.</li> <li>• Apply the best practices used for good writing skill.</li> <li>• Apply process of resolving conflict with a team member.</li> <li>• Determine priority of work from pending work list.</li> </ul>
<p><b>Carry Out Quality Checks</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 25:00</p> <p><b>Corresponding NOS Code</b> RSC/N5003</p>	<ul style="list-style-type: none"> <li>• Describe the need of quality control in rubber mill operation.</li> <li>• Identify various defects generated during rubber mill operation.</li> <li>• Demonstrate in-process inspection of mixing mill operation.</li> <li>• Use methodology of problem-solving.</li> <li>• Describe implication of rubber milling quality issues.</li> </ul>

<p><b>Carry out problem identification and escalation</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 15:00</p> <p><b>Corresponding NOS Code</b> RSC/N5004</p>	<ul style="list-style-type: none"> <li>• Describe regular problems in a rubber mixing mill operations organization.</li> <li>• Explain how to deal various problem in a rubber mixing mill operations organization.</li> <li>• Describe hierarchy of a rubber mixing mill operations organization.</li> <li>• Describe the need for problem escalation.</li> <li>• Demonstrate the process of escalating problem in a rubber mixing mill operations organization.</li> </ul>
<p><b>Carry out health and safety</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 20:00</p> <p><b>Corresponding NOS Code</b> RSC/N5007</p>	<ul style="list-style-type: none"> <li>• Identify various hazards in a rubber industry.</li> <li>• Explain the health and safety requirements for a rubber industry.</li> <li>• Discuss requirement of personal protective equipment (PPE) in rubber industry.</li> <li>• Identify different types of personal protective equipment (PPE) used in the rubber industry.</li> <li>• Demonstrate the use of different personal protective equipment (PPE).</li> <li>• Describe various emergency situations in industry.</li> <li>• Describe common injuries in the industry.</li> <li>• Describe first aid box and its constituents.</li> <li>• Demonstrate how to handle fire emergencies.</li> <li>• Demonstrate how to use a multi-purpose fire extinguisher.</li> <li>• Select suitable fire extinguisher as per fire type and class.</li> </ul>
<p><b>On the Job Training Program- Block II</b></p>	
<p><b>Introduction</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 30:00</p> <p><b>Corresponding NOS Code</b> Bridge Module</p>	<ul style="list-style-type: none"> <li>• Describe roles and responsibilities for “Mill Operator”.</li> <li>• Apply safety rules during shop floor training.</li> <li>• Use personal protective equipment (PPE) during shop floor training.</li> <li>• Perform escalations for any abnormalities during shop floor training.</li> <li>• Perform reporting as per company’s standard operating procedure (SOP) during shop floor training.</li> <li>• Demonstrate how to handle Fire Emergencies.</li> <li>• Describe various emergency situations in industry.</li> <li>• Describe common injuries in the industry.</li> <li>• Describe First Aid box and its constituents.</li> </ul>
<p><b>Prepare mixing mill and accessories</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 200:00</p>	<ul style="list-style-type: none"> <li>• Demonstrate cleaning process of the mixing mill.</li> <li>• Select the tools required for rubber mixing process.</li> <li>• Perform the verification process of the mixing mill functioning.</li> <li>• Perform the process of arranging the raw material for the mixing as per process sheet.</li> <li>• Evaluate that all the available material for process is approved by authorized quality person.</li> <li>• Demonstrate verification process of the mixing mill support equipment.</li> <li>• Perform mixing mill preparation activities independently without</li> </ul>



<p><b>Corresponding NOS Code</b> RSC/N0701</p>	<p>supervision.</p>
<p><b>Mix raw material in mixing mill to prepare rubber compound</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 400:00</p> <p><b>Corresponding NOS Code</b> RSC/N0702</p>	<ul style="list-style-type: none"> <li>• Perform the process of weight verification of each ingredient as specified in the mixing instructions/organizations standard operating procedure (SOP).</li> <li>• Perform the process of the sequential addition of ingredients strictly, as per instructions/SOP.</li> <li>• Demonstrate temperature control process during milling and mixing.</li> <li>• Perform mixing mill operations activities independently without supervision.</li> </ul>
<p><b>Undertake post mixing mill activities</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 100:00</p> <p><b>Corresponding NOS Code</b> RSC/N0703</p>	<ul style="list-style-type: none"> <li>• Demonstrate the process of taking off compound from mixing mill.</li> <li>• Demonstrate the process of sheet off the compound.</li> <li>• Perform the process of putting identification and traceability tag as per SOP.</li> <li>• Perform the process of submitting the sample of compound in specified form to lab for testing.</li> <li>• Demonstrate the process of storing of the remaining material at the designated storage area.</li> <li>• Perform cleaning of mixing mill and other used equipment after mixing process is finished for the shift.</li> <li>• Demonstrate the handover process of the equipment to the next shift operator.</li> <li>• Demonstrate the process of disposing off the waste material in safe manner as per company's SOP.</li> <li>• Perform post mixing activities independently without supervision.</li> </ul>
<p><b>Carry out housekeeping</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 80:00</p> <p><b>Corresponding NOS Code</b> RSC/N5001</p>	<ul style="list-style-type: none"> <li>• Describe what is housekeeping.</li> <li>• Explain the importance &amp; purpose of housekeeping.</li> <li>• Describe what is '5S.'</li> <li>• Identify housekeeping equipment.</li> <li>• Perform the process of cleaning of the machines.</li> <li>• Demonstrate the housekeeping of work area with specified equipment and material.</li> <li>• Perform housekeeping activities independently without supervision.</li> </ul>

<p><b>Carry out reporting and documentation</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 80:00</p> <p><b>Corresponding NOS Code</b> RSC/N5002</p>	<ul style="list-style-type: none"> <li>• Explain the importance of documentation.</li> <li>• Interpret the common documentation used in the rubber industry.</li> <li>• Explain the importance of reporting.</li> <li>• Discuss of organization policies and guidelines.</li> <li>• Describe the purpose of procedures in an organization.</li> <li>• Use work instruction for working in an organization.</li> <li>• Use the communication process during day to day work.</li> <li>• Demonstrate the process of overcoming problems in communication.</li> <li>• Apply the traits of active listening.</li> <li>• Apply the best practices used for good writing skill.</li> <li>• Apply process of resolving conflict with a team member.</li> <li>• Determine priority of work from pending work list.</li> <li>• Perform reporting for daily operations independently without supervision.</li> </ul>
<p><b>Carry Out Quality Checks</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 200:00</p> <p><b>Corresponding NOS Code</b> RSC/N5003</p>	<ul style="list-style-type: none"> <li>• Describe the need of quality control in rubber mill operation.</li> <li>• Identify various defects generated during rubber mill operation.</li> <li>• Demonstrate in-process inspection of mixing mill operation.</li> <li>• Use methodology of problem-solving.</li> <li>• Describe implication of rubber milling quality issues.</li> <li>• Perform in-process quality checks independently without supervision.</li> </ul>
<p><b>Carry out problem identification and escalation</b></p> <p><b>Theory Duration</b> (hh:mm) 10:00</p> <p><b>Practical Duration</b> (hh:mm) 100:00</p> <p><b>Corresponding NOS Code</b> RSC/N5004</p>	<ul style="list-style-type: none"> <li>• Describe regular problems in a rubber mixing mill operations organization.</li> <li>• Explain how to deal various problem in a rubber mixing mill operations organization.</li> <li>• Describe hierarchy of a rubber mixing mill operations organization.</li> <li>• Describe the need for problem escalation.</li> <li>• Demonstrate the process of escalating problem in a rubber mixing mill operations organization.</li> <li>• Demonstrate problem solving skill for regular production issue.</li> </ul>
<p><b>Carry out health and safety</b></p> <p><b>Theory Duration</b> (hh:mm) 30:00</p> <p><b>Practical Duration</b></p>	<ul style="list-style-type: none"> <li>• Identify various hazards in a rubber industry.</li> <li>• Explain the health and safety requirements for a rubber industry.</li> <li>• Discuss requirement of personal protective equipment (PPE) in rubber industry.</li> <li>• Identify different types of personal protective equipment (PPE) used in the rubber industry.</li> <li>• Demonstrate the use of different personal protective equipment (PPE).</li> <li>• Describe various emergency situations in industry.</li> </ul>

(hh:mm)  
120:00

**Corresponding NOS  
Code**  
RSC/N5007

- Describe common injuries in the industry.
- Describe first aid box and its constituents.
- Demonstrate how to handle fire emergencies.
- Demonstrate how to use a multi-purpose fire extinguisher.
- Select suitable fire extinguisher as per fire type and class.

## List of Assessable outcomes/assessment criteria

### Assessment Criteria

<b>Job Role</b>	<b>Mill Operator</b>
<b>Qualification Pack</b>	<b>RSC/Q0101</b>
<b>Sector Skill Council</b>	<b>Rubber Skill Development Council</b>

<b>S. No.</b>	<b>Guidelines for Assessment</b>
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. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
6	To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

<b>Assessment Outcomes</b>	<b>Assessment Criteria for Outcomes</b>	<b>Total Marks (80+20)</b>	<b>Out Of</b>	<b>Theory</b>	<b>Skills Practical</b>
<b>RSC/N0101 Prepare mixing mill and accessories</b>	PC1. Ensure functioning of safety features of mixing mill (e.g. safety pad, safety bar) and other accessories	<b>100</b>	4	4	0
	PC2. Ensure that the mixing mill is clean		4	4	0
	PC3. Set parameters for the equipment (mixing cycle time, roll temperature and nip gap) , as per company's SOP		14	4	10
	PC4. Keep all accessories(like cooling water, hydraulic system, temperature control unit(TCU), lubrication system) and stock blender(if available) ready		4	4	0
	PC5. Keep all hand tools like mixing knife, cooling rack etc. ready		3	3	0
	PC6. Ensure availability of pre-weighed, approved rubber and other ingredients to be fed as per recipe and batch size		9	4	5
	PC7. Ensure that raw material to be fed is approved by laboratory as per SOP		4	4	0

	PC8. Match the batch code of each raw material with the batch code on the job schedule given by the planning department		5	3	2
	PC9. Ensure that all raw materials have been assembled/organized (in correct sequence, as per SOP) to be fed into mixing mill		9	3	6
	PC10. Ensure housekeeping and safety in the Mixing mill area		3	3	0
	PC11. Ensure that electrical devices that may be exposed to carbon black dust are sealed.		3	3	0
	PC12. Periodically blow the electrical devices with clean/dry compressed air.		3	3	0
	PC13. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters within limits as per SOP		9	3	6
	PC14. Adhere to all safety norms (like wearing protective gloves, shoes, Safety Glasses, etc.)		9	3	6
	PC15. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		9	3	6
		<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>
<b>RSC/N0102 Mix raw material in mixing mill to prepare rubber compound</b>	PC1. Handle the rubber compound to avoid contamination	<b>100</b>	3	3	0
	PC2. Ensure that batch size of rubber mix is as per company's SOP		0	0	0
	PC3. Ensure that identified & approved materials are used.		7	3	4
	PC4. Ensure that the sequence in shift is based on raw material availability to maximize output		7	3	4
	PC5. Add rubber and other ingredients in the mixing mill in the specified quantity and sequence as per company's SOP		7	3	4
	PC6. Receive mixed batch dumped from intermix on the mill and form sheet. a. Allow the entire compound to pass through the nip gap of the rolls. b. Form a band on the front roll. c. Cut the compound and re-roll for at least three times. d. Pass the compound over the blender bar for better cooling and blending. e. Let out compound from mill in continuous sheet form and pass through cooling festoon and wig wag for stacking.		25	10	15
	PC7. Check and adjust cooling water flow rate as per SOP		0	0	0

	PC8. Ensure proper rolling bank while mixing		8	3	5
	PC9. Use stock blender, if available for better dispersion		3	3	0
	PC10. Control mixing process and completion as per SOP (temperature or time or energy as programmed /specified)		5	2	3
	PC11. Identify the batch as per SOP		5	2	3
	PC12. Ensure maturation time for Master batch and Final batch before next usage		0	0	0
	PC13. Ensure housekeeping and safety in the Mixing mill area		3	3	0
	PC14. Ensure that the electrical devices that may be exposed to carbon black dust are sealed.		3	3	0
	PC15. Periodically blow the electrical devices with clean/dry compressed air.		3	3	0
	PC16. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters remain within limits as per SOP.		7	3	4
	PC17. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses etc)		7	3	4
	PC18. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP.		7	3	4
		<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>
<b>RSC/N0103 Undertake post mixing mill activities</b>	PC1. Sheet off the compound followed by cooling	<b>100</b>	5	5	0
	PC2. Ensure that no compound has been left inside in roller guides, stock blender and mill tray		5	5	0
	PC3. Handover the equipment to the next operator in clean and good condition		4	4	0
	PC4. Dispose waste material in safe manner as per company's SOP		4	4	0
	PC5. Ensure identification and traceability by batch marking/ coding for the right product as per instructions laid down by the company (in terms of batch number, colour, date stamp etc)		25	5	20
	PC6. Send sample of specified compound/ batch in specified form to lab for testing		4	4	0
	PC7. Send the remaining material to the designated storage area		5	0	5
	PC8. Ensure that the electrical devices that may be exposed to carbon black dust are sealed.		4	4	0

	PC9. Periodically blow the electrical devices with clean/dry compressed air.		4	4	0
	PC10. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters remain within limits.		10	5	5
	PC11. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses etc)		15	5	10
	PC12. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		15	5	10
		<b>Total</b>	<b>100</b>	<b>50</b>	<b>50</b>
<b>RSC/N5001 Carry out housekeeping</b>	PC1. Inspect the area while taking into account various surfaces	<b>100</b>	3	3	0
	PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain		3	3	0
	PC3. Ensure that the cleaning equipment is in proper working condition		3	3	0
	PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person		3	3	0
	PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces		3	3	0
	PC6. Inform the affected people about the cleaning activity		2	2	0
	PC7. Display the appropriate signage for the work being conducted		3	3	0
	PC8. Ensure that there is adequate ventilation for the work being carried out		3	3	0
	PC9. Wear the personal protective equipment required for the cleaning method and materials being used		3	3	0
	PC10. Use the correct cleaning method for the work area, type of soiling and surface		3	3	0
	PC11. Carry out cleaning activity without disturbing others		3	3	0
	PC12. Deal with accidental damage, if any, caused while carrying out the work		3	3	0
	PC13. Report to the appropriate person any difficulties in carrying out your work		3	3	0
	PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill		3	3	0
	PC15. Ensure that there is no oily substance on the floor to avoid slippage		9	3	6

	PC16. Ensure that no scrap material is lying around		9	3	6
	PC17. Maintain and store housekeeping equipment and supplies		3	3	0
	PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process		3	3	0
	PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements		8	2	6
	PC20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored		3	3	0
	PC21. Dispose the waste garnered from the activity in an appropriate manner		9	3	6
	PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly		9	3	6
	PC23. Maintain schedules and records for housekeeping duty		3	3	0
	PC24. Replenish any necessary supplies or consumables		3	3	0
		<b>Total</b>	<b>100</b>	<b>70</b>	<b>30</b>
<b>RSC/N5002</b> <b>Carry out reporting and documentation</b>	PC1. Report data/problems/incidents as applicable in a timely manner	<b>100</b>	12	9	3
	PC2. Report to the appropriate authority as laid down by the company		12	9	3
	PC3. Follow reporting procedures as prescribed by the company		12	9	3
	PC4. Identify documentation to be completed relating to one's role		10	7	3
	PC5. Record details accurately in an appropriate format		16	8	8
	PC6. Complete all documentation within stipulated time according to company procedure		14	8	6
	PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly		6	4	2
	PC8. Make sure documents are available to all appropriate authorities to inspect		6	4	2
	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures		6	6	0
	PC10. Inform the appropriate authority of requests for information received		6	6	0
		<b>Total</b>	<b>100</b>	<b>70</b>	<b>30</b>



<b>RSC/N5003</b> <b>Carry out</b> <b>quality checks</b>	PC1. Ensure that total range of checks are regularly and consistently performed	<b>100</b>	24	15	9
	PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required		24	15	9
	PC3. Identify non-conformities to quality assurance standards		6	4	2
	PC4. Identify potential causes of non-conformities to quality assurance standards		5	3	2
	PC5. Identify impact on final product due to non-conformance to company standards		5	3	2
	PC6. Evaluating the need for action to ensure that problems do not recur		6	4	2
	PC7. Suggest corrective action to address problem		5	3	2
	PC8. Review effectiveness of corrective action		5	3	2
	PC9. Interpret the results of the quality check correctly		4	4	0
	PC10. Take up results of the findings with QC in charge/appropriate authority.		3	3	0
	PC11. Take up the results of the findings within stipulated time		3	3	0
	PC12. Record of results of action taken		3	3	0
	PC13. Record adjustments not covered by established procedures for future reference		3	3	0
	PC14. Review effectiveness of action taken		2	2	0
	PC15. Follow reporting procedures where the cause of defect cannot be identified		2	2	0
	<b>Total</b>	<b>Total</b>	<b>100</b>	<b>70</b>	<b>30</b>
<b>RSC/N5004</b> <b>Carry out</b> <b>problem</b> <b>identification</b> <b>and escalation</b>	PC1. Identify defects/indicators of problems	<b>100</b>	7	4	3
	PC2. Identify any wrong practices that may lead to problems		6	3	3
	PC3. Identify practices that may impact the final product quality		6	3	3
	PC4. Identify if the problem has occurred before		5	3	2
	PC5. Identify other operations that might be impacted by the problem		6	4	2
	PC6. Ensure that no delays are caused as a result of failure to escalate problems		5	3	2
	PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance(where required)		8	5	3
	PC8. Consider possible reasons for identification of problems		8	5	3

	PC9. Consider applicable corrections and formulate corrective action		3	3	0
	PC10. Formulate action in a timely manner		3	3	0
	PC11. Communicate problem/remedial action to appropriate parties		7	5	2
	PC12. Take corrective action in a timely manner		2	2	0
	PC13. Take corrective action for problems identified according to the company procedures		2	2	0
	PC14. Report/document problem and corrective action in an appropriate manner		8	5	3
	PC15. Monitor corrective action		2	2	0
	PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved		2	2	0
	PC17. Ensure that corrective action selected is viable and practical		2	2	0
	PC18. Ensure that correct solution is identified to an identified problem		2	2	0
	PC19. Take corrective action for problems identified according to the company procedures		1	1	0
	PC20. Ensure that no delays are caused as a result of failure to take necessary action		1	1	0
	PC21. Escalate problem as per laid down escalation matrix		4	3	1
	PC22. Escalate the problem within stipulated time		4	3	1
	PC23. Escalate the problem in an appropriate manner		3	2	1
	PC24. Ensure that no delays are caused as a result of failure to escalate problems		3	2	1
	<b>Total</b>	<b>Total</b>	<b>100</b>	<b>70</b>	<b>30</b>
	<b>Grand Total</b>		<b>700</b>	<b>430</b>	<b>270</b>
	<b>Percentage Weightage:</b>			<20%>	<80%>
	<b>Minimum Pass % to qualify (aggregate):</b>			<50%>	

## Annexure I: Tools and Equipment for Basic Training (Block I)

**Sector:** Rubber Industry

**Block I QP Code with Version No. or Course Code:** RSC/Q0101, V1.0

**Block I QP Name or Course Name:** Mill Operator

**Block I NSQF Level:** 4

S. No.	Equipment Name	Minimum number of Equipment required (per batch of 30 trainees)	Unit Type	Is this a mandatory Equipment to be available at the Training Center (Yes/No)	Dimension/Specification /Description of the Equipment/ ANY OTHER REMARK
1	Laptop/PC	1		Yes	
2	projector	1		Yes	
3	Rubber mixing mill	1		Yes	min. size of 300 mm x 750 mm or higher
4	Mixing knife	1		Yes	For parting off the sheet during milling process
5	Material handling equipment	1		No	Since class-room sample will be small, hence not mandatory, however for showing the material handling equipment used in industry, we may have few of them
6	Cooling tower	1	As per mixing mill specification	No	
7	Temperature control unit	1		Yes	
8	Lubrication system	1		Yes	
9	Safety device (with reverse gear)	1		Yes	
10	Storing rack			No	
11	Hydraulic system	1		No	

12	Air conditioned store room	1		No	Optional
13	Digital thermometer	1		No	
14	Infrared thermometer	1		Yes	
15	Floor cleaner	1		No	
16	Broom	5		Yes	
17	Dust pan	5		Yes	
18	Cleaning solvents	1		Yes	
19	Rags for cleaning	As per practical requirement		Yes	
20	Safety goggle	5		Yes	
21	Safety shoes	5		Yes	
22	Safety gloves	30		Yes	
23	Mask	30		Yes	
24	Earmuff	30		Yes	
25	First aid box	1		Yes	
26	Fire extinguisher	1		Yes	For extinguish A, B, C, D type fires

## Annexure II: Tools and Equipment for Basic Training (Block II)

**Sector:** Rubber Industry

**Block I QP Code with Version No. or Course Code:** RSC/Q0207, V1.0

**Block I QP Name or Course Name:** Mill Operator

**Block I NSQF Level:** 4

S. No.	Equipment Name	Minimum number of Equipment required (per batch of 30 trainees)	Unit Type	Is this a mandatory Equipment to be available at the Training Center (Yes/No)	Dimension/Specification /Description of the Equipment/ ANY OTHER REMARK
1	Laptop/PC	1		Yes	
2	projector	1		Yes	
3	Rubber mixing mill	1		Yes	min. size of 300 mm x 750 mm or higher
4	Mixing knife	1		Yes	For parting off the sheet during milling process
5	Material handling equipment	1		Yes	Pallet mover and pallet or trolley for material movement
6	Cooling tower	1	As per mixing mill specification	Yes	
7	Temperature control unit	1		Yes	
8	Lubrication system	1		Yes	
9	Safety device (with reverse gear)	1		Yes	
10	Storing rack			Yes	
11	Hydraulic system	1		Yes	
12	Air conditioned store room	1		Yes	
13	Digital thermometer	1		Yes	

14	Infrared thermometer	1		Yes	
15	Floor cleaner	1		No	
16	Broom	5		Yes	
17	Dust pan	5		Yes	
18	Cleaning solvents	1		Yes	
19	Rags for cleaning	As per practical requirement		Yes	
20	Safety goggle	5		Yes	
21	Safety shoes	5		Yes	
22	Safety gloves	30		Yes	
23	Mask	30		Yes	
24	Earmuff	30		Yes	
25	First aid box	1		Yes	
26	Fire extinguisher	1		Yes	For extinguish A, B, C, D type fires