

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR RUBBER INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding



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Introduction

Qualifications Pack- Mill Operator

SECTOR: RUBBER INDUSTRY

SUB-SECTOR: 1. Tyre 2. Non- Tyre

OCCUPATION: Mixing

REFERENCE ID: RSC/ Q 0101

ALIGNED TO: NCO-2004/8159.36

Brief Job Description: 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.

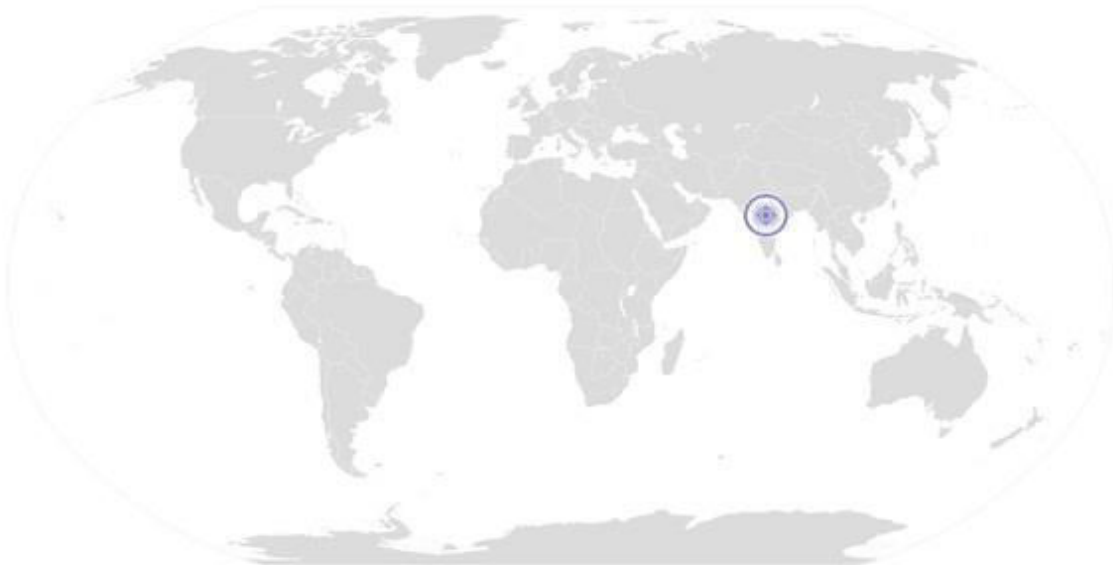
Personal Attributes: This job requires the individual to work independently and be comfortable in performing laborious work.He should be result oriented and positive in attitude.The individual must be willing to work in the factory environment.

Job Details	Qualifications Pack Code	RSC/ Q 0101		
	Job Role	Mill Operator		
	Credits(NSQF)	TBD	Version number	1
	Sector	Rubber Industry	Drafted on	20/03/13
	Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
	Occupation	Mixing	Next review date	29/12/17
	NSQC Cleanace on	18/06/2015		

Job Role	Mill operator
Role Description	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.
NSQF level	4
Minimum Educational Qualifications*	Class X
Maximum Educational Qualifications*	ITI/Graduate in Science
Training (Suggested but not mandatory)	Training on operation of machinery
Minimum Job Entry Age	18 years
Experience	In lieu of minimum qualification the employee has worked as a semi-skilled helper for minimum 6 months in the same role.
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> RSC/ N0101 (Prepare mixing mill and accessories) RSC/ N0102 (Mix raw material in mixing mill to prepare rubber compound) RSC/ N0103 (Undertake post mixing mill activities) RSC/ N5001 (To carry out housekeeping) RSC/ N5002 (To carry out reporting and documentation) RSC/ N5003 (To carry out quality checks) RSC/ N5004 (To carry out problem identification and escalation) <p>Optional:</p> <ol style="list-style-type: none"> NA
Performance Criteria	As described in the relevant OS units

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
OS	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an Occupational Standard , which is denoted by an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS , these include communication related skills that are applicable to most job roles.

National Occupational Standard



Overview

This unit is about preparing mixing mill and other accessories for mixing raw material to make rubber compound

Unit Code	RSC / N 0101
Unit Title (Task)	Prepare mixing mill and accessories
Description	This unit is about preparing mixing mill and other accessories for the mixing operation
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Ensuring housekeeping and safety in the mixing area Preparing other accessories required (like cooling water, hydraulic system, temperature control unit (TCU), lubrication system) Setting the parameters of the mixing mill and accessories to carry out operations
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Equipment readiness	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Ensure functioning of safety features of -mixing mill (e.g. safety pad, safety bar) and other accessories</p> <p>PC2. Ensure that the mixing mill is clean</p> <p>PC3. Set parameters for the equipment (mixing cycle time, roll temperature and nip gap) , as per company's SOP</p> <p>PC4. Keep all accessories (like cooling water, hydraulic system, temperature control unit (TCU), lubrication system) and stock blender (if available) ready</p> <p>PC5. Keep all hand tools like mixing knife, cooling rack etc. ready</p>
Raw material appropriateness	<p>PC6. Ensure availability of pre-weighed, approved rubber and other ingredients to be fed as per recipe and batch size</p> <p>PC7. Ensure that raw material to be fed is approved by laboratory as per SOP</p> <p>PC8. Match the batch code of each raw material with the batch code on the job schedule given by the planning department</p> <p>PC9. Ensure that all raw materials have been assembled/organized (in correct sequence, as per SOP) to be fed into mixing mill</p>
Health and Safety	<p>PC10. Ensure housekeeping and safety in the Mixing mill area</p> <p>PC11. Ensure that electrical devices that may be exposed to carbon black dust are sealed.</p> <p>PC12. Periodically blow the electrical devices with clean/dry compressed air.</p> <p>PC13. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters within limits as per SOP</p> <p>PC14. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses etc)</p> <p>PC15. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>

Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. Manufacturing process, including master batch and final batch process KA2. Implications of poorly prepared equipment, power failure etc KA3. Importance of identifying non-conforming material and storage of the same KA4. Risk and impact of not following defined procedures/work instructions KA5. Escalation matrix for reporting identified problems KA6. Types of documentation in organization and importance of the same KA7. Records to be maintained and implications of non-maintenance of the same KA8. Importance of housekeeping & good shop floor practices (eg 3S/5S) KA9. Health, Safety and Environment guidelines, legislation and regulations as applicable KA10. Personal protection(Which protective equipment to be used when and how) KA11. Impact of poor practices on health, safety and environment KA12. Potential hazards and actions to minimize the same KA13. Escalation matrix and escalation procedure for reporting hazards KA14. Importance of FIFO KA15. The usage of different fire extinguisher KA16. Impact of various practices on cost, quality, productivity, delivery and safety KA17. Handover/ Takeover the equipment/ work area as per company's SOP
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. Different types of mixing mill & their operation and function of different components of the mill (Equipment working, possible setting levels, friction ratio, typical process followed for different batches) KB2. Possible causes of common mixing problems & their remedies KB3. Tolerance levels for various parameters (temperature, nip gap, rpm of the roll, and weight) KB4. Health hazards of process and compounding ingredients KB5. Implications of delays in preparation process KB6. Types of defects leading to rejections, indicators, reasons and possible solutions KB7. Cleanliness and safety requirements for commencing a mixing batch operation KB8. Units of measurement KB9. Responding to emergencies e.g. Power failures ,fire and system failures and manual intervention to avoid disaster KB10. Appropriate batch size with respect to appropriate machinery KB11. Simple mathematics for specific gravity and batch weight calculation
Skills (S)	
A. Core Skills/	Writing Skills

Generic Skills	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one's own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in one's area of work</p> <p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>

B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to:
	SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.
	SB2. Handling of various types of mixing mills
	SB3. Handle tools like mixing knife
	SB4. Handle rubber compound
	SB5. Handle chemicals
	SB6. Handling of various types of material handling equipment like forklifts, trolleys
	SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.
	Plan and Organize
	The user/individual on the job needs to know and understand how to:
	SB8. seek clarification on problems from others
SB9. apply problem-solving approaches in different situations	
SB10. refer anomalies to the line manager	
Customer Centricity	
NA	
Problem Solving	
The user/individual on the job needs to know and understand how to:	
SB 11. Interpret quality for sheet	
SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience	
Analytical Thinking	
The user/individual on the job needs to know and understand how to:	
SB13. Proper collection of waste material	
SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience	
Critical Thinking	
The user/individual on the job needs to know and understand how to:	
SB15. Handle equipment/rubber sheet	
SB16. seek clarification on problems from others	
SB17. apply problem-solving approaches in different situations	
SB18. refer anomalies to the line manager	
SB18. Identify any issues affecting the material, equipment or surroundings	

RSC/ N 0101

Prepare Mixing Mill And Accessories

	SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual
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RSC/ N 0101

NOS Version Control

NOS Code	RSC / N 0101		
Credits(NSQF)	TBD	Version number	1
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about mixing raw material in mixing mill to prepare rubber compound

RSC/ N 0102

Mix Raw Material In Mixing Mill To Prepare Rubber Compound

Unit Code	RSC / N 0102
Unit Title (Task)	Mix raw material in mixing mill to prepare rubber compound
Description	This unit is about mixing raw material in mixing mill to prepare rubber compound
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Ensuring housekeeping and safety in the mixing area Mixing raw materials in two roll mixing mill
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Raw Material appropriateness	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Handle the rubber compound to avoid contamination</p> <p>PC2. Ensure that batch size of rubber mix is as per company's SOP</p> <p>PC3. Ensure that identified & approved materials are used.</p>
Operations	<p>PC4. Ensure that the sequence in shift is based on raw material availability to maximize output</p> <p>PC5. Add rubber and other ingredients in the mixing mill in the specified quantity and sequence as per company's SOP</p> <p>PC6. Receive mixed batch dumped from intermix on the mill and form sheet.</p> <ol style="list-style-type: none"> Allow the entire compound to pass through the nip gap of the rolls. Form a band on the front roll. Cut the compound and re-roll for at least three times. Pass the compound over the blender bar for better cooling and blending. Let out compound from mill in continuous sheet form and pass through cooling festoon and wig wag for stacking. <p>PC7. Check and adjust cooling water flow rate as per SOP</p> <p>PC8. Ensure proper rolling bank while mixing</p> <p>PC9. Use stock blender, if available for better dispersion</p> <p>PC10. Control mixing process and completion as per SOP (temperature or time or energy as programmed / specified)</p> <p>PC11. Identify the batch as per SOP</p> <p>PC12. Ensure maturation time for Master batch and Final batch before next usage</p>
Health and Safety	<p>PC13. Ensure housekeeping and safety in the Mixing mill area</p> <p>PC14. Ensure that the electrical devices that may be exposed to carbon black dust are sealed.</p> <p>PC15. Periodically blow the electrical devices with clean/dry compressed air.</p> <p>PC16. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters remain within limits as per SOP.</p>

	<p>PC17. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses etc)</p> <p>PC18. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP.</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Manufacturing process, including master batch and final batch process</p> <p>KA2. Different types of batches that are run in plant</p> <p>KA3. The specific materials, including quantities, to be used</p> <p>KA4. Properties of compounds</p> <p>KA5. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure</p> <p>KA6. Quality and damage checks to be done and importance of the same</p> <p>KA7. Implications of poorly prepared material, power failure etc</p> <p>KA8. Importance of identifying non-conforming products and storage of the same</p> <p>KA9. Risk and impact of not following defined procedures/work instructions</p> <p>KA10. Escalation matrix for reporting identified issues</p> <p>KA11. Types of documentation in organization and importance of the same</p> <p>KA12. Records to be maintained and implications of non-maintenance of the same</p> <p>KA13. Importance of housekeeping & good shop floor practices (eg 3S/5S)</p> <p>KA14. Health, Safety and Environment guidelines, legislation and regulations as applicable</p> <p>KA15. Personal protection (Which protective equipment to be used when and how)</p> <p>KA16. Impact of poor practices on health, safety and environment</p> <p>KA17. Potential hazards and actions to minimize the same</p> <p>KA18. Escalation matrix and escalation procedure for reporting hazards</p> <p>KA19. Importance of FIFO</p> <p>KA20. The usage of different fire extinguisher</p> <p>KA21. Impact of various practices on cost, quality, productivity, delivery and safety</p> <p>KA22. Handover/ Takeover the equipment/ work area as per company's SOP</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different types of mixing mill (e.g. cracker mill, , warm up mill, feed-mill, etc) & its operation and function of different components of mills including operation of console in case of PLC control,</p> <p>KB2. Possible causes of common mixing problems & their remedies</p> <p>KB3. Cleanliness and safety requirements for operating a milling machine</p> <p>KB4. Handling of different types of materials</p> <p>KB5. Tolerance levels for various parameters (time, temperature, pressure, nip gap and weight)</p> <p>KB6. Troubleshooting- Knowledge of abnormalities and what response to make in case of abnormalities in equipment performance</p>

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Mix Raw Material In Mixing Mill To Prepare Rubber Compound

	<p>KB7. Implications of overheating during mixing and adopting measures like increasing water flow, adjusting nip gap, increasing number of cuts.</p> <p>KB8. Health hazards of process and compounding ingredients</p> <p>KB9. Awareness of different material forms to avoid dusting (E.g. Usage of polymer bound or treated rubber chemicals, refined Aromatic process oil)</p> <p>KB10. Usage of mixing accessories/ tools like mixing knife, pyrometer and their maintenance procedures including stock blender, if available</p> <p>KB11. Proper compound mixing & ingredient dispersion</p> <p>KB12. Effect of improper processing on properties of rubber compound & product</p> <p>KB13. The process and importance of quality check ,including visual inspection</p> <p>KB14. Types of defects leading to rejections, indicators, reasons and possible solutions.</p> <p>KB15. Potential problems like mill bagging, sticking to rolls, compound shifting to fast roll in the mixing operation</p> <p>KB16. Implications of delays in production process owing to issues in synchronization with upstream/ downstream equipments</p> <p>KB17. Units of measurement</p> <p>KB18. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster</p> <p>KB19. Appropriate batch size with respect to appropriate machinery</p> <p>KB20. Simple mathematics for specific gravity and batch weight calculation</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
Oral Communication (Listening and Speaking skills)	

	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one's own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in one's area of work</p> <p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
<p>B. Professional Skills</p>	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.</p> <p>SB2. Handling of various types of mixing mills</p> <p>SB3. Handle tools like mixing knife</p> <p>SB4. Handle rubber compound</p> <p>SB5. Handle chemicals</p> <p>SB6. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others</p>

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Mix Raw Material In Mixing Mill To Prepare Rubber Compound

	<p>SB9. apply problem-solving approaches in different situations SB10. refer anomalies to the line manager</p>
	<p>Customer Centricity</p>
	<p>NA</p>
	<p>Problem Solving</p>
	<p>The user/individual on the job needs to know and understand how to: SB 11. Interpret quality for sheet SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to: SB13. Proper collection of waste material SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	<p>Critical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to: SB15. Handle equipment/rubber sheet SB6. seek clarification on problems from others SB16. apply problem-solving approaches in different situations SB17. refer anomalies to the line manager SB18. Identify any issues affecting the material, equipment or surroundings SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual</p>

RSC/ N 0102 Mix Raw Material In Mixing Mill To Prepare Rubber Compound

NOS Version Control

NOS Code	RSC / N 0102		
Credits(NSQF)	TBD	Version number	1
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about undertaking activities post mixing of raw materials in the mill

RSC/ N 0103

Undertake post mixing mill activities

National Occupational Standard

Unit Code	RSC / N 0103
Unit Title (Task)	Undertake post mixing mill activities
Description	This unit is about undertaking post mixing operations
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Ensuring housekeeping and safety in the mixing area Sheet off compound Form appropriate batches of the compound Mark the batch for proper identification in further processing Send sample to lab for testing and transfer remaining material to designated area
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Operations	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Sheet off the compound followed by cooling</p> <p>PC2. Ensure that no compound has been left inside in roller guides, stock blender and mill tray</p> <p>PC3. Handover the equipment to the next operator in clean and good condition</p>
Material disposal	PC4. Dispose waste material in safe manner as per company's SOP
Batch Marking	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, weight, colour, date stamp etc)
Sampling	<p>PC6. Send sample of specified compound/ batch in specified form to lab for testing</p> <p>PC7. Send the remaining material to the designated storage area</p>
Health & Safety	<p>PC8. Ensure that the electrical devices that may be exposed to carbon black dust are sealed.</p> <p>PC9. Periodically blow the electrical devices with clean/dry compressed air.</p> <p>PC10. Ensure that the exhaust systems are used to maintain the concentration levels of various particulate matters remain within limits.</p> <p>PC11. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses etc)</p> <p>PC12. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>

Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. Implications of poorly prepared material, power failure etc KA2. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure KA3. Significance of batch marking KA4. Importance of identifying non-conforming product and storage of the same KA5. Risk and impact of not following defined procedures/work instructions KA6. Escalation matrix and procedure for reporting identified problems KA7. Types of documentation in organization and importance of the same KA8. Records to be maintained and implications of non-maintenance of the same KA9. Importance of housekeeping & good shop floor practices (eg 3S/5S) KA10. Health, Safety and Environment guidelines, legislation and regulations as applicable KA11. Personal protection(Which protective equipment to be used when and how) KA12. Potential hazards and actions to minimize the same KA13. Impact of poor practices on health, safety and environment KA14. Escalation matrix and procedure for reporting hazards KA15. Importance of FIFO KA16. The usage of different fire extinguisher KA17. Impact of various practices on cost, quality, productivity, delivery and safety KA18. Handover/ Takeover the equipment/ work area as per company's SOP
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. Batch marking techniques KB2. Implications of incorrect batch marking KB3. Implications of inappropriate waste disposal KB4. Types of defects leading to rejections, indicators, reasons and possible solutions. KB5. Units of measurement KB6. Coding systems for identification and traceability KB7. Response to emergencies e.g. Power failures ,fire and system failures KB8. Use of weighing scales KB9. Storage life of the compound, knowledge of ambient temperature and effect on compound
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company

	SA3. Write simple letters, mails, etc
	SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme) SA13. Practice honesty with respect to company property and time SA14. Communicate with people in a form and manner and using language that is open and respectful SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in one's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them. SA21. Avoid absenteeism SA22. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual
	Decision Making

B. Professional Skills	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.</p> <p>SB2. Handling of various types of mixing mills</p> <p>SB3. Handle tools like mixing knife</p> <p>SB4. Handle rubber compound</p> <p>SB5. Handle chemicals</p> <p>SB6. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others</p> <p>SB9. apply problem-solving approaches in different situations</p> <p>SB10. refer anomalies to the line manager</p>
	Customer Centricity
	NA
	Problem Solving
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB 11. Interpret quality for sheet</p> <p>SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience</p>
	Analytical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB13. Proper collection of waste material</p> <p>SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	Critical Thinking
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB15. Handle equipment/rubber sheet</p> <p>SB16. seek clarification on problems from others</p> <p>SB16. apply problem-solving approaches in different situations</p> <p>SB17. refer anomalies to the line manager</p> <p>SB18. Identify any issues affecting the material, equipment or surroundings</p> <p>SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual</p>	

NOS Version Control

NOS Code	RSC / N 0103		
Credits(NSQF)	TBD	Version number	1
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about carrying out housekeeping

Unit Code	RSC / N 5001
Unit Title (Task)	To carry out housekeeping
Description	This unit is about carrying out housekeeping activities
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Preparing for housekeeping activities • Carry out housekeeping activities • Post housekeeping activities
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Pre housekeeping activities	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Inspect the area while taking into account various surfaces</p> <p>PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain</p> <p>PC3. Ensure that the cleaning equipment is in proper working condition</p> <p>PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person</p> <p>PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces</p> <p>PC6. Inform the affected people about the cleaning activity</p> <p>PC7. Display the appropriate signage for the work being conducted</p> <p>PC8. Ensure that there is adequate ventilation for the work being carried out</p> <p>PC9. Wear the personal protective equipment required for the cleaning method and materials being used</p>
Operations	<p>PC10. Use the correct cleaning method for the work area, type of soiling and surface</p> <p>PC11. Carry out cleaning activity without disturbing others</p> <p>PC12. Deal with accidental damage, if any, caused while carrying out the work</p> <p>PC13. Report to the appropriate person any difficulties in carrying out your work</p> <p>PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill</p>
Post housekeeping activities	<p>PC15. Ensure that there is no oily substance on the floor to avoid slippage</p> <p>PC16. Ensure that no scrap material is lying around</p> <p>PC17. Maintain and store housekeeping equipment and supplies</p> <p>PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process</p>

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	<p>PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements</p> <p>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</p> <p>PC21. Dispose the waste garnered from the activity in an appropriate manner</p> <p>PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly</p>
General	<p>PC23. Maintain schedules and records for housekeeping duty</p> <p>PC24. Replenish any necessary supplies or consumables</p>
Knowledge and Understanding (K)	
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work</p> <p>KB2. How to inspect a work area to decide what cleaning it needs</p> <p>KB3. Methods and materials that used for cleaning variety of surfaces</p> <p>KB4. The types of cleansing agents that are not to be mixed together</p> <p>KB5. The correct method for cleaning equipment and/or machinery used during your work</p> <p>KB6. The importance of personal protective equipment</p> <p>KB7. Appropriate personal protective equipment for the work area, cleaning equipment, tools, materials and chemicals used</p> <p>KB8. The correct sequence for cleaning the work area</p> <p>KB9. The time taken by the treatment to work</p> <p>KB10. The importance of following manufacturer's instructions on cleaning agents</p> <p>KB11. The most appropriate place to carry out test cleans and why this should be done before applying treatments</p> <p>KB12. The importance of applying treatments evenly and the effect of not doing this</p> <p>KB13. Process of cleaning the surfaces without causing injury or damage</p> <p>KB14. The method to check the treated surface and equipment on completion of cleaning</p> <p>KB15. Procedures for reporting any unidentified soiling</p> <p>KB16. Procedures for disposing off waste</p> <p>KB17. Procedures for disposing off or storing personal protective equipment</p> <p>KB18. Escalation procedures for soils or stains that could not be removed</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p>

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	<p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	<p>Reading and Understanding Skills</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one's own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in one's area of work</p> <p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
	<p>Decision Making</p>

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To Carry Out Housekeeping

B. Professional Skills	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.</p> <p>SB2. Handling of various types of mixing mills</p> <p>SB3. Handle tools like mixing knife</p> <p>SB4. Handle rubber compound</p> <p>SB5. Handle chemicals</p> <p>SB6. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others</p> <p>SB9. apply problem-solving approaches in different situations</p> <p>SB10. refer anomalies to the line manager</p>
	Customer Centricity
	NA
	Problem Solving
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB 11. Interpret quality for sheet</p> <p>SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience</p>
	Analytical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB13. Proper collection of waste material</p> <p>SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	Critical Thinking
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB15. Handle equipment/rubber sheet</p> <p>SB16. seek clarification on problems from others</p> <p>SB16. apply problem-solving approaches in different situations</p> <p>SB17. refer anomalies to the line manager</p> <p>SB18. Identify any issues affecting the material, equipment or surroundings</p> <p>SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual</p>	

RSC/ N 5001

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NOS Code	RSC / N 5001		
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Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about reporting and documentation

RSC/ N 5002

To Carry Out Reporting And Documentation

National Occupational Standard

Unit Code	RSC / N 5002
Unit Title (Task)	To carry out reporting and documentation
Description	This unit is about carrying out reporting and documentation
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Reporting of data/problem/incidents etc • Documentation • Information Security
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Reporting	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Report data/problems/incidents as applicable in a timely manner PC2. Report to the appropriate authority as laid down by the company PC3. Follow reporting procedures as prescribed by the company</p>
Recording and Documentation	<p>PC4. Identify documentation to be completed relating to one's role PC5. Record details accurately in an appropriate format PC6. Complete all documentation within stipulated time according to company procedure PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly PC8. Make sure documents are available to all appropriate authorities to inspect</p>
Information Security	<p>PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures PC10. Inform the appropriate authority of requests for information received</p>
Knowledge and Understanding (K)	
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Different methods of recording information KA2. Various documents that need to be maintained KA3. Company procedure for filling/maintaining up the documents KA4. Procedures for reporting to the appropriate authority KA5. Procedures for recording damage, breakages etc KA6. Reporting incidents where standard operating procedures are not followed KA7. The importance of complete and accurate documentation KA8. How to maintain complete documentation accurately and within agreed timescales</p>

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To Carry Out Reporting And Documentation

	<p>KA9. The importance of ensuring that the documents are correct</p> <p>KA10. The actions to be taken if the documents are not correct</p> <p>KA11. The importance of maintaining the security and confidentiality of recorded information</p> <p>KA12. Procedures to maintain confidentiality of information</p> <p>KA13. The appropriate method for responding to requests for information</p> <p>KA14. The reporting procedures to followed before disclosing information to any outside party</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	Oral Communication (Listening and Speaking skills)
<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one's own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in one's area of work</p>	

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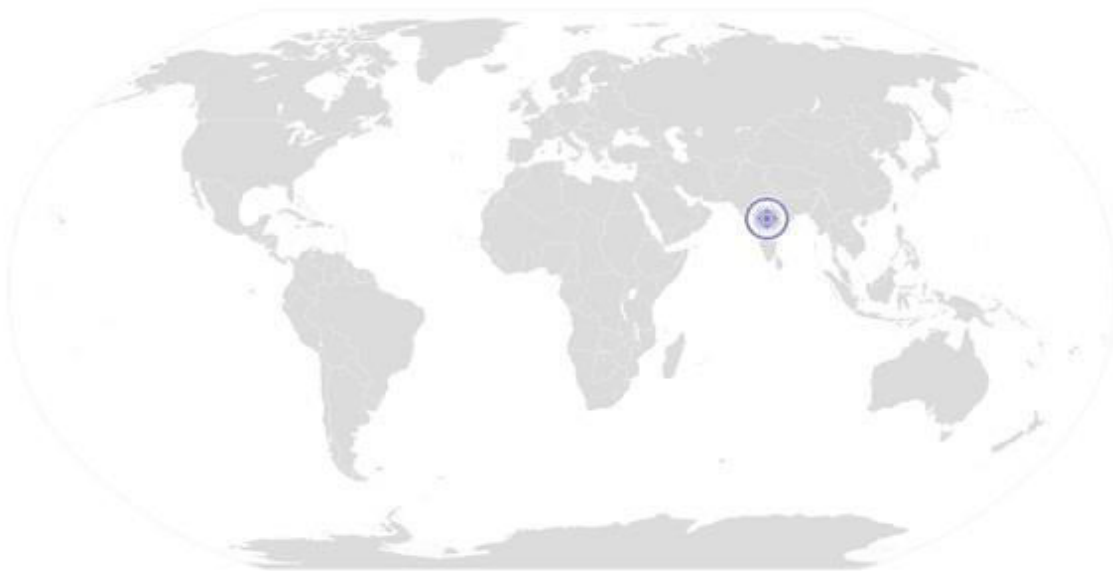
To Carry Out Reporting And Documentation

	<p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
<p>B. Professional Skills</p>	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.</p> <p>SB2. Handling of various types of mixing mills</p> <p>SB3. Handle tools like mixing knife</p> <p>SB4. Handle rubber compound</p> <p>SB5. Handle chemicals</p> <p>SB6. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others</p> <p>SB9. apply problem-solving approaches in different situations</p> <p>SB10. refer anomalies to the line manager</p>
	<p>Customer Centricity</p>
	<p>NA</p>
	<p>Problem Solving</p>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB 11. Interpret quality for sheet</p> <p>SB 12. Suggest improvements(if any) in process/product/materials based on results and experience</p>	
<p>Analytical Thinking</p>	

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To Carry Out Reporting And Documentation

	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB13. Proper collection of waste material</p> <p>SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	<p>Critical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB15. Handle equipment/rubber sheet</p> <p>SB16. seek clarification on problems from others</p> <p>SB17. apply problem-solving approaches in different situations</p> <p>SB18. refer anomalies to the line manager</p> <p>SB19. Identify any issues affecting the material, equipment or surroundings</p> <p>SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual</p>



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To Carry Out Reporting And Documentation

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Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



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National Occupational Standard



Overview

This unit is about carrying out quality checks

RSC/ N 5003

To Carry Out Quality Checks

National Occupational Standard

Unit Code	RSC / N 5003
Unit Title (Task)	To carry out quality checks
Description	This unit is about carrying out quality control activities
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Carrying out quality checks to identify problems • Take corrective actions • Reporting the results
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Inspection	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Ensure that total range of checks are regularly and consistently performed</p> <p>PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required</p>
Analysis	<p>PC3. Identify non-conformities to quality assurance standards</p> <p>PC4. Identify potential causes of non-conformities to quality assurance standards</p> <p>PC5. Identify impact on final product due to non-conformance to company standards</p> <p>PC6. Evaluating the need for action to ensure that problems do not recur</p> <p>PC7. Suggest corrective action to address problem</p> <p>PC8. Review effectiveness of corrective action</p>
Reporting	<p>PC9. Interpret the results of the quality check correctly</p> <p>PC10. Take up results of the findings with QC in charge/appropriate authority.</p> <p>PC11. Take up the results of the findings within stipulated time</p> <p>PC12. Record of results of action taken</p> <p>PC13. Record adjustments not covered by established procedures for future reference</p> <p>PC14. Review effectiveness of action taken</p> <p>PC15. Follow reporting procedures where the cause of defect cannot be identified</p>
Knowledge and Understanding (K)	
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The importance of quality control procedures</p> <p>KB2. Relevance and importance of activities and how they contribute to the achievement of the quality objectives,</p>

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To Carry Out Quality Checks

	<p>KB3. Proper procedure for selecting the material/product and performing quality checks without affecting the material</p> <p>KB4. Availability of work instructions, as necessary,</p> <p>KB5. Characteristics of the product/material</p> <p>KB6. Use of suitable equipment</p> <p>KB7. Availability and use of monitoring and measuring devices,</p> <p>KB8. Requirements of records</p> <p>KB9. Importance of maintaining accurate up-to-date records</p> <p>KB10. The need to report within the stipulated time</p> <p>KB11. Implications of inaccurate measuring and testing instruments and equipment</p> <p>KB12. The cost of non-conformance to quality standards</p> <p>KB13. Implications (impact on internal/external customers) of defective products, materials or components</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	<p>Reading Skills</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is</p>	

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To Carry Out Quality Checks

	<p>open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one’s own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in ones’s area of work</p> <p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one’s learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
<p>B. Professional Skills</p>	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods.</p> <p>SB2. Handling of various types of mixing mills</p> <p>SB3. Handle tools like mixing knife</p> <p>SB4. Handle rubber compound</p> <p>SB5. Handle chemicals</p> <p>SB6. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others</p> <p>SB9. apply problem-solving approaches in different situations</p> <p>SB10. refer anomalies to the line manager</p>
	<p>Customer Centricity</p>
	<p>NA</p>
<p>Problem Solving</p>	
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB 11. Interpret quality for sheet</p>	

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To Carry Out Quality Checks

	SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB13. Proper collection of waste material SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB15. Handle equipment/rubber sheet SB6. seek clarification on problems from others SB16. apply problem-solving approaches in different situations SB17. refer anomalies to the line manager SB18. Identify any issues affecting the material, equipment or surroundings SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual



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Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about problem identification and escalation

Unit Code	RSC / N 5004
Unit Title (Task)	To carry out problem identification and escalation
Description	This unit is about problem identification and escalation
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Identify problems across: <ul style="list-style-type: none"> - Raw materials - Compounds - Product - Equipment - Others • Identify solutions to problems • Take corrective action • Escalation of unresolved identified problems
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Problem Identification	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Identify defects/indicators of problems PC2. Identify any wrong practices that may lead to problems PC3. Identify practices that may impact the final product quality PC4. Identify if the problem has occurred before PC5. Identify other operations that might be impacted by the problem PC6. Ensure that no delays are caused as a result of failure to escalate problems</p>
Necessary Action	<p>PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required) PC8. Consider possible reasons for identification of problems PC9. Consider applicable corrections and formulate corrective action PC10. Formulate action in a timely manner PC11. Communicate problem/remedial action to appropriate parties PC12. Take corrective action in a timely manner PC13. Take corrective action for problems identified according to the company procedures PC14. Report/document problem and corrective action in an appropriate manner PC15. Monitor corrective action PC16. Evaluate implementation of corrective action taken to determine if the</p>

	<p>problem has been resolved</p> <p>PC17. Ensure that corrective action selected is viable and practical</p> <p>PC18. Ensure that correct solution is identified to an identified problem</p> <p>PC19. Take corrective action for problems identified according to the company procedures</p> <p>PC20. Ensure that no delays are caused as a result of failure to take necessary action</p>
<p>Problem Escalation</p>	<p>PC21. Escalate problem as per laid down escalation matrix</p> <p>PC22. Escalate the problem within stipulated time</p> <p>PC23. Escalate the problem in an appropriate manner</p> <p>PC24. Ensure that no delays are caused as a result of failure to escalate problems</p>
<p>Knowledge and Understanding (K)</p>	
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Indicators of problems</p> <p>KB2. The working of the equipment and accessories(if applicable)</p> <p>KB3. The impact of operations on the user and equipment(if applicable)</p> <p>KB4. The impact of operations on the final product (if applicable)</p> <p>KB5. The effect of not rectifying the problems identified</p> <p>KB6. The reason for the occurrence of previous problems</p> <p>KB7. Measures and steps that have been taken to address the previous problems</p> <p>KB8. Possible solutions for various problems</p> <p>KB9. The correct method for carrying out corrective actions outlined for each problem</p> <p>KB10. The impact of not carrying out the corrective actions</p> <p>KB11. The documentation procedure for recording such problems, as per company norms</p> <p>KB12. The escalation matrix for reporting problems</p> <p>KB13. Escalation matrix for reporting unresolved problems</p> <p>KB14. The time frame within which in which each problem needs to be escalated</p> <p>KB15. Manner in which each problem needs to be escalated</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as</p>

	<p>estimation and approximation, for practical purposes</p>
	<p>Reading Skills</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA16. Take responsibility for completing one's own work assignment</p> <p>SA17. Take initiative to enhance/learn skills in one's area of work</p> <p>SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA19. Is open to new ways of doing things</p> <p>SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
	<p>Decision Making</p>

B. Professional Skills	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take appropriate decisions regarding processing steps in view of changing quality and availability of raw materials and finished goods. SB2. Handling of various types of mixing mills SB3. Handle tools like mixing knife SB4. Handle rubber compound SB5. Handle chemicals SB6. Handling of various types of material handling equipment like forklifts, trolleys SB7. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. seek clarification on problems from others SB9. apply problem-solving approaches in different situations SB10. refer anomalies to the line manager</p>
	Customer Centricity
	NA
	Problem Solving
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB 11. Interpret quality for sheet SB 12 . Suggest improvements(if any) in process/product/materials based on results and experience</p>
	Analytical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB13. Proper collection of waste material SB14. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	Critical Thinking
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB15. Handle equipment/rubber sheet SB16. seek clarification on problems from others SB17. apply problem-solving approaches in different situations SB18. refer anomalies to the line manager SB19. Identify any issues affecting the material, equipment or surroundings SB19. Escalate issues that cannot be solved as per the troubleshooting/company manual</p>	

NOS Version Control

NOS Code	RSC / N 5004		
Credits(NSQF)	TBD	Version number	1
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Mixing	Next review date	29/12/17



CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Mill Operator
Qualification Pack Code: RSC/ Q 0101
Sector Skill Council: Rubber Skill Development 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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
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

Assessment Strategy		Marks Allocation		
NOS	Performance Criteria	Total	Theory	Practical
1. RSC/ N0101 (<u>Prepare mixing mill and accessories</u>)	PC1. Ensure functioning of safety features of mixing mill (e.g. safety pad, safety bar) and other accessories	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	8	3	5
	PC8. Match the batch code of each raw material with the batch code on the job schedule given by the planning department	9	3	6

	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
		100	50	50
2. RSC/ N0102 <u>(Mix raw material in mixing mill to prepare rubber compound.)</u>	PC1. Handle the rubber compound to avoid contamination	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
		100	50	50
3. RSC/ N0103 (<u>Undertake post mixing mill activities</u>)	PC1. Sheet off the compound followed by cooling	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
		100	50	50
4. RSC/ N5001 (To carry out housekeeping)	PC1. Inspect the area while taking into account various surfaces	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	0	0	0
	PC7. Display the appropriate signage for the work being conducted	10	5	5
	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	5	0	5
	PC12. Deal with accidental damage, if any, caused while carrying out the work	10	0	10
	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	8	3	5
	PC16. Ensure that no scrap material is lying around	8	3	5
	PC17. Maintain and store housekeeping equipment and supplies	8	3	5
	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	3	3	0
	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	3	3	0
	PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly	3	3	0
	PC23. Maintain schedules and records for housekeeping duty	3	3	0
	PC24. Replenish any necessary supplies or consumables	3	3	0
		100	65	35
5. RSC/ N5002 (To carry out reporting and documentation)	PC1. Report data/problems/incidents as applicable in a timely manner	20	10	10
	PC2. Report to the appropriate authority as laid down by the company	15	10	5
	PC3. Follow reporting procedures as prescribed by the company	15	10	5
	PC4. Identify documentation to be completed relating to one's role	5	5	0
	PC5. Record details accurately an appropriate format	10	10	0
	PC6. Complete all documentation within stipulated time according to company procedure	15	10	5
	PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly	5	5	0
	PC8. Make sure documents are available to all appropriate authorities to inspect	0	0	0
	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures	10	10	0
	PC10. Inform the appropriate authority of requests for information received	5	5	0

		100	75	25
6. RSC/ N5003 (To carry out quality checks)	PC1. Ensure that total range of checks are regularly and consistently performed	10	5	5
	PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required	10	5	5
	PC3. Identify non-conformities to quality assurance standards	5	5	0
	PC4. Identify potential causes of non-conformities to quality assurance standards	10	5	5
	PC5. Identify impact on final product due to non-conformance to company standards	10	5	5
	PC6. Evaluating the need for action to ensure that problems do not recur	5	0	5
	PC7. Suggest corrective action to address problem	10	5	5
	PC8. Review effectiveness of corrective action	5	0	5
	PC9. Interpret the results of the quality check correctly	5	5	0
	PC10. Take up results of the findings with QC in charge/appropriate authority.	5	5	0
	PC11. Take up the results of the findings within stipulated time	5	5	0
	PC12. Record of results of action taken	5	5	0
	PC13. Record adjustments not covered by established procedures for future reference	5	5	0
	PC14. Review effectiveness of action taken	5	5	0
	PC15. Follow reporting procedures where the cause of defect cannot be identified	5	5	0
		100	65	35
7. RSC/ N5004 (To carry out problem identification and escalation)	PC1. Identify defects/indicators of problems	6	3	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	0	0	0
	PC5. Identify other operations that might be impacted by the problem	6	3	3
	PC6. Ensure that no delays are caused as a result of failure to escalate problems	3	3	0
	PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)	3	3	0
	PC8. Consider possible reasons for identification of problems	6	3	3

PC9. Consider applicable corrections and formulate corrective action	6	3	3
PC10. Formulate action in a timely manner	6	3	3
PC11. Communicate problem/remedial action to appropriate parties	3	3	0
PC12. Take corrective action in a timely manner	5	3	2
PC13. Take corrective action for problems identified according to the company procedures	6	3	3
PC14. Report/document problem and corrective action in an appropriate manner	5	5	0
PC15. Monitor corrective action	2	2	0
PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved	3	3	0
PC17. Ensure that corrective action selected is viable and practical	3	3	0
PC18. Ensure that correct solution is identified to an identified problem	5	2	3
PC19. Take corrective action for problems identified according to the company procedures	5	2	3
PC20. Ensure that no delays are caused as a result of failure to take necessary action	6	3	3
PC21. Escalate problem as per laid down escalation matrix	2	2	0
PC22. Escalate the problem within stipulated time	2	2	0
PC23. Escalate the problem in an appropriate manner	2	2	0
PC24. Ensure that no delays are caused as a result of failure to escalate problems	3	3	0
	100	65	35