

## 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

#### Contact Us:

PHD House (4th Floor),  
Opp. Asian Games  
Village,  
Siri Fort Institutional  
Area, New Delhi -  
110016  
PH: 011-41009347/48  
E-mail:  
info@rsdcindia.in



## Contents

1. <u>Introduction and Contacts</u> .....	1
2. <u>Qualifications Pack</u> .....	2
3. <u>Glossary of Key Terms</u> .....	3
4. <u>OS Units</u> .....	6
5. <u>Annexure: Nomenclature for QP &amp; OS</u> .....	55
6. <u>Assessment Criteria</u> .....	57

## Introduction

### Qualifications Pack- Rubber Extruder Operator

**SECTOR:** RUBBER INDUSTRY

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

**OCCUPATION:** Extrusion

**REFERENCE ID:** RSC/Q2601

**ALIGNED TO:** NCO-2015/NIL

**Brief Job Description:** The Rubber Extruder Operator is responsible for feeding the rubber compound to the extruder, carry out the extrusion operation using the extruder and perform post extrusion operations.

**Personal Attributes:** This job requires the individual to work independently or under supervision. He should be motivated and have a positive attitude. He should be comfortable in performing laborious work and operate machines efficiently. The individual must be result oriented and be able to work in factory environment.

## Job Details

<b>Qualifications Pack Code</b>	<b>RSC/Q2601</b>		
<b>Job Role</b>	<b>Rubber Extruder Operator</b>		
<b>Credits(NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>2.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>04/06/2013</b>
<b>Sub-sector</b>	<b>Tyre and non-tyre</b>	<b>Last reviewed on</b>	<b>23/08/2017</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>23/08/2021</b>
<b>NSQC Clearance on</b>			

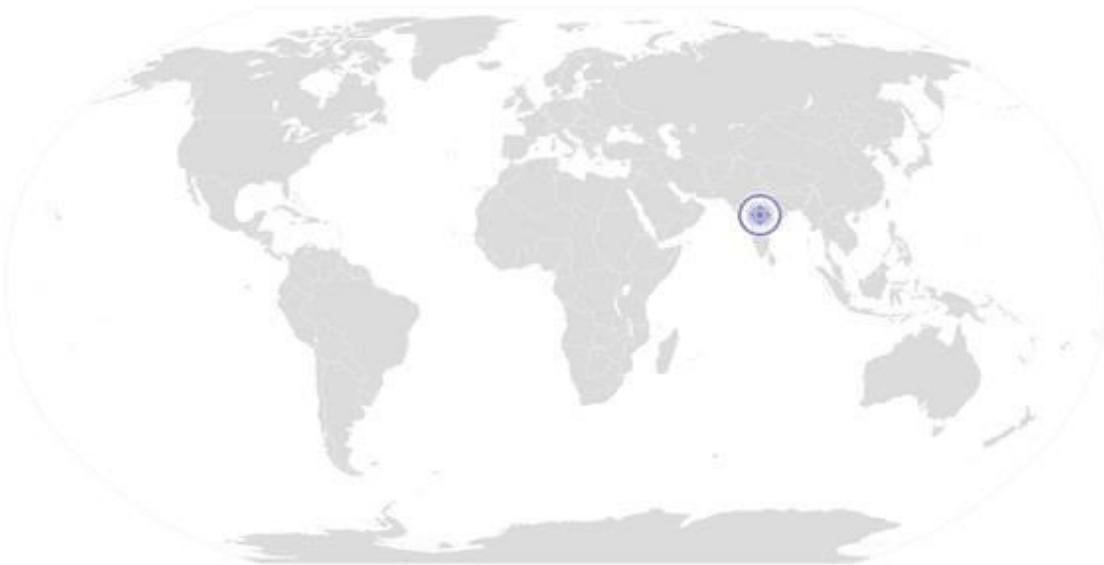
<b>Job Role</b>	<b>Rubber Extruder Operator</b>
<b>Role Description</b>	The Rubber Extruder Operator is responsible for feeding the rubber compound to the extruder, carry out the extrusion operation using the extruder and perform post extrusion operations.
<b>NSQF level</b>	4
<b>Minimum Educational Qualifications*</b>	Class VIII <sup>th</sup> Pass
<b>Maximum Educational Qualifications*</b>	
<b>Prerequisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	18 years
<b>Experience</b>	Worked as a semi-skilled helper for minimum 12 months in the same or similar process
<b>Applicable National Occupational Standards (NOS)</b>	<b>Compulsory:</b> <ol style="list-style-type: none"> <li>1. <a href="#">RSC/N2612 - Perform pre rubber extrusion activities</a></li> <li>2. <a href="#">RSC/N2613 - Perform rubber extrusion operation</a></li> <li>3. <a href="#">RSC/N2614 - Undertake post rubber extrusion activities</a></li> <li>4. <a href="#">RSC/N5001 - Carry out housekeeping in rubber product manufacturing</a></li> <li>5. <a href="#">RSC/N5002 - Carry out reporting and documentation</a></li> <li>6. <a href="#">RSC/N5003 - Carry out quality checks</a></li> <li>7. <a href="#">RSC/N5004 - Carry out Problem Identification and escalation</a></li> <li>8. <a href="#">RSC/N5007 - Carry out health and safety</a></li> </ol>
<b>Performance Criteria</b>	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.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (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.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context.
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.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
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.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
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.
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# National Occupational Standard



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## Overview

**This unit is about preparing equipment and material for extrusion operation.**

<b>Unit Code</b>	<b>RSC/N2612</b>
<b>Unit Title (Task)</b>	<b>Perform Pre Rubber Extrusion Activities</b>
<b>Description</b>	This unit is about preparing equipment and material for extrusion operation.
<b>Scope</b>	<p>This unit/task covers the following: extruder operator hot/ cold feed, single/ multiple head</p> <ul style="list-style-type: none"> <li>Ensuring proper equipment, compound and as per feed system requirement and Setting parameters on the Extruder and Head/ Die preparation.</li> <li>Ensuring appropriateness of the raw material</li> <li>Ensuring housekeeping and safety in the work area</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Equipment readiness</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Ensure that extruder is clean</p> <p>PC2. Ensure emergency safety feature of machine is working – On extruder, extruder feed system , extruder line and other ancillary units</p> <p>PC3. Prepare the feed mill and overhead conveyor for feeding the strip to the extruder for hot feed</p> <p>PC4. Ensure pre-made strips are ready for feed for cold feed</p> <p>PC5. Fit the correct die assembly on the extruder head</p> <p>PC6. Set parameters for the extruder( screw speed, temperature, conveyor speed) as per organizational SOP</p> <p>PC7. Set the online measurement system as per specifications and tolerances</p> <p>PC8. Ensure the cooling system( water sprays /immersible tanks )are set correctly and in working condition</p> <p>PC9. Ensure the water pH as per the specification/SOP</p> <p>PC10. Ensure acid dosing system to correct cooling water pH is operational</p>
<b>Raw material appropriateness</b>	<p>PC11. Ensure that rubber compounds to be fed are approved by laboratory</p> <p>PC12. Collect all rubber compounds required for the production and store in designated areas</p> <p>PC13. Match the batch code of each rubber compound with the batch code on the job schedule given by the planning department and also as per specification /SOP. Specification/SOP are considered as correct and planning schedule is only a guideline</p> <p>PC14. Ensure housekeeping in extruder area</p>
<b>Housekeeping &amp; Safety</b>	<p>PC15. Perform the checks of upstream/ downstream equipments before starting the machine</p> <p>PC16. Operate the conveyor belt within the speed limit at all times and always be aware of the upper limit</p> <p>PC17. Adhere to all safety norms (like wearing protective gloves, shoes, safety goggle etc)</p> <p>PC18. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational</b>	The user/individual on the job needs to know and understand:

<p><b>Context</b> (Knowledge of the company / organization and its processes)</p>	<p>KA1. Different types of Extruders and their operation as well as control panel.          KA2. Different types of feeding systems and their control          KA3. Implications of poorly prepared equipment, power failure etc          KA4. Importance of identifying non-conforming material and storage of the same          KA5. Risk and impact of not following defined procedures/work instructions          KA6. Escalation matrix 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 &amp; good shop floor practices (eg. 3S &amp; 5S)          KA10. Health, Safety and Environment guidelines, legislation and regulations as applicable          KA11. Personal protection( Which protective equipment to be used and how)          KA12. Usage of different types of fire extinguishers          KA13. Impact of poor practices on health, safety and environment          KA14. Potential hazards and actions to minimize the same          KA15. Escalation matrix and escalation procedure for reporting hazards          KA16. Importance of FIFO          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>
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:          KB1. Knowledge of different extruders and their operations (Equipment working, possible setting levels, typical process followed for different products)          KB2. Cleanliness and safety requirements for commencing a extruding batch operation          KB3. Proper feeding rate (to avoid under/ over feeding) during the operation and maintaining constant back pressure          KB4. Health hazards of process and compounding ingredients          KB5. The effects of continuous direct exposure of the extrudate to the skin          KB6. Implications of delays in preparation process          KB7. Types of defects leading to rejections, reasons and possible solutions          KB8. Units of measurement          KB9. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster          KB10. Knowledge of appropriate batch size with respect to appropriate machinery</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b>          The user/ individual on the job needs to know and understand how to:          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</p> <p><b>Reading Skills</b></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><b>Oral Communication</b></p>
	<p>SA8. Express statements, opinions or information clearly so that others can hear</p> <p>SA9. and understand</p> <p>SA10. Respond appropriately to any queries</p> <p>SA11. Communicate with supervisor</p> <p>SA12. Communicate with upstream and downstream teams</p>
	<p><b>Life Skills</b></p>
	<p><b>Integrity</b></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><b>Motivation</b></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. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p><b>Reliability</b></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>B. Professional Skills</b></p>	<p><b>Decision Making</b></p> <p>SB1. Take a decision for any change/issue based on earlier successes(documented previous history)on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material/chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making</p> <p>SB9. Take a calculated risk with minimum losses</p>

	<b>Plan and Organize</b>
	SB10. Plan extrusion activity in co-ordination with pre and post processes SB11. Organize tools and equipments as per the requirement SB12. Maximize the output to achieve the set target in timely manner
	<b>Customer Centricity</b>
	SB13. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required) SB14. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB15. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB16. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB17. Work towards fulfilling the customers requirement as per their demand. SB18. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB19. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB20. Maintain good/cordial relation with customers. SB21. Work on the feedback received from customer regarding the product.
	<b>Problem Solving</b>
	SB22. Interpret quality of compound SB23. Suggest improvements(if any) in process/product/materials based on results and experience
	<b>Analytical Thinking</b>
	SB24. Proper collection of raw material SB25. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	<b>Critical Thinking</b>
	SB26. Apply problem-solving approaches in different situations SB27. Identify repair and maintenance requirement of extruder and get it ready in time

## NOS Version Control

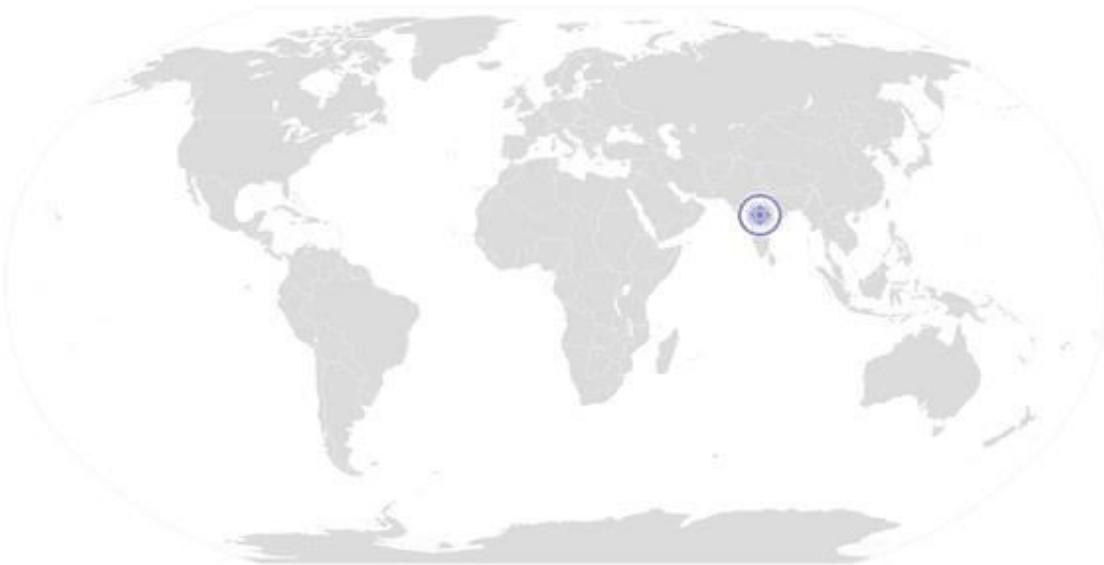
<b>NOS Code</b>	RSC/N2612		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	2.0
<b>Industry</b>	Rubber Manufacturing	<b>Drafted on</b>	04/06/2013
<b>Industry Sub-sector</b>	Tyre and non-tyre	<b>Last reviewed on</b>	23/08/2017
<b>Occupation</b>	Extrusion	<b>Next review date</b>	23/08/2021



[Back to QP](#)

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# National Occupational Standard



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## Overview

This unit is about feeding rubber compound to the extruder and performing the extrusion operation using the Extruder.

<b>Unit Code</b>	RSC/N2613
<b>Unit Title (Task)</b>	<b>Perform Rubber Extrusion Operation</b>
<b>Description</b>	This unit is about feeding rubber compound to the extruder and performing the extrusion operation using the Extruder
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>Feeding the raw material and compound to the extruder</li> <li>Performing extrusion operation</li> <li>Ensuring housekeeping and safety in the extrusion area</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Raw material appropriateness</b>	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Handle the rubber compound appropriately to avoid contamination</p> <p>PC2. Ensure adequate rubber compound is available for the extrusion process to meet the production schedule Ensure the compound is released for usage as OK to use</p>
<b>Operations</b>	<p>PC3. Select the correct compound</p> <p>PC4. Feed the extruder with proper strip width and thickness of correct dimension as per specification Produce product of correct width, length thickness free of lumps and torn edges</p> <p>PC5. Ensure the product/output weight through online weighing scale as per specification to avoid rework or rejections.</p> <p>PC6. Inspect visually the rubber strip to make sure it is free from defects and meets required specifications for further processing.</p> <p>PC7. Ensure the extrudate temperature conforms to specifications</p> <p>PC8. Ensure dimensions of the extrudate conforms to the specifications</p> <p>PC9. Ensure that the extruded product is handled carefully and is free from contamination</p> <p>PC10. Ensure housekeeping in extruder area</p>
<b>Housekeeping &amp; Safety</b>	<p>PC11. Perform the checks of upstream/ downstream equipments before starting the machine</p> <p>PC12. Handle the moving parts like the conveyor belts, the feed inlet and discharge port, belts, gears and other rotating parts when the machine is running</p> <p>PC13. Ensure the provision of safety guards /covers(if any) in the all moving parts while in operation</p> <p>PC14. Operate the conveyor belt within the speed limit at all times and always be aware of the upper limit</p> <p>PC15. Maintain protocol while the machine is in operation, like never reaching over the machine or machine guard to the point of operation</p> <p>PC16. Handle the hot extrudates properly using hand gloves and other safety equipment</p> <p>PC17. Adhere to all safety norms (like wearing protective gloves, shoe, safety goggles etc)</p> <p>PC18. Ensure the functioning of mill safety switch / safety bar in all mills</p> <p>PC19. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>

Knowledge and Understanding (K)	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. Different types of Extruders and their operation as well as control panel.</li> <li>KA2. Implications of poorly prepared equipment, power failure etc</li> <li>KA3. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure</li> <li>KA4. Quality and damage checks to be done and importance of the same</li> <li>KA5. Importance of identifying non-conforming products and storage of the same</li> <li>KA6. Risk and impact of not following defined procedures/work instructions</li> <li>KA7. Escalation matrix for reporting identified issues</li> <li>KA8. Types of documentation in organization and importance of the same</li> <li>KA9. Records to be maintained and implications of non-maintenance of the same</li> <li>KA10. Importance of housekeeping &amp; good shop floor practices (eg. 3S &amp; 5S)</li> <li>KA11. Health, Safety and Environment guidelines, legislation and regulations as applicable</li> <li>KA12. Personal protection( Which protective equipment to be used and how)</li> <li>KA13. Impact of poor practices on health, safety and environment</li> <li>KA14. Potential hazards and actions to minimize the same.</li> <li>KA15. Escalation matrix and escalation procedure for reporting hazards.</li> <li>KA16. Importance of FIFO)</li> <li>KA17. Impact of various practices on cost, quality, productivity, delivery and safety</li> <li>KA18. Handover/ Takeover the equipment/ work area as per company's SOP</li> </ul>
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. The emergency stops procedures for the extruding machine.</li> <li>KB2. Cleanliness and safety requirements for commencing a extruding batch operation</li> <li>KB3. Tolerance levels for various parameters (temperature, pressure, rpm and weight)</li> <li>KB4. Proper feeding rate (to avoid under/ over feeding) during the operation and maintaining constant back pressure</li> <li>KB5. Health hazards of process and compounding ingredients</li> <li>KB6. Measurement techniques using gauges and balance (for thickness, width and weight)</li> <li>KB7. The effects of continuous direct exposure of the extrudate to the skin</li> <li>KB8. Types of defects leading to rejections, reasons and possible solutions</li> <li>KB9. Units of measurement</li> <li>KB10. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster</li> <li>KB11. Knowledge of appropriate batch size with respect to appropriate machinery</li> </ul>
Skills (S)	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> <li>SA1. Construct simple sentences and express ideas clearly through written communication</li> <li>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</li> <li>SA3. Write simple letters, mails, etc</li> <li>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as</li> </ul>

	<p>estimation and approximation, for practical purposes</p>
	<p><b>Reading Skills</b></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><b>Oral Communication</b></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><b>Life Skills</b></p>
	<p><b>Integrity</b></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><b>Motivation</b></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><b>Reliability</b></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>B. Professional Skills</b>	<p><b>Decision Making</b></p>
	<p>SB1. Take a decision for any change/issue based on earlier successes(documented previous history)on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material/chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p>

	SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making
	SB9. Take a calculated risk with minimum losses
	<b>Plan and Organize</b>
	SB10. Inspect the strips during the process
	SB11. Produce the maximum output with minimal wastage
	SB12. Arrange for proper maintenance of extruder
	<b>Customer Centricity</b>
	SB13. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required)
	SB14. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer.
	SB15. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer.
	SB16. Communicate effectively to the superior/customer for any delay in supplies to the clients.
	SB17. Work towards fulfilling the customers requirement as per their demand.
	SB18. In case of any complaint, ensure its timely resolution if the problem is emanating at his level
	SB19. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer.
	SB20. Maintain good/cordial relation with customers.
	SB21. Work on the feedback received from customer regarding the product.
	<b>Problem Solving</b>
	SB22. Interpret quality of produce
	SB23. Suggest improvements(if any) in process/product/materials based on results and experience
	<b>Analytical Thinking</b>
SB24. Proper collection of waste material	
SB25. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience	
SB26. Diagnose common problems in the machine based on visual inspection, sound, temperature etc	
<b>Critical Thinking</b>	
SB27. Seek clarification on problems from others	
SB28. Apply problem-solving approaches in different situations	
SB29. Handle emergency situations arising during the extrusion process	

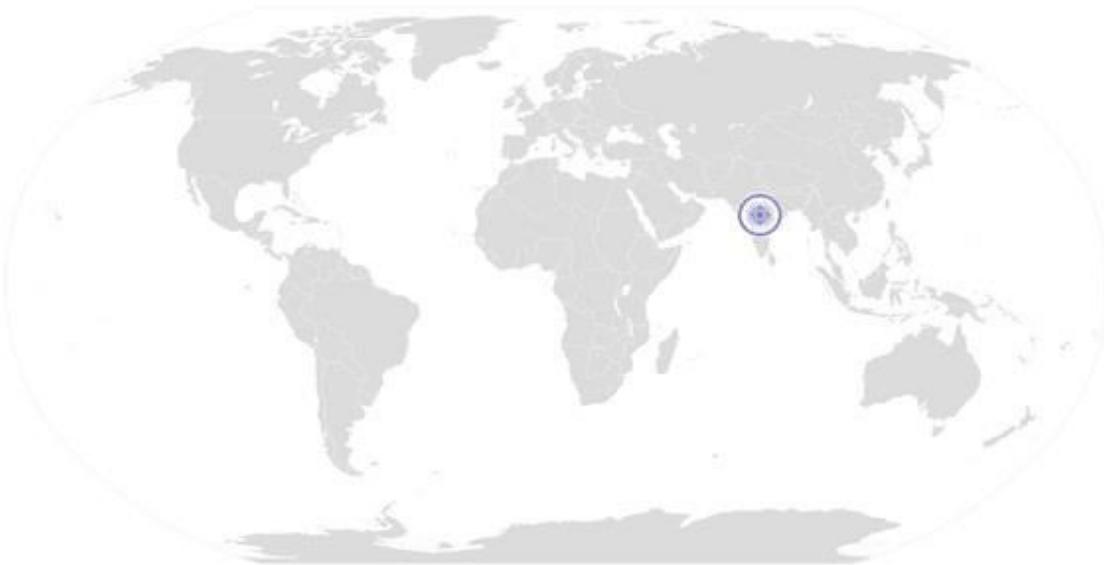
## NOS Version Control

<b>NOS Code</b>	<b>RSC/N2613</b>		
<b>Credits(NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>2.0</b>
<b>Industry</b>	<b>Rubber Manufacturing</b>	<b>Drafted on</b>	<b>04/06/2013</b>
<b>Industry Sub-sector</b>	<b>Tyre and non-tyre</b>	<b>Last reviewed on</b>	<b>23/08/2017</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>23/08/2021</b>



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# National Occupational Standard



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## Overview

This unit is about performing activities after the extrusion operation

<b>Unit Code</b>	RSC/N2614
<b>Unit Title (Task)</b>	Undertake Post Rubber Extrusion Activities
<b>Description</b>	This unit is about performing activities after the extrusion operation
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>Operate the machine and collect the extruded product</li> <li>Booking the extruded product</li> <li>Batch marking</li> <li>Draw sample for testing</li> <li>Ensuring housekeeping and safety in the extrusion area</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Criteria</b>
<b>Operations</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Collect the extruded product of specified length/width/weight correctly on the leaf truck/trolley/pallets</p> <p>PC2. Operate online marking system for product identification</p> <p>PC3. Allow specified ageing/ maturing time for product to achieve uniform size and be usable at the next stage</p>
<b>Material disposal</b>	PC4. Dispose waste material in safe manner correctly as per organisational SOP
<b>Batch Marking</b>	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)
<b>Sampling</b>	<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>
<b>Housekeeping &amp; Safety</b>	<p>PC8. Maintain protocol while the machine is in operation, like never reaching over the machine or machine guard to the point of operation</p> <p>PC9. Ensure that there are no loose clothes around the conveyor belt.</p> <p>PC10. Maintain the correct posture while undertaking physical activities such as lifting heavy objects (such as extrudate, if heavy)</p> <p>PC11. Handle the hot extrudate properly using hand gloves and other safety equipment</p> <p>PC12. Ensure that the direct exposure of the extrudate to the skin is minimized</p> <p>PC13. Adhere to all safety norms (like wearing protective gloves, shoes etc)</p> <p>PC14. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Implications of poorly prepared equipment, power failure etc</p> <p>KA2. Material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure</p> <p>KA3. Significance of batch marking(individual extrudate identification marking )</p> <p>KA4. Importance of identifying non-conforming product and storage of the same</p> <p>KA5. Risk and impact of not following defined procedures/work instructions</p>

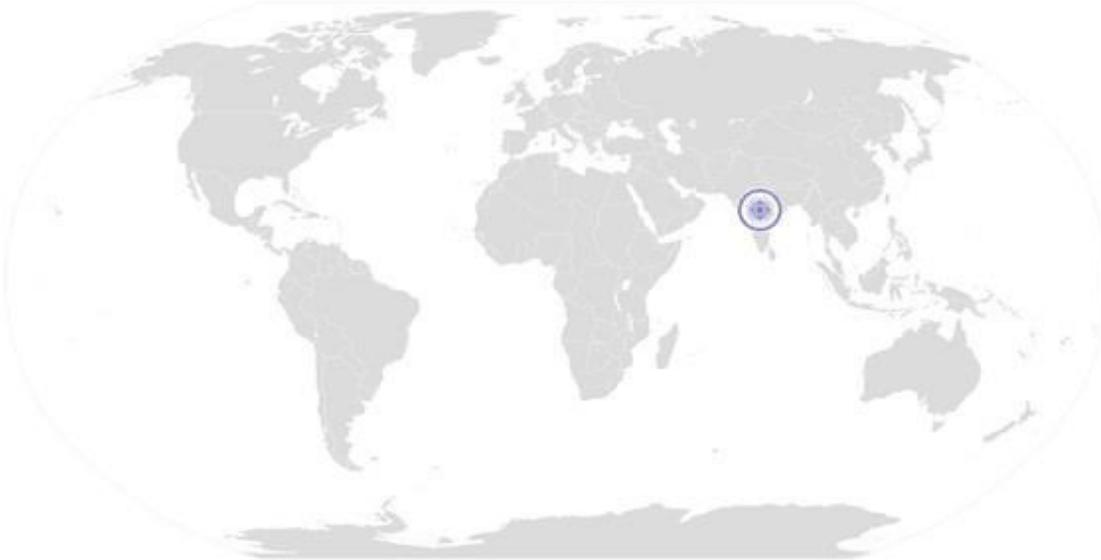
	<p>KA6. Escalation matrix and procedure for reporting identified problems</p> <p>KA7. Types of documentation in organization and importance of the same</p> <p>KA8. Records to be maintained and implications of non-maintenance of the same</p> <p>KA9. Importance of housekeeping &amp; good shop floor practices (eg. 3S &amp; 5S)</p> <p>KA10. Health, Safety and Environment guidelines, legislation and regulations as applicable</p> <p>KA11. Personal protection( Which protective equipment to be used and how)</p> <p>KA12. Potential hazards and actions to minimize the same</p> <p>KA13. Impact of poor practices on health, safety and environment</p> <p>KA14. Escalation matrix and procedure for reporting hazards</p> <p>KA15. Handover/ Takeover the equipment/ work area as per organisational SOP</p>
<p><b>B. Technical Knowledge</b></p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The emergency stops procedures for the extruding machine.</p> <p>KB2. Effect of improper extrusion on properties of product.</p> <p>KB3. The effects of continuous direct exposure of the extrudate to the skin</p> <p>KB4. Working of the online marking systems</p> <p>KB5. Batch marking /identification techniques</p> <p>KB6. Implications of incorrect batch marking</p> <p>KB7. Implications of inappropriate waste disposal</p> <p>KB8. Units of measurement</p> <p>KB9. Coding systems for identification and traceability</p> <p>KB10. Knowledge of weighing scales</p> <p>KB11. Knowledge of storage life of the compound, knowledge of ambient temperature and effect on compound</p> <p>KB12. On line marking system</p> <p>KB13. Usage of different types of fire extinguishers</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></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><b>Reading Skills</b></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><b>Oral Communication</b></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>

	SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams
	<b>Life Skills</b>
	<b>Integrity</b> SA12. Practice honesty with respect to company property and time SA13. Communicate with people in a form and manner and using language that is open and respectful SA14. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	<b>Motivation</b> SA15. Take responsibility for completing one’s own work assignment SA16. Take initiative to enhance/learn skills in ones’s area of work 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. SA18. Is open to new ways of doing things SA19. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	<b>Reliability</b> SA20. Avoid absenteeism SA21. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA22. Work in disciplined factory environment SA23. Be punctual
<b>B. Professional Skills</b>	<b>Decision Making</b>
	SB1. Take a decision for any change/issue based on earlier successes(documented previous history)on similar issues SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material/chemical is developed replacing existing one. SB3. Make changes in cycle time due to improved process. SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management SB5. Consult the peer group and superiors to arrive at a favourable decision. SB6. Use of standard available problem solving techniques for decision making SB7. Review and analyze the process steps to check on system non adherence and non conformity SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making SB9. Take a calculated risk with minimum losses
	<b>Plan and Organize</b>
	SB10. Collect the extrudate properly SB11. Co-ordinate for next process effectively SB12. Batch marking in systematic way
	<b>Customer Centricity</b>

	SB13. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required)
	SB14. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer.
	SB15. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer.
	SB16. Communicate effectively to the superior/customer for any delay in supplies to the clients.
	SB17. Work towards fulfilling the customers requirement as per their demand.
	SB18. In case of any complaint, ensure its timely resolution if the problem is emanating at his level
	SB19. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer.
	SB20. Maintain good/cordial relation with customers.
	SB21. Work on the feedback received from customer regarding the product.
	<b>Problem Solving</b>
	SB22. Interpret quality testing reports
	SB23. Suggest improvements(if any) in process/product/materials based on results and experience
	<b>Analytical Thinking</b>
	SB24. Proper collection of waste material
	SB25. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	<b>Critical Thinking</b>
	SB26. Apply problem-solving approaches in different situations
	SB27. Modify process as per change in requirement/specification

## NOS Version Control

<b>NOS Code</b>	RSC/N2614		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	2.0
<b>Industry</b>	Rubber Manufacturing	<b>Drafted on</b>	04/06/2013
<b>Industry Sub-sector</b>	Tyre and non-tyre	<b>Last reviewed on</b>	23/08/2017
<b>Occupation</b>	Extrusion	<b>Next review date</b>	23/08/2021



[Back to QP](#)

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# National Occupational Standard



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## Overview

**This unit is about carrying out housekeeping activities**

National Occupational Standard

<b>Unit Code</b>	<b>RSC/N5001</b>
<b>Unit Title (Task)</b>	<b>Carry out housekeeping in rubber product manufacturing</b>
<b>Description</b>	This unit is about carrying out housekeeping activities
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Preparing for housekeeping activities</li> <li>• Carry out housekeeping activities</li> <li>• Post housekeeping activities</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Pre housekeeping activities</b>	<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            PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain            PC3. Ensure that the cleaning equipment is in proper working condition            PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person            PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces            PC6. Inform the affected people about the cleaning activity            PC7. Display the appropriate signage for the work being conducted            PC8. Ensure that there is adequate ventilation for the work being carried out            PC9. Wear the personal protective equipment required for the cleaning method and materials being used</p>
<b>Carry out housekeeping activities</b>	<p>PC10. Use the correct cleaning method for the work area, type of soiling and surface            PC11. Carry out cleaning activity without disturbing others            PC12. Deal with accidental damage, if any, caused while carrying out the work            PC13. Report to the appropriate person any difficulties in carrying out your work            PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill</p>

<p><b>Post housekeeping activities</b></p>	<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> <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>PC23. Maintain schedules and records for housekeeping duty</p> <p>PC24. Replenish any necessary supplies or consumables</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)</p>	<p>To be competent, the user/individual on the job must be able to</p> <p>KA1. Importance of learning proper procedures and techniques</p> <p>KA2. Implications of not following the organizational requirement for approval for undertaking the specific task</p> <p>KA3. Importance of completing the activities as per the schedule</p> <p>KA4. Implications of not following the defined procedures/work instructions</p> <p>KA5. Importance of team work</p> <p>KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable</p> <p>KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization</p> <p>KA8. Impact of poor practices on the individual's and organization's performance</p> <p>KA9. Importance of optimal utilization of resources</p> <p>KA10. Importance of providing feedback for improvement</p> <p>KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices</p> <p>KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization</p> <p>KA13. Importance of documentation/reporting as per guidelines and procedures</p> <p>KA14. Knowledge of do's and don'ts (company's HR instructions)</p> <p>KA15. Importance of attending trouble shooting</p> <p>KA16. Importance of subject learning/ training</p> <p>KA17. Importance of Product and its application</p>
<p><b>B. Technical Knowledge</b></p>	<p>To be competent, the user/individual on the job must be able to</p> <p>KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work</p>

**Carry out housekeeping in rubber product manufacturing**

	<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>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	<p>To be competent, the user/individual on the job must be able 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>
	<b>Reading Skills</b>
	<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>
	<b>Oral Communication</b>

**Carry out housekeeping in rubber product manufacturing**

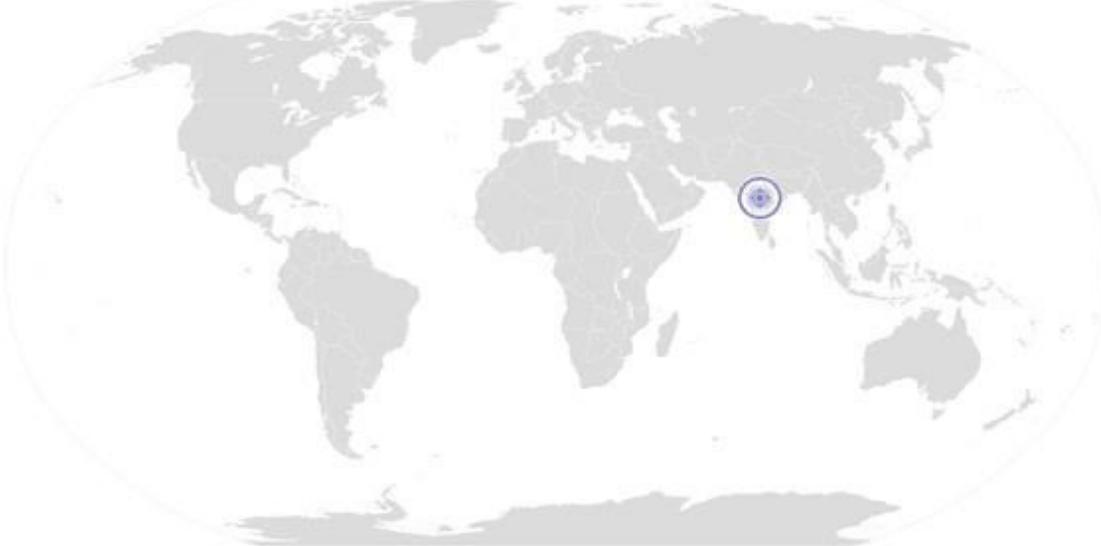
	<p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Communicate with people in a form and manner and using language that is open and respectful</p>
	<p><b>Life Skills</b></p>
	<p><b>Integrity</b></p> <p>SA13. Practice honesty with respect to company property and time</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><b>Motivation</b></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><b>Reliability</b></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>B. Professional Skills</b></p>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to</p>

**Carry out housekeeping in rubber product manufacturing**

	facilitate decision making SB9. Take a calculated risk with minimum losses
	<b>Plan and Organize</b>
	SB10. Plan and organize the factors of production to execute the business plan SB11. Fix up tasks and allotment of the same SB12. Assign tasks to suitable persons SB13. Motivate them for better output and time bound completion of tasks
	<b>Customer Centricity</b>
	The individual needs to know and understand how to:  SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required ) SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer. SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer. SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients. SB18. Work towards fulfilling the customers requirement as per their demand. SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer. SB21. Maintain good/cordial relation with customers. SB22. Work on the feedback received from customer regarding the product.
	<b>Problem Solving</b>
	SB23. Interpret quality for sheet SB24. Suggest improvements(if any) in process/product/materials based on results and experience
	<b>Analytical Thinking</b>
	SB25. Proper collection of waste material SB26. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience
	<b>Critical Thinking</b>
	SB27. Seek clarification on problems from others SB28. Apply problem-solving approaches in different situations SB29. Refer anomalies to the line manager

## NOS Version Control

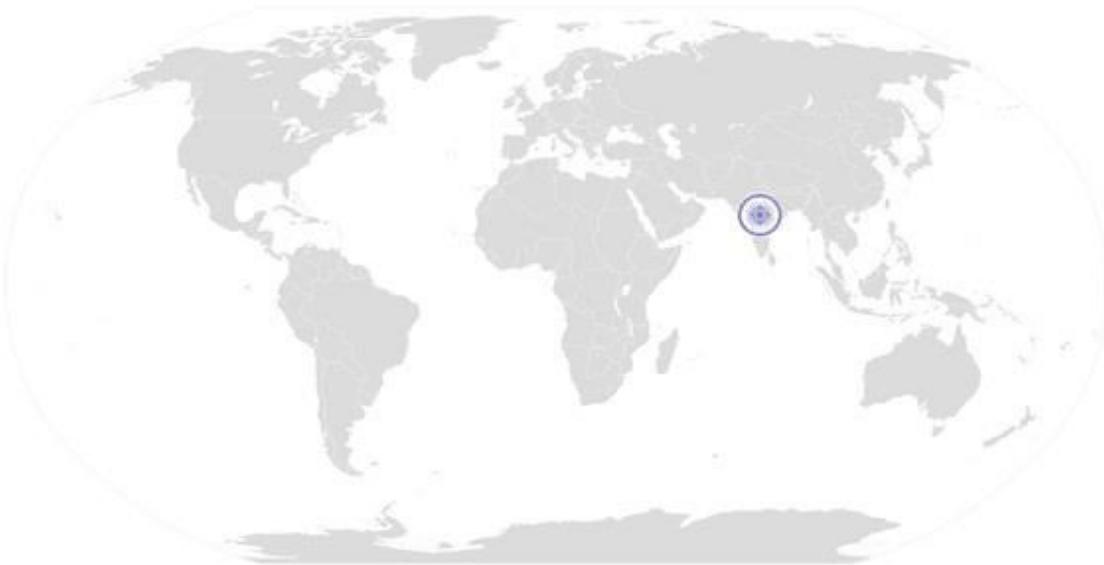
<b>NOS Code</b>	<b>RSC/N5001</b>		
<b>Credits(NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>2.0</b>
<b>Industry</b>	<b>Rubber Manufacturing</b>	<b>Drafted on</b>	<b>04/06/2013</b>
<b>Industry Sub-sector</b>	<b>Tyre and Non- tyre</b>	<b>Last reviewed on</b>	<b>23/08/2017</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>23/08/2021</b>



[Back to QP](#)

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# National Occupational Standard



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## Overview

This unit is about reporting and documentation

National Occupational Standard	<b>Unit Code</b>	RSC/N5002
	<b>Unit Title (Task)</b>	Carry out reporting and documentation
	<b>Description</b>	This unit is about carrying out reporting and documentation
	<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Reporting of data/problem/incidents etc</li> <li>• Documentation</li> <li>• Information Security</li> </ul>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Reporting</b>	To be competent, the user/individual on the job must be able to <p>PC1. Report data/problems/incidents as applicable in a timely manner</p> <p>PC2. Report to the appropriate authority as laid down by the company</p> <p>PC3. Follow reporting procedures as prescribed by the company</p>
	<b>Documentation</b>	PC4. Identify documentation to be completed relating to one's role
		PC5. Record details accurately 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	
<b>Information Security</b>	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures	
	PC10. Inform the appropriate authority of requests for information received	
<b>Knowledge and Understanding (K)</b>		
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	To be competent, the user/individual on the job must be able to <p>KA1. Importance of learning proper procedures and techniques</p> <p>KA2. Implications of not following the organizational requirement for approval for undertaking the specific task</p> <p>KA3. Importance of completing the activities as per the schedule</p> <p>KA4. Implications of not following the defined procedures/work instructions</p> <p>KA5. Importance of team work</p> <p>KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable</p> <p>KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization</p> <p>KA8. Impact of poor practices on the individual's and organization's performance</p> <p>KA9. Importance of optimal utilization of resources</p> <p>KA10. Importance of providing feedback for improvement</p>	

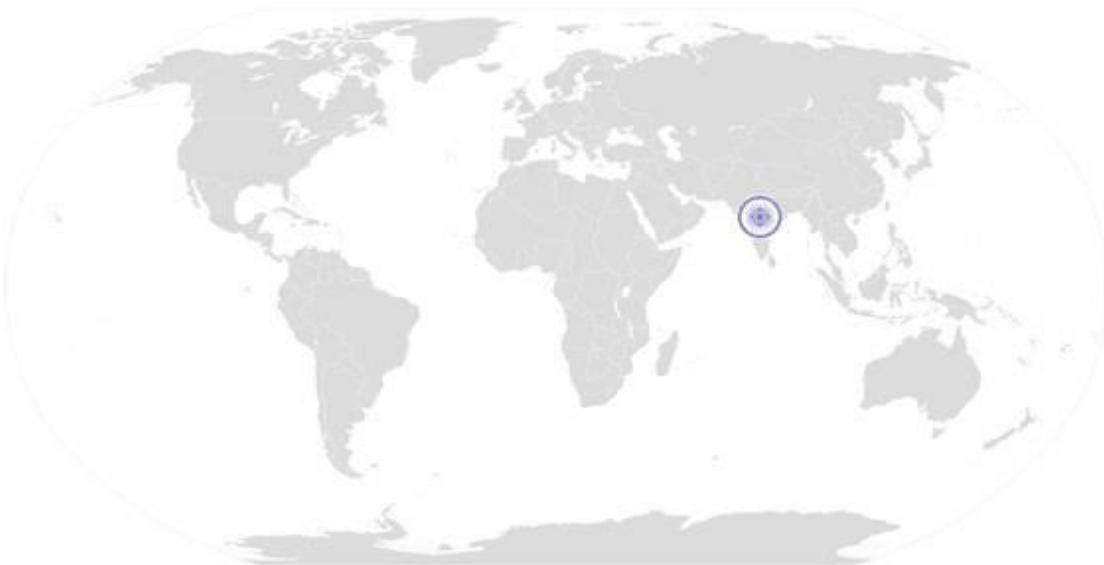
	<p>KA11.Importance of indigenous knowledge for evolving/adopting operation specific practices</p> <p>KA12.Rectification/solution of problems/conflicts for the smooth functioning of the organization</p> <p>KA13.Importance of documentation/reporting as per guidelines and procedures</p> <p>KA14. Knowledge of do's and don'ts (company's HR instructions)</p> <p>KA15.Importance of attending trouble shooting</p> <p>KA16.Importance of subject learning/ training</p> <p>KA17.Importance of Product and its application</p>
<p><b>B. Technical knowledge</b></p>	<p>To be competent, the user/individual on the job must be able to</p> <p>KB1. Different methods of recording information</p> <p>KB2. Various documents that need to be maintained</p> <p>KB3. Company procedure for filling/maintaining up the documents</p> <p>KB4. Procedures for reporting to the appropriate authority</p> <p>KB5. Procedures for recording damage, breakages etc</p> <p>KB6.Reporting incidents where standard operating procedures are not followed</p> <p>KB7. The importance of complete and accurate documentation</p> <p>KB8. How to maintain complete documentation accurately and within agreed timescales</p> <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>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p> <p>To be competent, the user/individual on the job must be able 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><b>Reading Skills</b></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><b>Oral Communication</b></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. Communicate with people in a form and manner and using language that is open and respectful</p> <p><b>Life Skills</b></p> <p><b>Integrity</b></p> <p>SA13. Practice honesty with respect to company property and time</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><b>Motivation</b></p> <p>SA15. Take responsibility for completing one's own work assignment</p> <p>SA16. Take initiative to enhance/learn skills in one'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><b>Reliability</b></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>B. Professional Skills</b></p>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p>

	<p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making</p> <p>SB9. Take a calculated risk with minimum losses</p>
	<b>Plan and Organize</b>
	<p>SB10. Plan and organize the factors of production to execute the business plan</p> <p>SB11. Fix up tasks and allotment of the same</p> <p>SB12. Assign tasks to suitable persons</p> <p>SB13. Motivate them for better output and time bound completion of tasks</p>
	<b>Customer Centricity</b>
	<p>SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required )</p> <p>SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer.</p> <p>SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer.</p> <p>SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients.</p> <p>SB18. Work towards fulfilling the customers requirement as per their demand.</p> <p>SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level</p> <p>SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer.</p> <p>SB21. Maintain good/cordial relation with customers.</p> <p>SB22. Work on the feedback received from customer regarding the product.</p>
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	<p>SB23. Interpret quality for sheet</p> <p>SB24. Suggest improvements(if any) in process/product/materials based on results and experience</p>
	<b>Analytical Thinking</b>
	<p>SB25. Proper collection of waste material</p> <p>SB26. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	<b>Critical Thinking</b>
	<p>SB27. Seek clarification on problems from others</p> <p>SB28. Apply problem-solving approaches in different situations</p> <p>SB29. Refer anomalies to the line manager</p>

## NOS Version Control

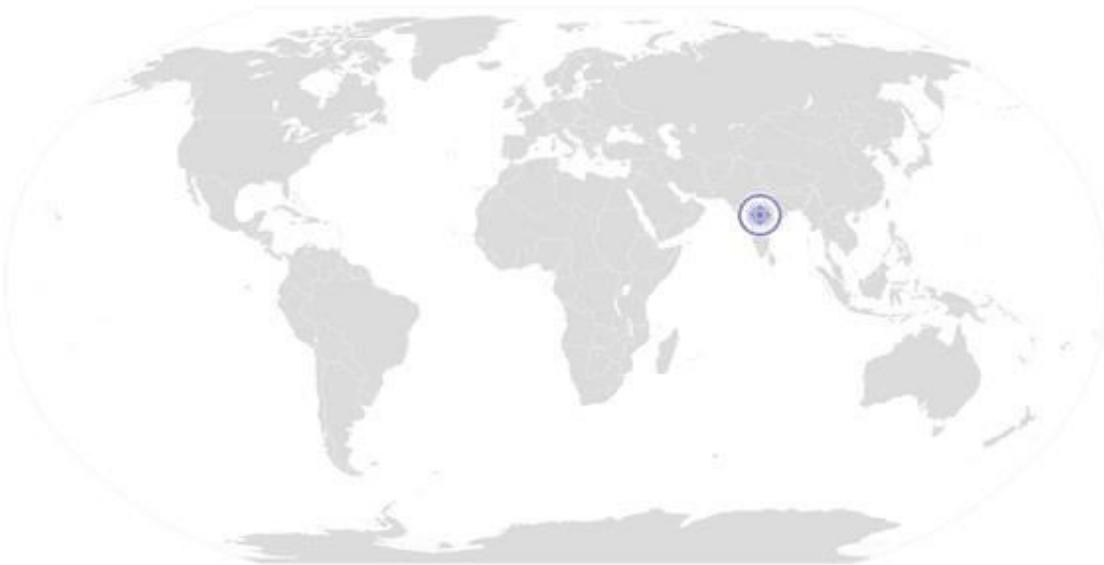
<b>NOS Code</b>	RSC/N5002		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	2.0
<b>Industry</b>	Rubber Manufacturing	<b>Drafted on</b>	04/06/2013
<b>Industry Sub-sector</b>	Tyre and Non- tyre	<b>Last reviewed on</b>	23/08/2017
<b>Occupation</b>	Extrusion	<b>Next review date</b>	23/08/2021



[Back to QP](#)

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# National Occupational Standard



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## Overview

**This unit is about carrying out quality checks**

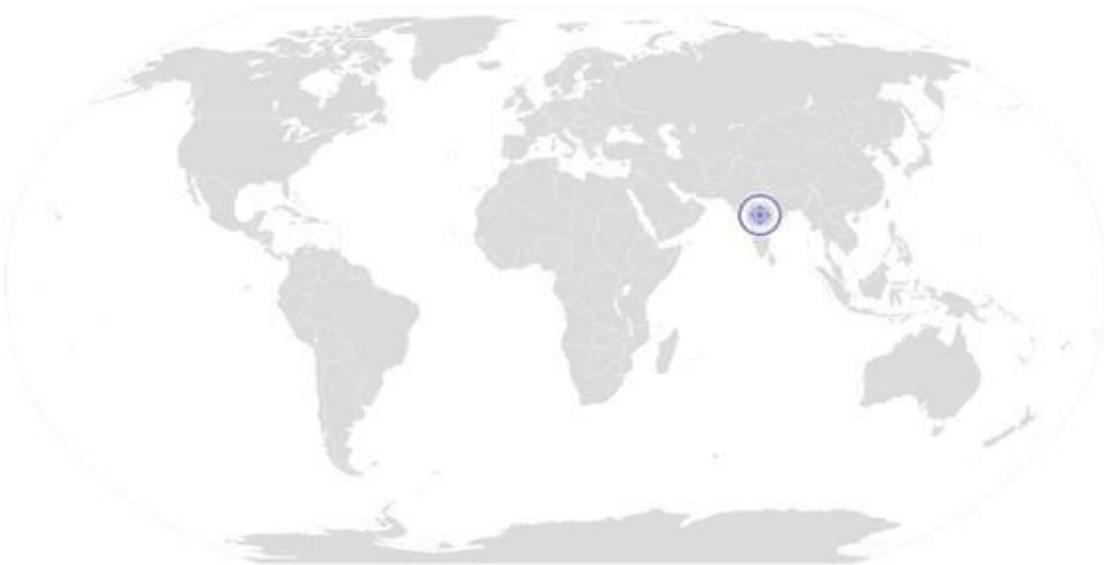
<b>Unit Code</b>	<b>RSC/N5003</b>
<b>Unit Title (Task)</b>	<b>Carry out quality checks</b>
<b>Description</b>	This unit is about carrying out quality control activities
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Carrying out Inspection &amp; quality checks to identify problems</li> <li>• Analysis and take corrective actions</li> <li>• Reporting the results</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Inspection</b>	<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 PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required</p>
<b>Analysis</b>	<p>PC3. Identify non-conformities to quality assurance standards PC4. Identify potential causes of non-conformities to quality assurance standards PC5. Identify impact on final product due to non-conformance to company standards PC6. Evaluating the need for action to ensure that problems do not recur PC7. Suggest corrective action to address problem PC8. Review effectiveness of corrective action</p>
<b>Reporting</b>	<p>PC9. Interpret the results of the quality check correctly PC10. Take up results of the findings with QC in charge/appropriate authority. PC11. Take up the results of the findings within stipulated time PC12. Record of results of action taken PC13. Record adjustments not covered by established procedures for future reference PC14. Review effectiveness of action taken PC15. Follow reporting procedures where the cause of defect cannot be identified</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	<p>To be competent, the user/individual on the job must be able to</p> <p>KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the</p>

	<p>organization</p> <p>KA8. Impact of poor practices on the individual's and organization's performance</p> <p>KA9. Importance of optimal utilization of resources</p> <p>KA10. Importance of providing feedback for improvement</p> <p>KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices</p> <p>KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization</p> <p>KA13. Importance of documentation/reporting as per guidelines and procedures</p> <p>KA14. Knowledge of do's and don'ts (company's HR instructions)</p> <p>KA15. Importance of attending trouble shooting</p> <p>KA16. Importance of subject learning/ training</p> <p>KA17. Importance of Product and its application</p>
<p><b>B. Technical Knowledge</b></p>	<p>To be competent, the user/individual on the job must be able to</p> <p>SA1. The importance of quality control procedures</p> <p>SA2. Relevance and importance of activities and how they contribute to the achievement of the quality objectives,</p> <p>SA3. Proper procedure for selecting the material/product and performing quality checks without affecting the material</p> <p>SA4. Availability of work instructions, as necessary,</p> <p>SA5. Characteristics of the product/material</p> <p>SA6. Use of suitable equipment</p> <p>SA7. Availability and use of monitoring and measuring devices,</p> <p>SA8. Requirements of records</p> <p>SA9. Importance of maintaining accurate up-to-date records</p> <p>SA10. The need to report within the stipulated time</p> <p>SA11. Implications of inaccurate measuring and testing instruments and equipment</p> <p>SA12. The cost of non-conformance to quality standards</p> <p>SA13. Implications (impact on internal/external customers) of defective products, materials or components</p>
<p><b>Skills (S)</b></p>	
<p><b>A. Core Skills/ Generic Skills</b></p>	<p><b>Writing Skills</b></p> <p>To be competent, the user/individual on the job must be able 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><b>Reading Skills</b></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><b>Oral Communication</b></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. Communicate with people in a form and manner and using language that is open and respectful</p> <p><b>Life Skills</b></p> <p><b>Integrity</b></p> <p>SA13. Practice honesty with respect to company property and time</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><b>Motivation</b></p> <p>SA15. Take responsibility for completing one's own work assignment</p> <p>SA16. Take initiative to enhance/learn skills in one'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><b>Reliability</b></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>B. Professional Skills</b></p>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble</p>

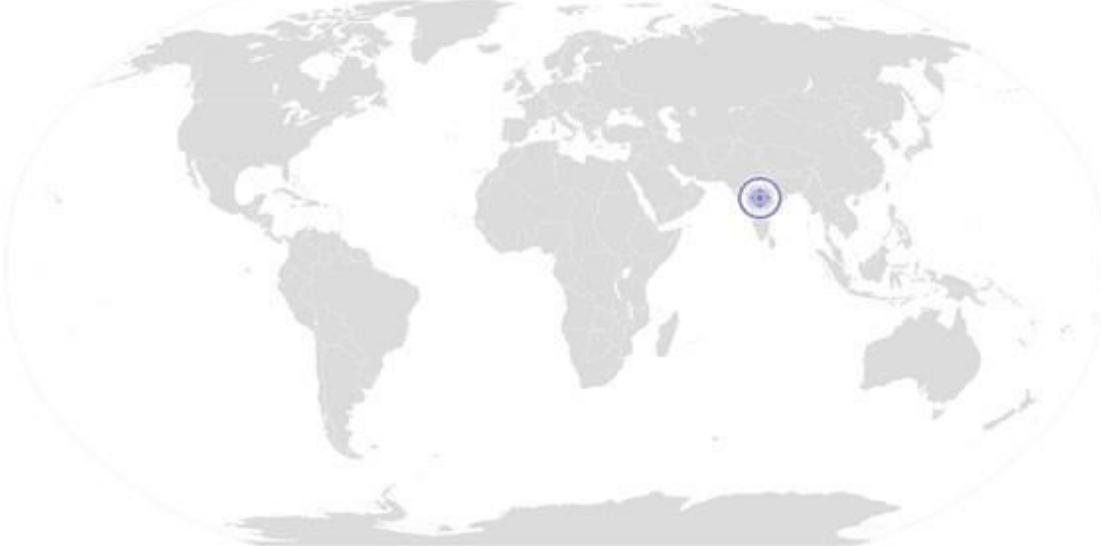
	<p>shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making</p> <p>SB9. Take a calculated risk with minimum losses</p>
	<p><b>Plan and Organize</b></p>
	<p>SB10. Plan and organize the factors of production to execute the business plan</p> <p>SB11. Fix up tasks and allotment of the same</p> <p>SB12. Assign tasks to suitable persons</p> <p>SB13. Motivate them for better output and time bound completion of tasks</p>
	<p><b>Customer Centricity</b></p>
	<p>SB14. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required )</p> <p>SB15. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer.</p> <p>SB16. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer.</p> <p>SB17. Communicate effectively to the superior/customer for any delay in supplies to the clients.</p> <p>SB18. Work towards fulfilling the customers requirement as per their demand.</p> <p>SB19. In case of any complaint, ensure its timely resolution if the problem is emanating at his level</p> <p>SB20. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer.</p> <p>SB21. Maintain good/cordial relation with customers.</p> <p>SB22. Work on the feedback received from customer regarding the product.</p>
	<p><b>Problem Solving</b></p>
	<p>SB23. Interpret quality for sheet</p> <p>SB24. Suggest improvements(if any) in process/product/materials based on results and experience</p>
	<p><b>Analytical Thinking</b></p>
	<p>SB25. Proper collection of waste material</p> <p>SB26. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience</p>
	<p><b>Critical Thinking</b></p>
	<p>SB27. Seek clarification on problems from others</p>

	SB28. Apply problem-solving approaches in different situations SB29. Refer anomalies to the line manager
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## NOS Version Control

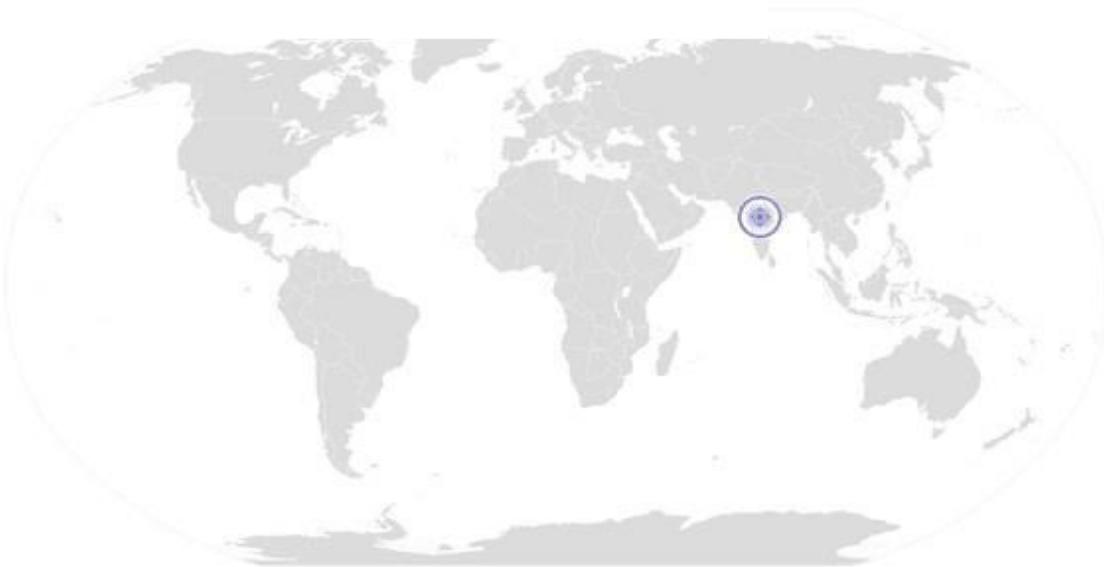
<b>NOS Code</b>	RSC/N5003		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	2.0
<b>Industry</b>	Rubber Manufacturing	<b>Drafted on</b>	04/06/2013
<b>Industry Sub-sector</b>	Tyre and Non- tyre	<b>Last reviewed on</b>	23/08/2017
<b>Occupation</b>	Extrusion	<b>Next review date</b>	23/08/2021



[Back to QP](#)

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# National Occupational Standard



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## Overview

**This unit is about problem identification and escalation**

<b>Unit Code</b>	<b>RSC/N5004</b>
<b>Unit Title (Task)</b>	<b>Carry out problem identification and escalation</b>
<b>Description</b>	This unit is about problem identification and escalation
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Identify problems across:             <ul style="list-style-type: none"> <li>○ Raw materials</li> <li>○ Compounds</li> <li>○ Product</li> <li>○ Equipment</li> <li>○ Others</li> </ul> </li> <li>• Identify solutions to problems and take necessary corrective action</li> <li>• Escalation of unresolved identified problems</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Problem Identification</b>	<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>
<b>Necessary Action</b>	<p>PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)</p> <p>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 problem has been resolved          PC17. Ensure that corrective action selected is viable and practical          PC18. Ensure that correct solution is identified to an identified problem          PC19. Take corrective action for problems identified according to the company procedures          PC20. Ensure that no delays are caused as a result of failure to take necessary action</p>

<b>Problem Escalation</b>	PC21. Escalate problem as per laid down escalation matrix PC22. Escalate the problem within stipulated time PC23. Escalate the problem in an appropriate manner PC24. Ensure that no delays are caused as a result of failure to escalate problems
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	To be competent, the user/individual on the job must be able to  KA1. Importance of learning proper procedures and techniques KA2. Implications of not following the organizational requirement for approval for undertaking the specific task KA3. Importance of completing the activities as per the schedule KA4. Implications of not following the defined procedures/work instructions KA5. Importance of team work KA6. Health, Safety and Environment guidelines, legislation and regulations as applicable KA7. Actions to be taken in case of non-conformity to behavioral standards of the organization KA8. Impact of poor practices on the individual's and organization's performance KA9. Importance of optimal utilization of resources KA10. Importance of providing feedback for improvement KA11. Importance of indigenous knowledge for evolving/adopting operation specific practices KA12. Rectification/solution of problems/conflicts for the smooth functioning of the organization KA13. Importance of documentation/reporting as per guidelines and procedures KA14. Knowledge of do's and don'ts (company's HR instructions) KA15. Importance of attending trouble shooting KA16. Importance of subject learning/ training KA17. Importance of Product and its application
<b>B. Technical Knowledge</b>	To be competent, the user/individual on the job must be able to  KB1. Indicators of problems KB2. The working of the equipment and accessories( if applicable) KB3. The impact of operations on the user and equipment( if applicable) KB4. The impact of operations on the final product ( if applicable) KB5. The effect of not rectifying the problems identified KB6. The reason for the occurrence of previous problems KB7. Measures and steps that have been taken to address the previous problems KB8. Possible solutions for various problems KB9. The correct method for carrying out corrective actions outlined for each problem KB10. The impact of not carrying out the corrective actions KB11. The documentation procedure for recording such problems, as per company

	<p>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>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	To be competent, the user/individual on the job must be able to
	SA1. Construct simple sentences and express ideas clearly through written communication
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	SA7. Understand the various coding systems as per company norms
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SA12. Communicate with people in a form and manner and using language that is open and respectful	
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<b>Integrity</b>	
SA13. Practice honesty with respect to company property and time	
SA14. Resolve any difficulties in relationships with colleagues, or get help from an appropriate person, in a way that preserves goodwill and trust	
<b>Motivation</b>	
SA15. Take responsibility for completing one's own work assignment	
SA16. Take initiative to enhance/learn skills in one's area of work	
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.	
SA18. Is open to new ways of doing things	

	<p>SA19. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.</p> <p><b>Reliability</b></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>B. Professional Skills</b></p>	<p><b>Decision Making</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Take a decision for any change/issue based on earlier successes (documented previous history) on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material /chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making</p> <p>SB9. Take a calculated risk with minimum losses</p>
	<p><b>Plan and Organize</b></p>
	<p>SB10. Plan and organize the factors of production to execute the business plan</p> <p>SB11. Fix up tasks and allotment of the same</p> <p>SB12. Assign tasks to suitable persons</p> <p>SB13. Motivate them for better output and time bound completion of tasks</p>
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**Carry Out Problem Identification And Escalation**

	emanating at his level
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SB27. Seek clarification on problems from others	
SB28. Apply problem-solving approaches in different situations	
SB29. Refer anomalies to the line manager	



## NOS Version Control

<b>NOS Code</b>	RSC/N5004		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	2.0
<b>Industry</b>	Rubber Manufacturing	<b>Drafted on</b>	04/06/2013
<b>Industry Sub-sector</b>	Tyre and NonTyre	<b>Last reviewed on</b>	23/08/2017
<b>Occupation</b>	Extrusion	<b>Next review date</b>	23/08/2021



[Back to QP](#)

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# National Occupational Standard



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## Overview

This unit is about health & safety

<b>Unit Code</b>	<b>RSC/N5007</b>
<b>Unit Title (Task)</b>	<b>Carry Out Health &amp; Safety</b>
<b>Description</b>	This unit is about maintaining health and safety of self and others at workplace.
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Maintain a clean and efficient workplace</li> <li>• Render appropriate emergency procedures</li> <li>• Maintain standard safety procedures at the workplace</li> <li>• Participate in safety awareness campaigns</li> <li>• Understand potential sources of accidents</li> <li>• Use safety gears to avoid accidents</li> </ul>
<b>Performance Criteria (PC)</b>	
<b>Maintain a clean and efficient workplace</b>	<p>To be competent, the individual on the job must be able to:</p> <p>PC1. Undertake basic safety checks before operation of all machinery and equipment and report hazards to the appropriate supervisor</p> <p>PC2. Identify the work for which protective clothing or equipment is required and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.</p> <p>PC3. Read and understand the hazards of use and contamination mentioned on the labels of chemicals, utilities etc</p> <p>PC4. Assess the risk prior to performing manual handling jobs and work is carried out according to currently recommended safe practices.</p> <p>PC5. Use equipment and materials safely and correctly and return the same to designated storage when not in use</p> <p>PC6. Dispose off waste safely and correctly in a designated area</p> <p>PC7. Recognize the risk to bystanders and take action to reduce risk associated with jobs in the workplace</p> <p>PC8. Perform work in a manner which minimizes environmental damage</p> <p>PC9. Monitor closely all procedures and work instructions for controlling risk</p> <p>PC10. Report any accidents, incidents or problems without delay to an appropriate person and take immediate necessary action to reduce further danger.</p>
<b>Render appropriate emergency procedures</b>	<p>PC11. Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency.</p> <p>PC12. Follow emergency procedures as per company standards and workplace requirements.</p> <p>PC13. Use Emergency equipment in accordance with manufacturers' specifications and workplace requirements.</p> <p>PC14. Provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques.</p> <p>PC15. Recover (if practical), clean, inspect/test, refurbish, replace and store the first</p>

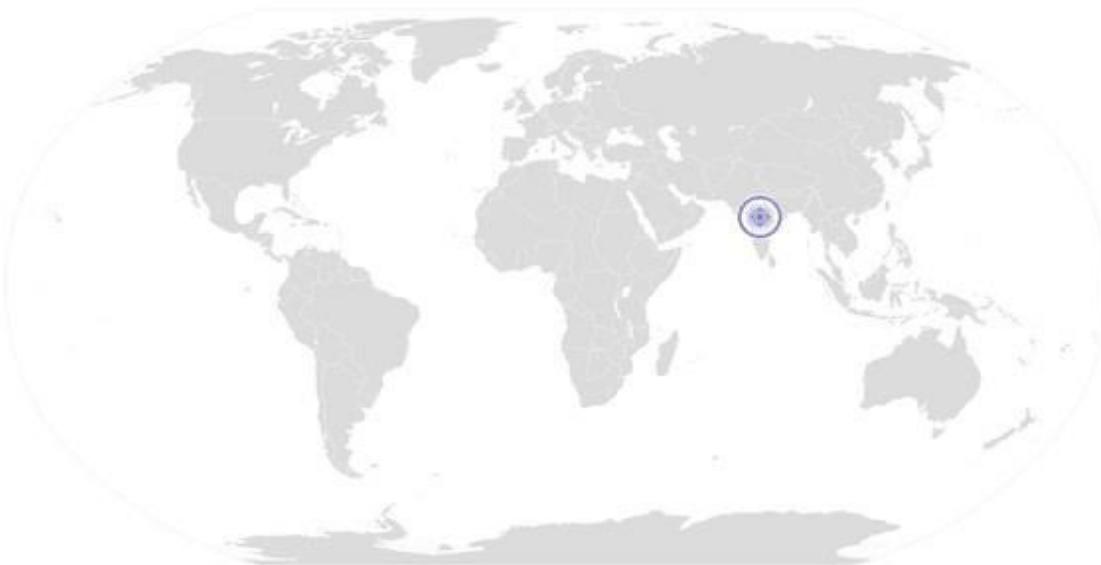
	<p>aid equipment as appropriate</p> <p>PC16. Dispose off medical waste in accordance with workplace requirements</p> <p>PC17. Report details of first aid administered in accordance with work place procedures.</p>
<b>Maintain standard safety procedures at the workplace</b>	<p>PC18. Comply with general safety procedures</p> <p>PC19. Follow standard safety procedures while handling equipment, hazardous material or tool</p> <p>PC20. Check parts of the workplace and take preventive actions like spraying and other steps to protect from leakages, water logging, pests, fire, pollution, etc.</p> <p>PC21. Ensure no accidents and damages at the workplace, reporting of any breach of company safety procedure</p> <p>PC22. Keep the workplace organized, swept, clean and hazard free</p>
<b>Participate in safety awareness campaigns</b>	<p>PC23. Attend fire drills and other safety related workshops organized at the workplace</p> <p>PC24. Awareness about first aid, evacuation and emergency procedures</p> <p>PC25. Ensuring all safety procedures are followed without neglecting any event</p>
<b>Understand potential sources of accidents</b>	<p>PC26. Avoid accidents while using hazardous chemicals, machines, sharp tools and equipment</p>
<b>Use safety gears to avoid accidents</b>	<p>PC27. Use safety materials such as protective gear, goggles, caps, shoes, etc. (as applicable with workplace)</p> <p>PC28. Handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational context</b>	<p>The individual on the job needs to know and understand:</p> <p>KA1. Policies on incentives, delivery standards, and personnel management.</p> <p>KA2. Occupational safety and health policy followed</p> <p>KA3. Emergency evacuation procedure</p> <p>KA4. Medical Policy</p> <p>KA5. Company laws and acts</p>
<b>B. Technical knowledge</b>	<p>The individual on the job needs to know and understand:</p> <p>KB1. The risks to health and safety and the measures to be taken to control those risks in the area of work</p> <p>KB2. Workplace procedures and requirements for the handling of workplace injuries/illnesses.</p> <p>KB3. Basic emergency first aid procedure</p> <p>KB4. Local emergency services</p> <p>KB5. Reporting on accidents, incidents and problems to appropriate authorities.</p> <p>KB6. How to use machines as per standard operating procedure</p> <p>KB7. How to maintain work area safe and secure</p>

	<p>KB8. Use of hazardous materials, tools and equipments</p> <p>KB9. Emergency evacuation and first aid procedures to be followed</p> <p>KB10. Personal hygiene and fitness requirements</p> <p>KB11. General duties under the relevant health and safety legislation</p> <p>KB12. What personal protective equipment and clothing should be worn and how it is cared for</p> <p>KB13. The correct and safe way to use materials and equipment required for work</p> <p>KB14. The importance of good housekeeping in the workplace</p> <p>KB15. Safe disposal methods for waste</p> <p>KB16. Methods for minimizing environmental damage during work</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	<p>The individual on the job needs to know and understand how to:</p> <p>SA1. Record data which are required for record keeping purpose</p> <p>SA2. Report problems to the appropriate person in a timely manner</p> <p>SA3. Write descriptions and details about incidents in reports</p>
	<b>Reading Skills</b>
	<p>SA4. Read instruction manuals for hand tools and equipment</p> <p>SA5. Read instructions on work orders and procedures</p>
<b>B. Professional Skills</b>	<b>Oral Communication</b>
	<p>SA6. Receive instructions and seek advice from superiors</p> <p>SA7. Communicate clearly and effectively with others</p>
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<p>To be competent, the individual must be able to:</p> <p>SB1. Take a decision for any change/issue based on earlier successes(documented previous history)on similar issues</p> <p>SB2. Work out changes in case a new improved machine/equipment is added in the process or any new material/chemical is developed replacing existing one.</p> <p>SB3. Make changes in cycle time due to improved process.</p> <p>SB4. Use the standard operating procedure or trouble shooting manuals for trouble shooting and other reference documents approved by plant management</p> <p>SB5. Consult the peer group and superiors to arrive at a favourable decision.</p> <p>SB6. Use of standard available problem solving techniques for decision making</p> <p>SB7. Review and analyze the process steps to check on system non adherence and non conformity</p> <p>SB8. Review the current SOP and other standards for continuous improvement to facilitate decision making</p>

	SB9. Take a calculated risk with minimum losses
	<b>Plan and Organize</b>
	SB10. Schedule daily activities and drawing up priorities; allocate start times, estimation of completion times and materials, equipment and assistance required for completion.
	<b>Customer Centricity</b>
	SB11. Match customer needs/specification by adjusting the processing conditions (interact with customer in case any clarification required)
	SB12. Ensure that performance of his action/operation/activity does not lead to any divergence from the specified quality of the final product as required by the customer.
	SB13. Complete the assigned task in timely manner so that the final product is delivered in the timeline given by the customer.
	SB14. Communicate effectively to the superior/customer for any delay in supplies to the clients.
	SB15. Work towards fulfilling the customers requirement as per their demand.
	SB16. In case of any complaint, ensure its timely resolution if the problem is emanating at his level
	SB17. Communicate effectively to the superior/customer for any delay in resolving the problem faced by the customer.
	SB18. Maintain good/cordial relation with customers.
	SB19. Work on the feedback received from customer regarding the product.
	<b>Problem Solving</b>
	SB20. Use first aid treatment in case of any injury/accident.
	<b>Analytical Thinking</b>
	SB21. Monitor and maintain the condition of tools and equipment
	SB22. Assess situation & identify appropriate control measures
	<b>Critical Thinking</b>
	SB23. Act, communicate and report in emergency situation

## NOS Version Control

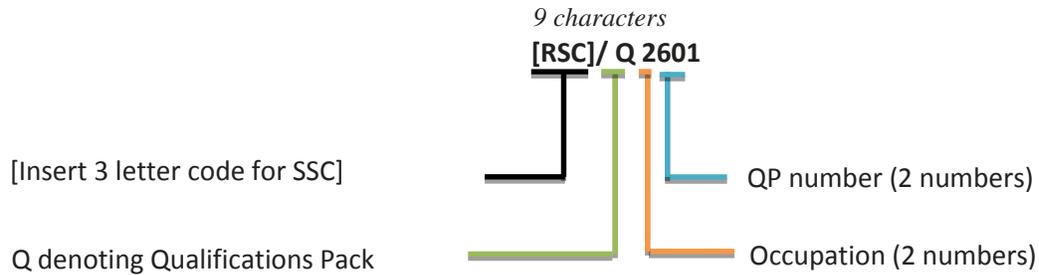
<b>NOS Code</b>	<b>RSC/N5007</b>		
<b>Credits(NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>2.0</b>
<b>Industry</b>	<b>Rubber Industry</b>	<b>Drafted on</b>	<b>04/06/2013</b>
<b>Industry Sub-sector</b>	<b>Rubber Manufacturing</b>	<b>Last reviewed on</b>	<b>23/08/2017</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>23/08/2021</b>



## Annexure

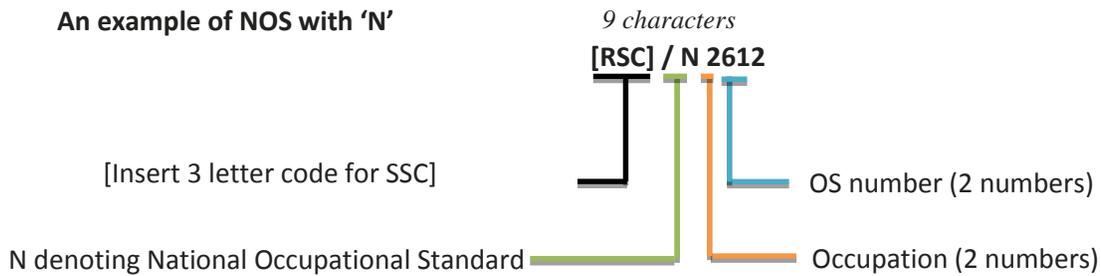
### Nomenclature for QP and NOS

#### Qualifications Pack



#### Occupational Standard

##### An example of NOS with 'N'



[Back to top...](#)

The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Latex	02-34
Non-tyre	12-12
Rubber Manufacturing	28-28
Tyre	02-36
Tyre & Non -Tyre	01-37

Sequence	Description	Example
Three letters	Industry name	[RSC]
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	26
Next two numbers	OS number	12

## Criteria For Assessment Of Trainees

**Job Role:** Rubber Extruder Operator

**Qualification Pack Code:** RSC/Q2601

**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. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS				Marks Allocation		
Total Marks: 700						
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical	
<b>RSC/N2612 Perform Pre Rubber Extrusion Activities</b>	PC1. Ensure that extruder is clean	100	4	0	4	
	PC2. Ensure emergency safety feature of machine is working – On extruder, extruder feed system , extruder line and other ancillary units		6	3	3	
	PC3. For hot feed, prepare the feed mill and overhead conveyor for feeding the strip to the extruder.		6	4	2	
	PC4. For cold feed, ensure pre-made strips are ready for feed		6	4	2	
	PC5. Fit the correct die assembly on the extruder head		6	4	2	
	PC6. Set parameters for the extruder( screw speed, temperature, conveyor speed) as per organizational SOP		8	6	2	
	PC7. Set the online measurement system as per specifications and tolerances		6	4	2	
	PC8. Ensure the cooling system( water sprays /immersible tanks )are set correctly and in working condition		5	2	3	
	PC9. Ensure the water pH as per the specification/SOP		7	5	2	
	PC10. Ensure acid dosing system to correct cooling water pH is operational		6	3	3	

	PC11. Ensure that rubber compounds to be fed are approved by laboratory		3	0	3
	PC12. Collect all rubber compounds required for the production and store in designated areas		5	3	2
	PC13. Match the batch code of each rubber compound with the batch code on the job schedule given by the planning department and also as per specification /SOP. Specification/SOP are considered as correct and planning schedule is only a guideline		6	4	2
	PC14. Ensure housekeeping in extruder area		4	0	4
	PC15. Perform the checks of upstream/ downstream equipments before starting the machine		6	4	2
	PC16. Operate the conveyor belt within the speed limit at all times and always be aware of the upper limit		6	4	2
	PC17. Adhere to all safety norms (like wearing protective gloves, shoes, safety goggle etc)		5	5	0
	PC18. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		5	5	0
	<b>Total</b>		<b>100</b>	<b>60</b>	<b>40</b>
<b>RSC/N2613 Perform Rubber Extrusion Operation</b>	PC1. Handle the rubber compound appropriately to avoid contamination	100	6	4	2
	PC2. Ensure adequate rubber compound is available for the extrusion process to meet the production schedule Ensure the compound is released for usage as OK to use		6	4	2
	PC3. Select the correct compound		7	3	4
	PC4. Feed the extruder with proper strip width and thickness of correct dimension as per specification Produce product of correct width, length thickness free of lumps and torn edges ( )		7	3	4
	PC5. Ensure the product/output weight through online weighing scale as per specification to avoid rework or rejections.		7	3	4
	PC6. Visually inspect the rubber strip to make sure it is free from defects and meets required specifications for further processing.		7	3	4
	PC7. Ensure the extrudate temperature conforms to specifications		7	3	4
	PC8. Ensure dimensions of the extrudate conforms to the specifications		5	2	3
	PC9. Ensure that the extruded product is handled carefully and is free from contamination		7	3	4
	PC10. Ensure housekeeping in extruder area		4	0	4
	PC11. Perform the checks of upstream/ downstream equipments before starting the machine		5	3	2
	PC12. Handle the moving parts like the conveyor belts, the feed inlet and discharge port, belts, gears and other rotating parts when the machine is running		5	3	2
	PC13. Ensure the provision of safety guards /covers(if any) in the all moving parts while in operation		3	0	3
	PC14. Operate the conveyor belt within the speed limit at all times and always be aware of the upper limit		4	2	2

	PC15. Maintain protocol while the machine is in operation, like never reaching over the machine or machine guard to the point of operation		4	2	2
	PC16. Handle the hot extrudates properly using hand gloves and other safety equipment		4	2	2
	PC17. Adhere to all safety norms (like wearing protective gloves, shoe, safety goggles etc)		4	4	0
	PC18. Ensure the functioning of mill safety switch / safety bar in all mills		4	2	2
	PC19. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		4	4	0
			100	50	50
<b>RSC/N2614 Undertake Post Rubber Extrusion Activities</b>	PC1. Collect the extruded product of specified length/width/weight correctly on the leaf truck/trolley/pallets	100	9	4	5
	PC2. Operate online marking system for product identification		9	4	5
	PC3. Allow specified ageing/ maturing time for product to achieve uniform size and be usable at the next stage		9	4	5
	PC4. Dispose waste material in safe manner correctly as per organisational SOP		9	4	5
	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)		8	3	5
	PC6. Send sample of specified compound/ batch in specified form to lab for testing		8	3	5
	PC7. Send the remaining material to the designated storage area		7	3	4
	PC8. Maintain protocol while the machine is in operation, like never reaching over the machine or machine guard to the point of operation		8	4	4
	PC9. Ensure that there are no loose clothes around the conveyor belt.		8	4	4
	PC10. Maintain the correct posture while undertaking physical activities such as lifting heavy objects (such as extrudate, if heavy)		7	3	4
	PC11. Handle the hot extrudate properly using hand gloves and other safety equipment		8	4	4
	PC12. Ensure that the direct exposure of the extrudate to the skin is minimized		4	4	0
	PC13. Adhere to all safety norms (like wearing protective gloves, shoes etc)		3	3	0
	PC14. Comply with health, safety, environment guidelines, regulations etc in accordance with international/national standards or organizational SOP		3	3	0
			100	50	50
<b>RSC/N5001 Carry out housekeeping in rubber product manufacturing</b>	PC1. Inspect the area while taking into account various surfaces	100	3	3	0
	PC2. Ensure no compound or tailings/rolling banks on mills , extruder head , dies, performs , conveyors , cushion appliers , booking etc		2	2	0

	PC3. Ensure no extrudate ( full of part extrudate ) are lying on conveyors, or floor		2	2	0
	PC4. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain		2	2	0
	PC5. Ensure that the cleaning equipment is in proper working condition		2	2	0
	PC6. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person		2	2	0
	PC7. Plan the sequence for cleaning the area to avoid re-soiling clean areas and surfaces		2	2	0
	PC8. Inform the affected people about the cleaning activity		2	2	0
	PC9. Display the appropriate signage for the work being conducted		3	3	0
	PC10. Ensure that there is adequate ventilation for the work being carried out		3	3	0
	PC11. Wear the personal protective equipment required for the cleaning method and materials being used		3	3	0
	PC12. Use the correct cleaning method for the work area, type of soiling and surface		3	3	0
	PC13. Carry out cleaning activity without disturbing others		3	3	0
	PC14. Deal with accidental damage, if any, caused while carrying out the work		3	3	0
	PC15. Report to the appropriate person any difficulties in carrying out your work		3	3	0
	PC16. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill		3	3	0
	PC17. Ensure that there is no oily substance on the floor to avoid slippage		9	3	6
	PC18. Ensure that no scrap material is lying around		9	3	6
	PC19. Maintain and store housekeeping equipment and supplies		3	3	0
	PC20. Follow workplace procedures to deal with any accidental damage caused during the cleaning process		3	3	0
	PC21. Ensure that, on completion of the work, the area is left clean and dry and meets requirements		8	2	6
	PC22. 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
	PC23. Dispose the waste garnered from the activity in an appropriate manner		9	3	6
	PC24. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly		9	3	6
	PC25. Maintain schedules and records for housekeeping duty		3	3	0
	PC26. Replenish any necessary supplies or consumables		3	3	0
			100	70	30
<b>RSC/N5002 Carry Out Reporting And</b>	PC1. Report data/problems/incidents as applicable in a timely manner	100	12	8	4
	PC2. Report to the appropriate authority as laid down by the		12	8	4

<b>Documentation</b>	company				
	PC3. Follow reporting procedures as prescribed by the company		12	8	4
	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
	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
<b>RSC/N5003 Carry Out Quality Checks</b>	PC1. Ensure that total range of checks are regularly and consistently performed	100	24	10	14
	PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required		24	10	14
	PC3. Identify non-conformities to quality assurance standards		6	4	2
	PC4. Identify potential causes of non-conformities to quality assurance standards		5	3	2
	PC5. Identify impact on final product due to non-conformance to company standards		5	3	2
	PC6. Evaluating the need for action to ensure that problems do not recur		6	4	2
	PC7. Suggest corrective action to address problem		5	3	2
	PC8. Review effectiveness of corrective action		5	3	2
	PC9. Interpret the results of the quality check correctly		4	4	0
	PC10. Take up results of the findings with QC in charge/appropriate authority.		3	3	0
	PC11. Take up the results of the findings within stipulated time		3	3	0
	PC12. Record of results of action taken		3	3	0
	PC13. Record adjustments not covered by established procedures for future reference		3	3	0
	PC14. Review effectiveness of action taken		2	2	0
	PC15. Follow reporting procedures where the cause of defect cannot be identified		2	2	0
<b>Total</b>		<b>100</b>	<b>60</b>	<b>40</b>	
<b>RSC/N5004 Carry Out Problem Identification And Escalation</b>	PC1. Identify defects/indicators of problems	100	7	4	3
	PC2. Identify any wrong practices that may lead to problems		6	3	3
	PC3. Identify practices that may impact the final product quality		6	3	3
	PC4. Identify if the problem has occurred before		5	3	2
	PC5. Identify other operations that might be impacted by the problem		6	4	2

	PC6. Ensure that no delays are caused as a result of failure to escalate problems		5	3	2
	PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)		8	5	3
	PC8. Consider possible reasons for identification of problems		8	5	3
	PC9. Consider applicable corrections and formulate corrective action		3	3	0
	PC10. Formulate action in a timely manner		3	3	0
	PC11. Communicate problem/remedial action to appropriate parties		7	5	2
	PC12. Take corrective action in a timely manner		2	2	0
	PC13. Take corrective action for problems identified according to the company procedures		2	2	0
	PC14. Report/document problem and corrective action in an appropriate manner		8	5	3
	PC15. Monitor corrective action		2	2	0
	PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved		2	2	0
	PC17. Ensure that corrective action selected is viable and practical		2	2	0
	PC18. Ensure that correct solution is identified to an identified problem		2	2	0
	PC19. Take corrective action for problems identified according to the company procedures		1	1	0
	PC20. Ensure that no delays are caused as a result of failure to take necessary action		1	1	0
	PC21. Escalate problem as per laid down escalation matrix		4	3	1
	PC22. Escalate the problem within stipulated time		4	3	1
	PC23. Escalate the problem in an appropriate manner		3	2	1
	PC24. Ensure that no delays are caused as a result of failure to escalate problems		3	2	1
	<b>Total</b>		<b>100</b>	<b>70</b>	<b>30</b>
<b>RSC/N5007</b> <b>Carry out health and safety</b>	PC1. Undertake basic safety checks before operation of all machinery and equipment and report hazards to the appropriate supervisor	100	6	4	2
	PC2. Work for which protective clothing or equipment is required is identified and the appropriate protective clothing or equipment is used in performing these duties in accordance with workplace policy.		6	4	2
	PC3. Read and understand the hazards of use and contamination mentioned on the labels of chemicals, utilities etc		0	0	0
	PC4. Prior to performing manual handling jobs, risk is assessed and work is carried out according to currently recommended safe practices.		6	4	2
	PC5. Use equipment and materials safely and correctly and return the same to designated storage when not in use		3	2	1
	PC6. Dispose off waste safely and correctly in a designated area		6	4	2
	PC7. Risks to bystanders are recognized and action taken to		0	0	0

reduce risk associated with jobs in the workplace			
PC8. Perform work in a manner which minimizes environmental damage	0	0	0
PC9. All procedures and work instructions for controlling risk are followed closely.	0	0	0
PC10. Report any accidents, incidents or problems without delay to an appropriate person and take immediate necessary action to reduce further danger.	0	0	0
PC11. Follow procedures for dealing with accidents, fires and emergencies, including communicating location and directions to emergency.	6	4	2
PC12. Follow emergency procedures as per company standards and workplace requirements.	8	5	3
PC13. Use Emergency equipment in accordance with manufacturers' specifications and workplace requirements.	8	5	3
PC14. Provide treatment appropriate to the patient's injuries in accordance with recognized first aid techniques.	0	0	0
PC15. Recover (if practical), clean, inspect/test, refurbish, replace and store the first aid equipment as appropriate	0	0	0
PC16. Dispose off medical waste in accordance with workplace requirements	0	0	0
PC17. Report details of first aid administered in accordance with work place procedures.	7	4	3
PC18. Comply with general safety procedures	8	4	4
PC 19. Follow standard safety procedures while handling equipment, hazardous material or tool	0	0	0
PC20. Check parts of the workplace and take preventive actions like spraying and other steps to protect from leakages, water logging, pests, fire, pollution, etc.	8	5	3
PC21. Ensure no accidents and damages at the workplace, reporting of any breach of company safety procedure	0	0	0
PC22. Keep the workplace organized, swept, clean and hazard free	8	5	3
PC23. Attend fire drills and other safety related workshops organized at the workplace	4	2	2
PC24. Be aware of first aid, evacuation and emergency procedures	4	2	2
PC25. Be alert of any events and do not be negligent to any safety procedures to be followed	0	0	0
PC26. Avoid accidents while using hazardous chemicals, machines, sharp tools and equipment	4	2	2
PC27. Use safety materials such as protective gear, goggles, caps, shoes, etc. (as applicable with workplace)	4	2	2
PC28. Handle heavy and hazardous materials with care and using appropriate tools and handling equipment such as trolleys, ladders	4	2	2
<b>Total</b>	<b>100</b>	<b>60</b>	<b>40</b>