

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- Quality control Inspector- Extrusion

SECTOR: RUBBER INDUSTRY

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

OCCUPATION: Extrusion

REFERENCE ID: RSC/ Q 0624

ALIGNED TO: NCO-2004/NIL

Brief Job Description: The quality control inspector- extrusion in this role is responsible for controlling the quality of the product during the extrusion process.

Personal Attributes: This job requires the individual to have an eye for detail. He must have a positive attitude and be open to learning. The individual must be result oriented.

Qualifications Pack Code	RSC/ Q 0624		
Job Role	Quality control inspector- Extrusion		
Credits(NSQF)	TBD	Version number	1.0
Sector	Rubber Industry	Drafted on	04/06/13
Sub-sector	Tyre and non-tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17
NSQC Cleanace on	20/07/2015		

Job Role	Quality control Inspector - Extrusion
Role Description	The quality control inspector - extrusion in this role is responsible for controlling the quality of the product during the extrusion process .
NSQF level	5
Minimum Educational Qualifications*	Class XII
Maximum Educational Qualifications*	Masters in Science
Training (Suggested but not mandatory)	-
Minimum Job Entry Age	18 years
Experience	Worked as Supervisor in the operations for 2-3 years
Applicable National Occupational Standards (NOS)	Compulsory: <ol style="list-style-type: none"> 1. RSC/ N2401 (Control quality of the product produced by extrusion process) 2. RSC/ N5001 (To Carry Out Housekeeping) 3. RSC/ N5002 (To Carry Out Reporting and Documentation) 4. RSC/ N5003 (To Carry Out Quality Control) 5. RSC/ N5004 (To Carry Out Problem Identification and Escalation) Optional: <ol style="list-style-type: none"> 6. 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 controlling quality of the product produced by extrusion process

Control Quality Of The Product Produced By Extrusion Process

National Occupational Standard

Unit Code	RSC / N 2401
Unit Title (Task)	Control quality of the product produced by extrusion process
Description	This unit is about controlling quality of the product produced by extrusion process
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Ensuring housekeeping and safety in the extrusion area Checks to be done before extrusion operation Checks to be done during the extrusion operation To undertake activities after completion of extrusion process
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Prior to Extrusion Operation	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Check cleanliness of conveyors and the Extruder PC2. Check whether correct Die is fitted on the Extruder Head PC3. Check the extrusion parameters e.g speed / screw rpm, temperature, conveyor speed etc. set for extrusion.</p>
During Extrusion Operation	<p>PC4. Keep tools like calipers & gauges duly calibrated/validated/verified and accessories like calculator ready before starting the check as per SOP PC5. Check extrusion speed / screw rpm, conveyor speed etc. set for extrusion. PC6. Check cooling water flow rate (extrusion temperature control) PC7. Check extrudate temperature PC8. Check the skiving operation and skiving</p>
Post Extrusion Operation	<p>PC9. Check dimensions of the extrudate PC10. Check shrinkage PC11. Check batch identification for traceability PC12. Check contamination aspect.</p>
Others	<p>PC13. Adhere to and check adherence to all safety norms (like wearing protective gloves, safety goggles, shoes etc) PC14. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Implications of poorly prepared equipment, power failure etc KA2. Cleanliness and safety requirements for commencing an extrusion operation</p>

Control Quality Of The Product Produced By Extrusion Process

<p>the company / organization and its processes)</p>	<p>KA3. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure</p> <p>KA4. Quality and damage checks to be done and importance of the same</p> <p>KA5. Quality control procedures followed by the company</p> <p>KA6. Importance of quality control procedures</p> <p>KA7. Implications of not adhering to quality control procedures</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. Company manual and from where to attain it</p> <p>KA14. Importance of housekeeping & good shop floor practices (e.g. 3S/5S)</p> <p>KA15. Health, Safety and Environment guidelines, legislation and regulations as applicable</p> <p>KA16. Personal protection(Which protective equipment to be used and how)</p> <p>KA17. Impact of poor practices on health, safety and environment</p> <p>KA18. Potential hazards and actions to minimize the same</p> <p>KA19. Escalation matrix and escalation procedure for reporting hazards</p> <p>KA20. Importance of FIFO</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 organisational 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 Extruders and their operation as well as control panel.</p> <p>KB2. Measurement using gauges and weighing systems</p> <p>KB3. Importance of process parameters (temperature, pressure etc) and impact</p> <p>KB4. Troubleshooting and adjusting the process parameters</p> <p>KB5. Common defects in extruded products, their possible causes and remedies.</p> <p>KB6. Specifications and performance requirements of the product</p> <p>KB7. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster</p> <p>KB8. The usage of different types of fire extinguishers</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>

Control Quality Of The Product Produced By Extrusion Process

	estimation and approximation, for practical purposes
	Reading 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

Control Quality Of The Product Produced By Extrusion Process

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. Handle rubber compound</p> <p>SB3. Handle chemicals</p> <p>SB4. Handle rubber products</p> <p>SB5. Perform computer operations</p> <p>SB6. Carry out operation on complex sample components</p> <p>SB7. Identify defective sample/sampling equipment and take appropriate action</p> <p>SB8. Carry out tests involving multi stage testing operations</p> <p>SB9. Carry out tests involving multiple parameters/control factors</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB10. seek clarification on problems from others</p> <p>SB11. apply problem-solving approaches in different situations</p> <p>SB12. 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 13. Interpret quality for sheet</p> <p>SB 14 . 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>SB15. Proper collection of waste material</p> <p>SB16. 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>SB17. Handle equipment/rubber sheet SB6. seek clarification on problems from others</p> <p>SB18. apply problem-solving approaches in different situations</p> <p>SB19. refer anomalies to the line manager</p>	

Control Quality Of The Product Produced By Extrusion Process

NOS Version Control

NOS Code	RSC / N 2401		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	04/06/13
Industry Sub-sector	Tyre and Non-Tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17



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National Occupational Standard



Overview

This unit is about carrying out housekeeping activities

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</p>

	<p>during the cleaning process</p> <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>
<p>General</p>	<p>PC23. Maintain schedules and records for housekeeping duty</p> <p>PC24. Replenish any necessary supplies or consumables</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. 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>
<p>Skills (S)</p>	

A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA25. Construct simple sentences and express ideas clearly through written communication</p> <p>SA26. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA27. Write simple letters, mails, etc</p> <p>SA28. 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>SA29. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA30. Read images, graphs, diagrams</p> <p>SA31. 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>SA32. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA33. Respond appropriately to any queries</p> <p>SA34. Communicate with supervisor</p> <p>SA35. Communicate with upstream and downstream teams</p> <p>SA36. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA37. Practice honesty with respect to company property and time</p> <p>SA38. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA39. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA40. Take responsibility for completing one's own work assignment</p> <p>SA41. Take initiative to enhance/learn skills in one's area of work</p> <p>SA42. 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>SA43. Is open to new ways of doing things</p> <p>SA44. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA45. Avoid absenteeism</p> <p>SA46. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA47. Work in disciplined factory environment</p>

	SA48. Be punctual
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. Handle rubber compound
	SB3. Handle chemicals
	SB4. Handle rubber products
	SB5. Perform computer operations
	SB6. Carry out operation on complex sample components
	SB7. Identify defective sample/sampling equipment and take appropriate action
	SB8. Carry out tests involving multi stage testing operations
SB9. Carry out tests involving multiple parameters/control factors	
Plan and Organize	
The user/individual on the job needs to know and understand how to:	
SB10. seek clarification on problems from others	
SB11. apply problem-solving approaches in different situations	
SB12. 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 13. Interpret quality for sheet	
SB 14 . 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:	
SB15. Proper collection of waste material	
SB16. 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:	
SB17. Handle equipment/rubber sheet SB6. seek clarification on problems from others	

	SB18. apply problem-solving approaches in different situations SB19. refer anomalies to the line manager
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NOS Version Control

NOS Code	RSC / N 5001		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	04/06/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about reporting and documentation

To Carry Out Reporting And Documentation

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>KB1. Different methods of recording information KB2. Various documents that need to be maintained KB3. Company procedure for filling/maintaining up the documents KB4. Procedures for reporting to the appropriate authority KB5. Procedures for recording damage, breakages etc KB6. Reporting incidents where standard operating procedures are not followed KB7. The importance of complete and accurate documentation KB8. How to maintain complete documentation accurately and within agreed timescales</p>

To Carry Out Reporting And Documentation

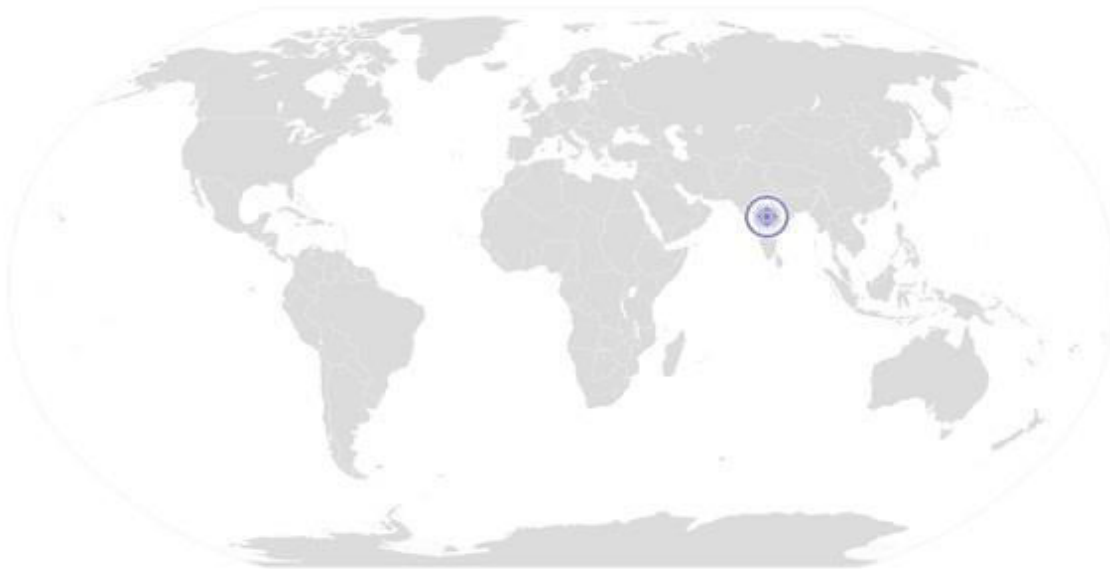
	<p>KB9. The importance of ensuring that the documents are correct</p> <p>KB10. The actions to be taken if the documents are not correct</p> <p>KB11. The importance of maintaining the security and confidentiality of recorded information</p> <p>KB12. Procedures to maintain confidentiality of information</p> <p>KB13. The appropriate method for responding to requests for information</p> <p>KB14. 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. Express ideas clearly through written communication</p> <p>SA2. Fill up documentation applicable to ones role</p> <p>SA3. Write simple letters, mails, etc</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. Read fluently (in English/ vernacular) with few pauses and a constant speed</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports etc</p> <p>SA6. Ability to read from different material sources – books, screens in machines, web, etc</p> <p>SA7. Understand the various color codes, as per company nomenclature</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. Participate in and understand the main points of simple discussions</p> <p>SA10. Respond appropriately to any queries</p> <p>SA11. Communicate with supervisor</p> <p>SA12. Practice honesty with respect to company property and time</p> <p>SA13. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA14. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA15. Take responsibility for completing one’s own work assignment</p> <p>SA16. Take initiative to enhance/learn skills in ones’s area of work</p> <p>SA17. 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>SA18. Is open to new ways of doing things</p> <p>SA19. The capacity to envisage and articulate personal goals; to develop strategies</p>	

To Carry Out Reporting And Documentation

	<p>and take action to achieve them.</p> <p>SA20. Avoid absenteeism</p> <p>SA21. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA22. Work in disciplined factory environment</p> <p>SA23. 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.
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Customer Centricity	
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Problem Solving	
The user/individual on the job needs to know and understand how to:	
SB 13. Interpret quality for sheet	
SB 14 . 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:	
SB15. Proper collection of waste material	
SB16. Identify defects in the material and communicate it at the earliest and suggest	

To Carry Out Reporting And Documentation

	improvements(if any) in process/material based on experience
	Critical Thinking
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB17. Handle equipment/rubber sheet SB6. seek clarification on problems from others</p> <p>SB18. apply problem-solving approaches in different situations</p> <p>SB19. refer anomalies to the line manager</p>



NOS Version Control

NOS Code	RSC / N 5002		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	04/06/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about carrying out quality checks

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>

	<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>
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. Express ideas clearly through written communication</p> <p>SA2. Fill up quality inspection reports clearly, concisely and accurately as per company procedures</p> <p>SA3. Write simple letters, mails, etc</p>
	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. Read and understand manuals, health and safety instructions, memos, reports etc</p> <p>SA5. Read images, graphs, diagrams and interpret them</p> <p>SA6. Ability to read from different material sources – books, screens in machines, web, etc</p> <p>SA7. Understand the various color codes, as per company nomenclature</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. Participate in and understand the main points of simple discussions</p> <p>SA10. Respond appropriately to any queries</p> <p>SA11. Communicate with supervisor</p> <p>SA12. Practice honesty with respect to company property and time</p> <p>SA13. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA14. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust</p>	

	<p>SA15. Take responsibility for completing one’s own work assignment</p> <p>SA16. Take initiative to enhance/learn skills in ones’s area of work</p> <p>SA17. 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>SA18. Is open to new ways of doing things</p> <p>SA19. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA20. Avoid absenteeism</p> <p>SA21. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA22. Work in disciplined factory environment</p> <p>SA23. 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. Handle rubber compound</p> <p>SB3. Handle chemicals</p> <p>SB4. Handle rubber products</p> <p>SB5. Perform computer operations</p> <p>SB6. Carry out operation on complex sample components</p> <p>SB7. Identify defective sample/sampling equipment and take appropriate action</p> <p>SB8. Carry out tests involving multi stage testing operations</p> <p>SB9. Carry out tests involving multiple parameters/control factors</p>
	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB10. seek clarification on problems from others</p> <p>SB11. apply problem-solving approaches in different situations</p> <p>SB12. 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 13. Interpret quality for sheet</p> <p>SB 14 . Suggest improvements(if any) in process/product/materials based on results</p>	

	and experience
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB15. Proper collection of waste material SB16. 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: SB17. Handle equipment/rubber sheet SB6. seek clarification on problems from others SB18. apply problem-solving approaches in different situations SB19. refer anomalies to the line manager



NOS Version Control

NOS Code	RSC / N 5003		
Credits(NSQF)	TBD	Version number	01.0
Industry	Rubber Manufacturing	Drafted on	04/06/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17



National Occupational Standard



Overview

This unit is about problem identification and escalation

To Carry Out 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 procedure PC14. Report/document problem and corrective action in an appropriate manner</p>

To Carry Out Problem Identification And Escalation

	<p>PC15. Monitor corrective action</p> <p>PC16. Evaluate implementation of corrective action taken to determine if the 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>SA23. Construct simple sentences and express ideas clearly through written communication</p> <p>SA24. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p>

To Carry Out Problem Identification And Escalation

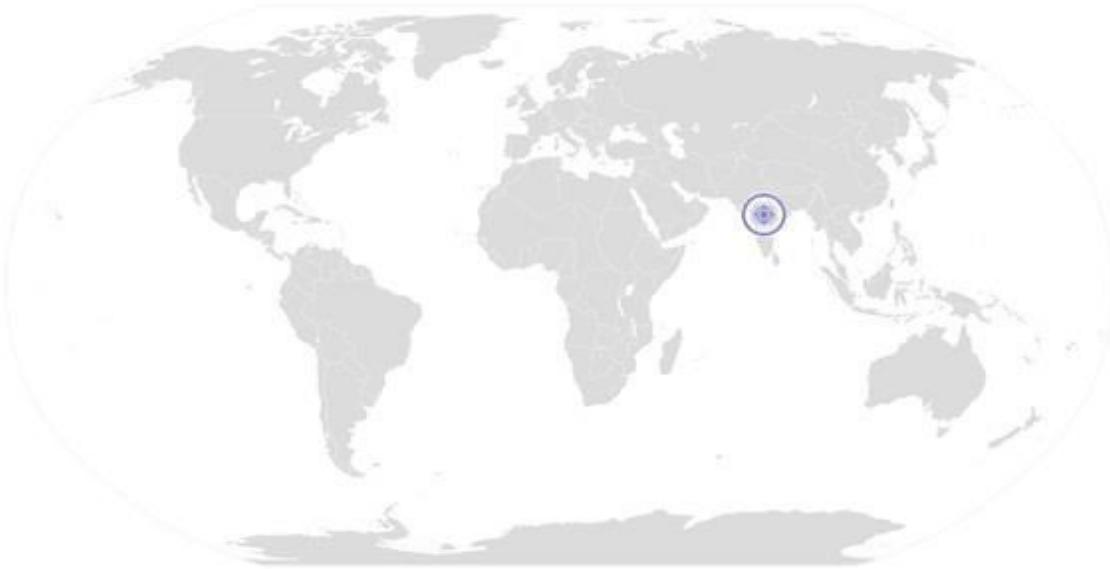
	<p>SA25. Write simple letters, mails, etc</p> <p>SA26. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	<p>Reading Skills</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA27. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA28. Read images, graphs, diagrams</p> <p>SA29. 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>SA30. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA31. Respond appropriately to any queries</p> <p>SA32. Communicate with supervisor</p> <p>SA33. Communicate with upstream and downstream teams</p> <p>SA34. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p> <p>SA35. Practice honesty with respect to company property and time</p> <p>SA36. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA37. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust</p> <p>SA38. Take responsibility for completing one's own work assignment</p> <p>SA39. Take initiative to enhance/learn skills in one's area of work</p> <p>SA40. 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>SA41. Is open to new ways of doing things</p> <p>SA42. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p>SA43. Avoid absenteeism</p> <p>SA44. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA45. Work in disciplined factory environment</p> <p>SA46. Be punctual</p>
	<p>Decision Making</p>

To Carry Out Problem Identification And Escalation

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. Handle rubber compound</p> <p>SB3. Handle chemicals</p> <p>SB4. Handle rubber products</p> <p>SB5. Perform computer operations</p> <p>SB6. Carry out operation on complex sample components</p> <p>SB7. Identify defective sample/sampling equipment and take appropriate action</p> <p>SB8. Carry out tests involving multi stage testing operations</p> <p>SB9. Carry out tests involving multiple parameters/control factors</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB10. seek clarification on problems from others</p> <p>SB11. apply problem-solving approaches in different situations</p> <p>SB12. 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 13. Interpret quality for sheet</p> <p>SB 14 . 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>SB15. Proper collection of waste material</p> <p>SB16. 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>SB17. Handle equipment/rubber sheet</p> <p>SB6. seek clarification on problems from others</p> <p>SB18. apply problem-solving approaches in different situations</p> <p>SB19. refer anomalies to the line manager</p>	

NOS Version Control

NOS Code	RSC / N 5004		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	04/06/13
Industry Sub-sector	Tyre and Non-Tyre	Last reviewed on	29/12/15
Occupation	Extrusion	Next review date	29/12/17



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CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Quality control Inspector-Extrusion
Qualification Pack Code: RSC/ Q 0624
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	Elements	Performance Criteria	Total	Theory	Practical
1. RSC/N2601 Control Quality Of The Product Produced By Extrusion Process	Prior to Extrusion Operation	PC1. Check cleanliness of conveyors and the Extruder	4	4	0
		PC2. Check whether correct Die is fitted on the Extruder Head	10	4	6
		PC3. Check the extrusion parameters e.g speed / screw rpm, temperature, conveyor speed etc. set for extrusion.	10	4	6
	During Extrusion Operation	PC4. Keep tools like calipers & gauges duly calibrated/validated/verified and accessories like calculator ready before starting the check as per SOP	6	2	4
		PC5. Check extrusion speed / screw rpm, conveyor speed etc. set for extrusion.	10	2	8
		PC6. Check cooling water flow rate (extrusion temperature control)	10	2	8
		PC7. Check extrudate temperature	8	2	6
		PC8. Check the skiving operation and skiving	10	4	6

	Post Extrusion Operation	PC9. Check dimensions of the extrudate	12	6	6
		PC10. Check shrinkage	6	2	4
		PC11. Check batch identification for traceability	4	4	0
		PC12. Check contamination aspect.	2	0	2
	Others	PC13. Adhere to and check adherence to all safety norms (like wearing protective gloves, safety goggles, shoes etc)	6	2	4
PC14. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		2	2	0	
			100	40	60
2. RSC/N5001 To Carry Out Housekeeping	Pre housekeeping activities	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	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	3	3	0

		for the cleaning method and materials being used			
Operations		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
Post housekeeping activities		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 unused solutions according to manufacturer's instructions, and clean the equipment thoroughly	9	3	6

	General	PC23. Maintain schedules and records for housekeeping duty	3	3	0
		PC24. Replenish any necessary supplies or consumables	3	3	0
			100	70	30
3. RSC/N5002 To Carry Out Reporting And Documentation	Reporting	PC1. Report data/problems/incidents as applicable in a timely manner	12	8	4
		PC2. Report to the appropriate authority as laid down by the company	12	8	4
		PC3. Follow reporting procedures as prescribed by the company	12	8	4
	Recording and Documentation	PC4. Identify documentation to be completed relating to one's role	10	6	4
		PC5. Record details accurately an appropriate format	16	6	10
		PC6. Complete all documentation within stipulated time according to company procedure	14	4	10
		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
	Information Security	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
			100	60	40
4. RSC/N5003 To Carry Out Quality Checks	Inspection	PC1. Ensure that total range of checks are regularly and consistently performed	24	10	14
		PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required	24	10	14
	Analysis	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
	Reporting	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
			100	60	40
5. RSC/N5004 To Carry Out Problem Identification And Escalation	Problem Identification	PC1. Identify defects/indicators of problems	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

	Necessary Action	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
		Problem Escalation	PC21. Escalate problem as per laid down escalation matrix	4	3
	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
			100	70	30