QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR RUBBER INDUSTRY

Contents

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

E-mail:
info@rsdcindia.in

Introduction

Qualifications Pack- Extrusion Supervisor

SECTOR: RUBBER INDUSTRY

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

OCCUPATION: Extrusion

REFERENCE ID: RSC/ Q 0601

ALIGNED TO: NCO-2004/NIL

Brief Job Description: An Extrusion Supervisor is responsible to supervise all the processes involved in extruding components through extruders.

Personal Attributes: This job requires the individual to have good leadership qualities. He should have strong reasoning and analytical mind set. He should be able to delegate task appropriately considering the ability and availability of manpower in his team. He should be authoritative in delivering commands for work implementation. He should possess effective time management skill for getting the work done in a given time frame . He should keep the team members motivated for carrying out operations efficiently and learning new methods.

Job Details

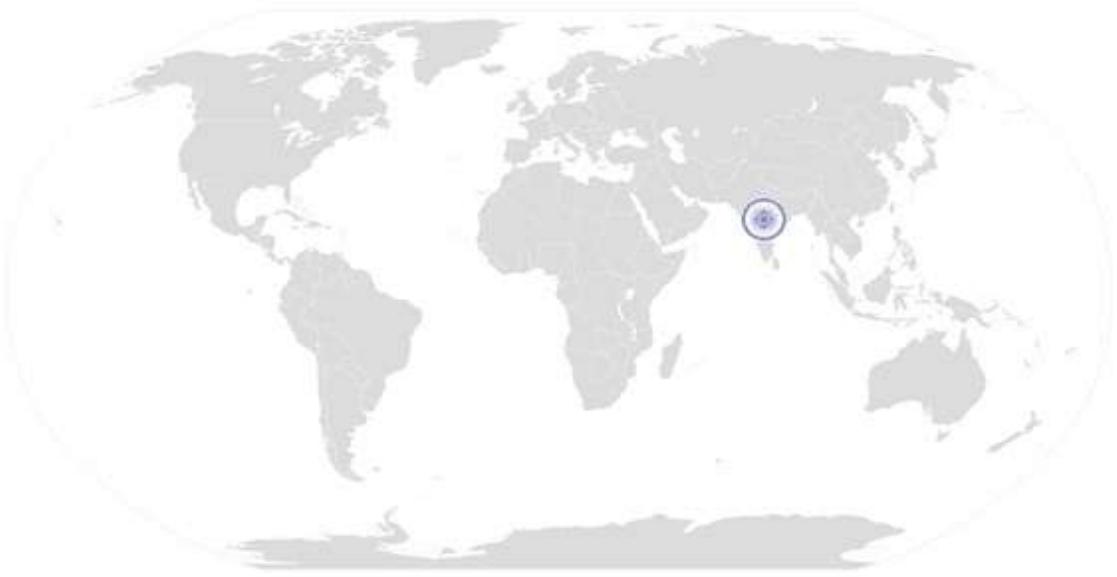
Qualifications Pack Code	**RSC/ Q 0601**		
Job Role	**Extrusion Supervisor**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Sector	**Rubber Manufacturing**	**Drafted on**	**02/12/14**
Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**02/12/14**
Occupation	**Extrusion**	**Next review date**	**02/12/15**
NSQC Clearnace on	**20/07/2015**		

Job Role	**Extrusion Supervisor**
Role Description	An Extrusion Supervisor is responsible to supervise all the processes involved in extruding components through extruders.
NSQF level	5
Minimum Educational Qualifications*	XII/Diploma/ITI/Graduate in Science
Maximum Educational Qualifications*	Post Graduate in Science
Training (Suggested but not mandatory)	Training on latest machines/equipments and human resource management
Minimum Job Entry Age	18 years
Experience	Worked for minimum 5 years as extrusion operator
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. RSC/ N 0609 (Supervise the preparatory activities for extrusion) 2. RSC/ N 0610 (Supervise the extrusion operations) 3. RSC/ N 0611 (Conduct post-extrusion supervisory operation) 4. RSC/ N 5001 (To carry out housekeeping) 5. RSC/ N 5002 (To carry out reporting and documentation) 6. RSC/ N 5003 (To carry out quality checks) 7. RSC/ N 5004 (To carry out problem identification and escalation) **Optional:** NA
Performance Criteria	As described in the relevant OS units

Definitions

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

National Occupational Standard



Overview

This unit is about supervising the preparatory activities w.r.t. tools, equipments, machine, manpower, material and extrusion area.

National Occupational Standard

Unit Code	RSC / N 0609
Unit Title (Task)	Supervise the preparatory activities for extrusion
Description	Th unit is about supervising the preparatory activities w.r.t. tools, equipments, machine, manpower, material and extrusion area.
Scope	This unit/task covers the following: • Ensure housekeeping and safety in the extrusion area • Ensure that tools, equipments and machines are well maintained and functioning properly • Ensure adequate trained manpower is available for undertaking extrusion operations • Ensure that the requirements for component and/ or specifications are available in writing • Monitor that the compound required is available and the proper flow ismaintained for continuity of operation • Ensure the compound required is supplied in the form required for the type of ectrudersunder usage • Ensure the accurate parameter settings for machines • Ensure extruder and other auxillary equipments used in extrusion process are set in advance to make process smooth with minimum time for getting required extrudate dimensions and reduced down time and waste

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Equipment readiness	To be competent, the user/individual on the job must be able to PC1. Ensure that all the equipments and machines are operational PC2. Ensure all tools required for the extrusion operations are readily available PC3. Ensure regular checks are conducted for machines for accuracy and readiness for operation PC4. Identify defective equipment and take action as per SOP PC5. Check the schedule and arrange all the dies and die holders required for extrusion during the shift to be placed in die heating cabinet.

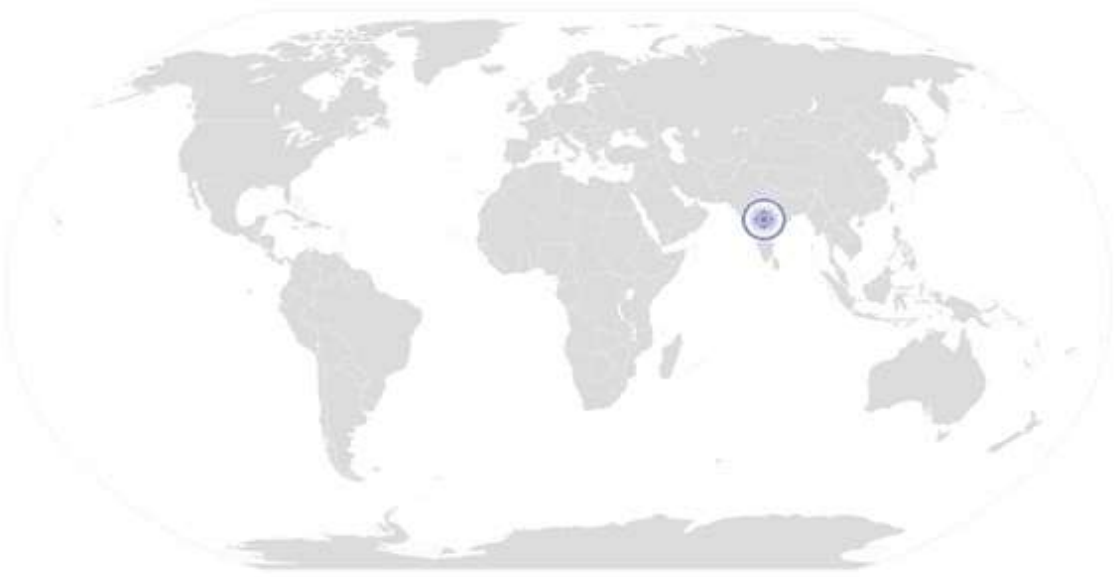
	PC6. Ensure that the TCU's and die heating cabinet are put on heating as specified before the commencement of extrusion PC7. Set mill temepartures and nip gauges on different mills PC8. Arrange to provide hand tools and safety gears such as masks, gloves etc. for workers before starting the opeartion PC9. Ensure that all services such as steam, water ,electricity, etc are available at all times PC10. Comply with the maintenance schedule and ensure that maintenance programme of the extruder are carried out on regular basis PC11. Check the take away equipments (such as conveyors and Dancer rolls) and their adjustments PC12. Check skiver unit – ensure skiver capability checks are done regularly
Raw Material Readiness	PC1. Check the compound received from the Banbury/ Mixer compound storage area and confirm that it is as per the scheduler PC2. Ensure the receiving of correct compound i.e. the material has lab release ID tags or correct code marking PC3. Inspect the material carefully to detect any defect and report the same to the concerned person before starting the operation and arrange for replacement of affected material in case required PC4. Ensure that the quality of cooling water is meeting the requirements of pH ,dissolved and suspended soilds PC5. Ensure compound is available in the form required for the type of extruder under use. Slabs which can go thru mills or strips which can be fed into cold feed extrduers directly
Manpower Readiness	PC6. Ensure that the manpower required for achieving the extrusion schedule are available. PC7. Arrange for the substitute in case of absenteeism of any team member due to any injury, accident, leave etc. PC8. Delegate the task and inform the team members well in time about the schedule to be met in the given time frame PC9. Train the manpower for handling emergency situations PC10. Resolving issues (if any) among the team members before the commencement of operations

Health & Safety	PC11. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks,earplugs, goggles and safety shoes). PC12. Manage first aid, general medication etc. of the team members PC13. Arrange for hospitalization in case of accident PC14. Ensure no tampering of safety ropes/switches/extinguishers/alarms fitted on the machines or work area PC15. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department PC16. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Implications of poorly prepared tools, equipments, machines and manpower. KA2. Company's quality policies and acceptance standards for raw materials, processed and final product. KA3. Organisational Coding system of raw material, compounds and products KA4. Importance of identifying non-conforming material. 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 the implications of their non-maintenance. KA9. Importance of housekeeping activities. KA10. Health, safety and environment guidelines, legislation and regulations as applicable. KA11. Personal and Personnel protection (which protective equipment to be used and how). KA12. Impact of poor practices on health, safety and environment. KA13. Potential hazards and actions to minimize them. KA14. The escalation matrix and procedures for reporting hazards. KA15. Impact of various practices on cost, quality, productivity, delivery and safety. KA16. Importance of optimal utilization of material, equipment and manpower. KA17. Importance of effective human resource management. KA18. Importance of achieving the set target in timely manner.
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Rubber compound processing with different types of Extruders (cold /Hot /various sizes/ single /duplex/triplex quadric[plex) and their basic operation KB2. Complete knowledge of type extruder available in house KB3. Knowledge of screw design, temperature setting and its impact, head pressure

	KB4. Importance of correct setting of .extruder and auxillary machines in the extruder process , parameters KB5. Profile die development and compounds influence on Extrudate shrinkage/stretch KB6. Technique to obtain correct dimensions on Extruded components KB7. Effect of wrong usage of feed and inappropriate parameters KB8. Knowledge of die usage and die swell KB9. Proper understanding of compound viscosity and the impact of Non uniform mastication and use of work away KB10. Effect of improper processing on the extrudate KB11. Effective time and human resource management KB12. Working of latest digital equipments in use for setting different parameters KB13. Knowledge of on line graphing machines KB14. Proper handling of rubber compounds KB15. Use of Computer/application software KB16. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** The user/ individual on the job needs to know and understand how to: SA1. Express the ideas, lodge complaints and give suggestions through effective written communication. SA2. Fill up appropriate activity logs in required format of the company SA3. Write simple letters, mails, etc SA4. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes SA5. Prepare and fill up schedules SA6. Maintain records in specified format in books and using computers
	Reading and Understanding Skills The user/individual on the job needs to know and understand how to: SA7. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA8. Read images, graphs, diagrams SA9. Understand the various coding systems as per company norms SA10. Understand procedural guidelines
	Oral Communication (Listening and Speaking skills)

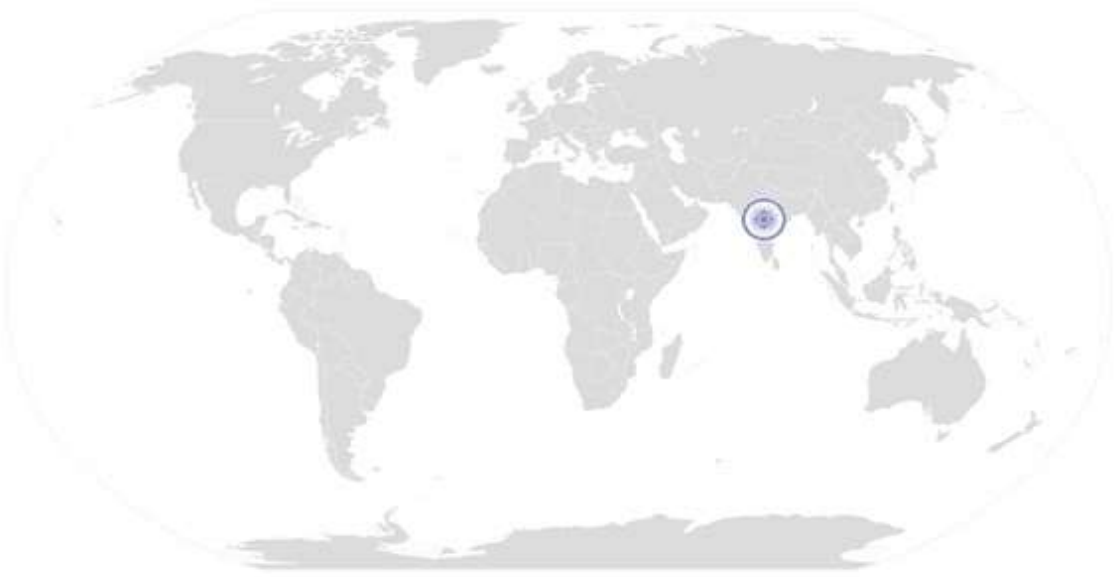
	The user/individual on the job needs to know and understand how to: SA11. Express statements, opinions or information clearly so that others can hear and understand SA12. Respond appropriately to any queries SA13. Communicate with other job owners like,lab chemist, maintenance manager etc. SA14. Communication with operators and labourers SA15. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities. SA16. Proficient in the instructional language of the organisation
	Integrity
	The user/individual on the job needs to know and understand how to: SA17. Practice honesty with respect to company property and time SA18. Communicate with people in a form and manner and using language that is open and respectful SA19. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA20. Take responsibility for completing one's own work assignment and the work under supervision SA21. Take initiative to enhance/learn skills in ones's area of work SA22. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA23. Is open to new ways of doing things SA24. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA25. Avoid absenteeism SA26. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA27. Work in disciplined factory environment SA28. Be punctual
B. Professional Skills	**Material, Equipment and Manpower Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handle tools and equipment and processing with different types of extruders SB2. Handle rubber compounds and extruder dies SB3. Handling the coordination among team members SB4. Report team members issues to HR department that is beyond his control

	Subject Knowledge and Analytical Thinking
	The user/individual on the job needs to have: SB5. Thorough knowledge of physics, chemistry, mathematics and electronics SB6. Knowledge of GMPs, SOPs and quality standards The user/individual on the job needs to know and understand how to: SB7. Diagnose common problems in the material, machines and equipments based on visual inspection and quality checks SB8. Suggest improvements(if any) in process based on experience SB9. Manage time and human resource effectively SB10. Ability to provide proper training to team members SB11. Handling Emergency situations effectively during operations



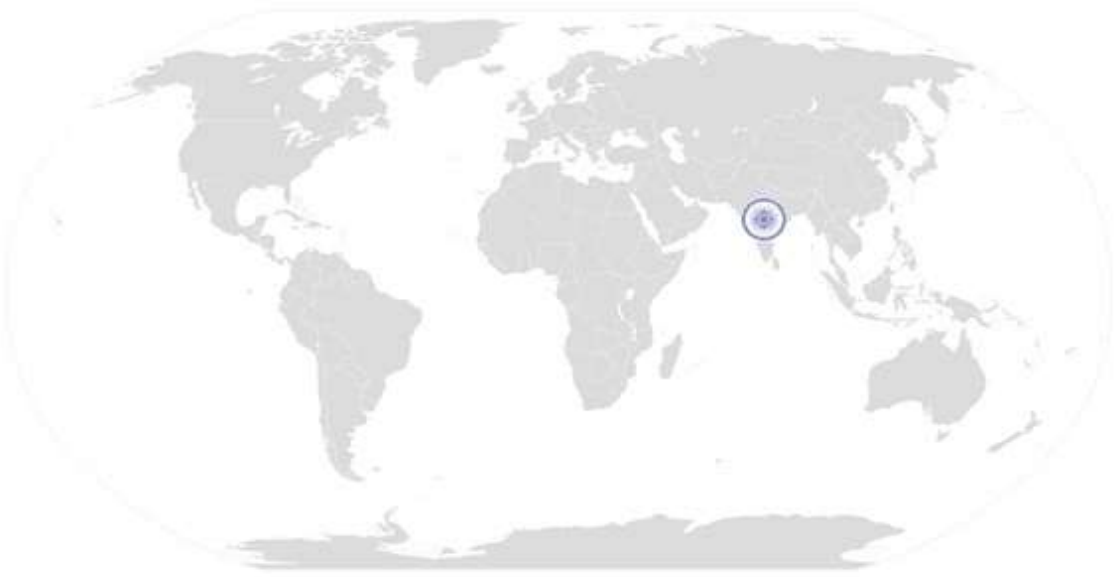
NOS Version Control

NOS Code	**RSC / N 0609**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**02/12/14**
Industry Sub-sector	**Tyre and NonTyre**	**Last reviewed on**	**02/12/14**
Occupation	**Extrusion**	**Next review date**	**02/12/15**



Back to QP

National Occupational Standard



Overview

This unit is about supervising the extrusion operation.

National Occupational Standard

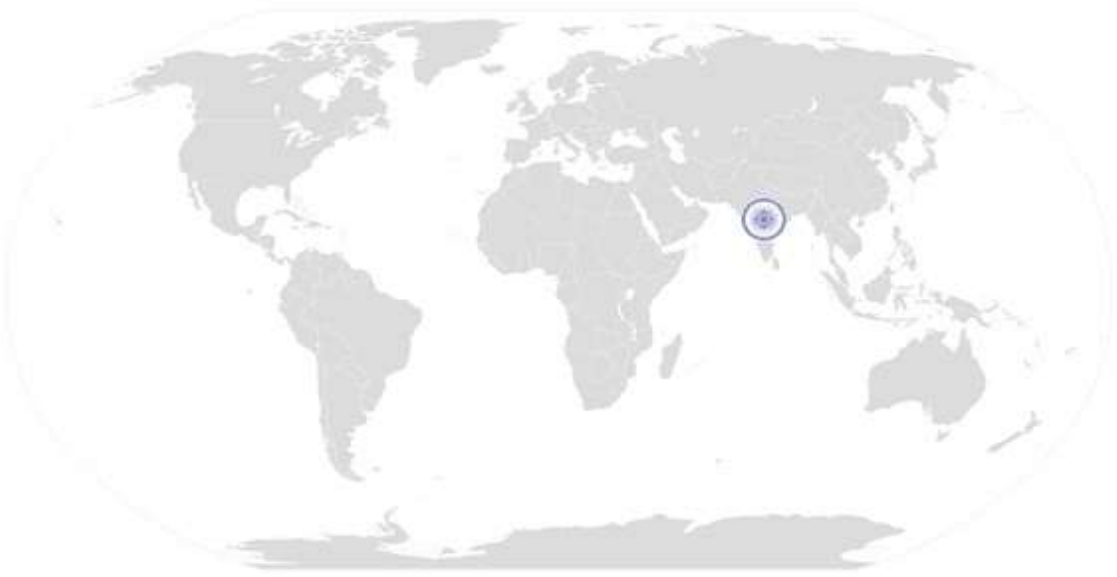
Unit Code	RSC / N 0610
Unit Title (Task)	**Supervise the extrusion operations**
Description	This unit is about supervising the extrusion operation to prepare the specified component/material.
Scope	This unit/task covers the following: • Ensure housekeeping and safety in mixing area. • Ensure that all the extrusion operations are properly conducted and the required quality component is produced efficiently with minimum downtime , waste .
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Operation	PC1. Ensure that the operator follows the extrusion process as per the authorized instructions issued by technical (manually/through automated operations) PC2. Ensure that the operator follow the sequence to make available different extruded component as per the requirement PC3. Ensure all laid out procedures/guidelines are in compliance PC4. Keep a check on change time (between extrusion of one code to other) to attain efficiency. PC5. Ensure that the extruder is properly warmed up by passing the compound and ensure the rough extrudate are sent for rework PC6. Extrduate that the bottom surface of the extrudate is painted by cement adhesive thru online cementing (In case this process is required in the operation) PC7. Ensure that the component passes through the cooling water tank with minimum/zero stretch PC8. Ensure the skiver cutting is good with No wavy or rough cuts . s. Ensure the skived portion is painted with specified cement (rubber adhesive) PC9. Conduct quality checks for booking tolerance and ensure proper booking weight PC10. Check final product dimensions w.r.t quality, quantity, size weight etc. PC11. Ensure no bye passing/ short cutting of sequence in process PC12. Avoid contamination while carrying out the operation
Health & Safety	PC1. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes). PC2. Arrange for hospitalization in case of accident PC3. Manage first aid, general medication etc. of the team members PC4. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department

	PC5. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.
Knowledge and Understanding (K)	
B. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Implications of improper preparation of extruded component. KA2. Optimal utilization of material, machines and manpower. KA3. Company's quality policies and acceptance standards for raw materials, processed and final product. KA4. Organisational Coding system of raw material, compounds and products KA5. Different quality management systems KA6. Importance of identifying non-conforming materials. KA7. Risk and impact of not following defined procedures/work instructions. KA8. Escalation matrix for reporting identified problems. KA9. Types of documentation in organization and importance of the same. KA10. Records to be maintained and the implications of their non-maintenance. KA11. Importance of housekeeping activities. KA12. Health, safety and environment guidelines, legislation and regulations as applicable. KA13. Personal and Personnel protection (which protective equipment to be used and how). KA14. Impact of poor practices on health, safety and environment. KA15. Potential hazards and actions to minimize them. KA16. The escalation matrix and procedures for reporting hazards. KA17. Impact of various practices on cost, quality, productivity, delivery and safety. KA18. Importance of optimal utilization of material, equipment and manpower.
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Importance of following SOP for extrusion KB2. Rubber compound processing with different types of Extruders. KB3. Proper handling of rubber compound and extruded component KB4. Technique to obtain correct dimensions on Extruded components KB5. Importance of meeting schedules for extrusion operation KB6. Implications of delay in extrusion operations KB7. Implications of not meeting the quality specifications KB8. Properties of compound in use and component prepared KB9. Proper monitoring of manpower and machines KB10. Implications of non-confirming component preparation KB11. Importance of maintaining efficiency and attain scheduled target shift wise KB17. Implications of not meeting the requirement of the other departments in

	timely manner KB18. Proper handling of rough extrudate KB19. Proper setting of die heating cabinet KB20. Knowledge of running scale weight KB21. Importance of good skiver cutting KB22. Importance of achieving specified output rate, dimensional stability and quantity produced per shift KB23. Importance of cementing the undertread/sidewall and skive cementing
Skills (S)	
C. Core Skills/ Generic Skills	**Writing Skills** The user/ individual on the job needs to know and understand how to: SA1. Express the ideas, lodge complaints and give suggestions through effective written communication. SA2. Fill up appropriate activity logs in required format of the company SA3. Write simple letters, mails, etc SA4. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes SA5. Prepare and fill up schedules SA6. Write performance reports SA7. Maintain records in specified format in books and using computers
	Reading and Understanding Skills The user/individual on the job needs to know and understand how to: SB1. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SB2. Read images, graphs, diagrams SB3. Understand the various coding systems as per company norms SB4. Understand procedural guidelines
	Oral Communication (Listening and Speaking skills) The user/individual on the job needs to know and understand how to: SB1. Express statements, opinions or information clearly so that others can hear and understand SB2. Respond appropriately to any queries SB3. Communicate with all team members SB4. Communicate with other job owners like lab chemist, maintenance manager etc. SB5. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities.
	Integrity

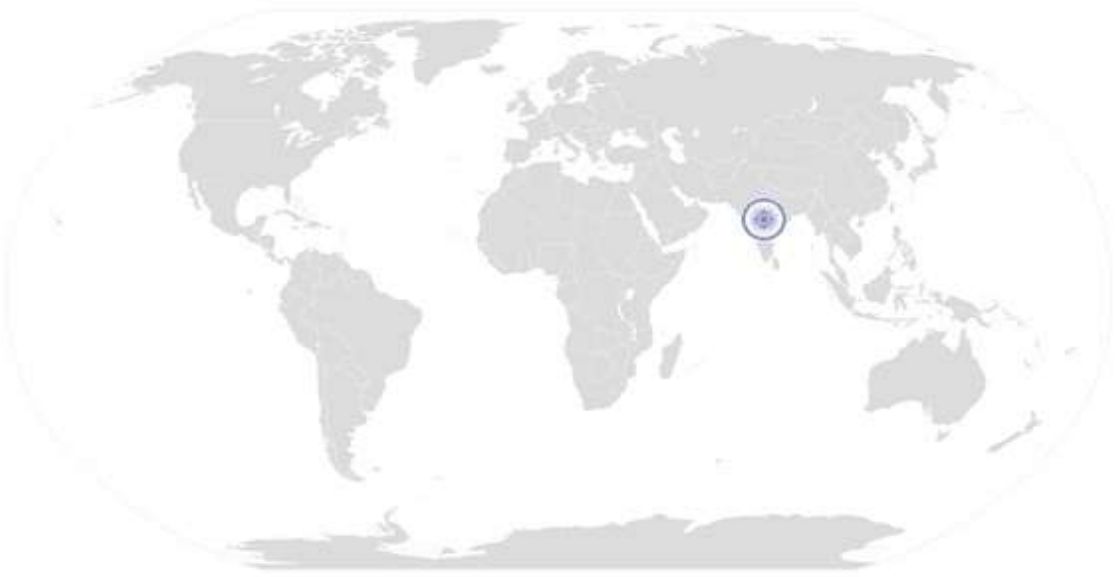
	The user/individual on the job needs to know and understand how to: SA29. Practice honesty with respect to company property and time SA30. Communicate with people in a form and manner and using language that is open and respectful SA31. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA32. Take responsibility for completing one's own work assignment and the work under supervision SA33. Take initiative to enhance/learn skills in ones's area of work SA34. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA35. Is open to new ways of doing things SA36. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA37. Avoid absenteeism SA38. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA39. Work in disciplined factory environment SA40. Be punctual
D. Professional Skills	**Material, Equipment and Manpower Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handle processing with different types of extruders SB2. Handle rubber compounds and extruded components SB3. Handle umdertread and skive cementers(manual or auto) SB4. Handle dies SB5. Perform computer operations SB6. Handling the coordination among team members **SB7.** Report team members issues to HR department that is beyond his control
	Subject Knowledge and Analytical Thinking
	The user/individual on the job needs to have: SB12. Thorough knowledge of physics, chemistry, mathematics and statistics SB13. Knowledge of GMPs, SOPs and quality standards The user/individual on the job needs to know and understand how to: SB14. Diagnose common problems in the extrusion operation SB15. Suggest improvements(if any) in process based on experience SB16. Manage time and human resource effectively

	SB17. Ability to train the team members and develop skill of multi task among the team members; so that the schedule is met in case of any injury, accident, absenteeism etc. SB18. Handling emergency situations effectively SB19. Optimal utilization of material and minimal wastage



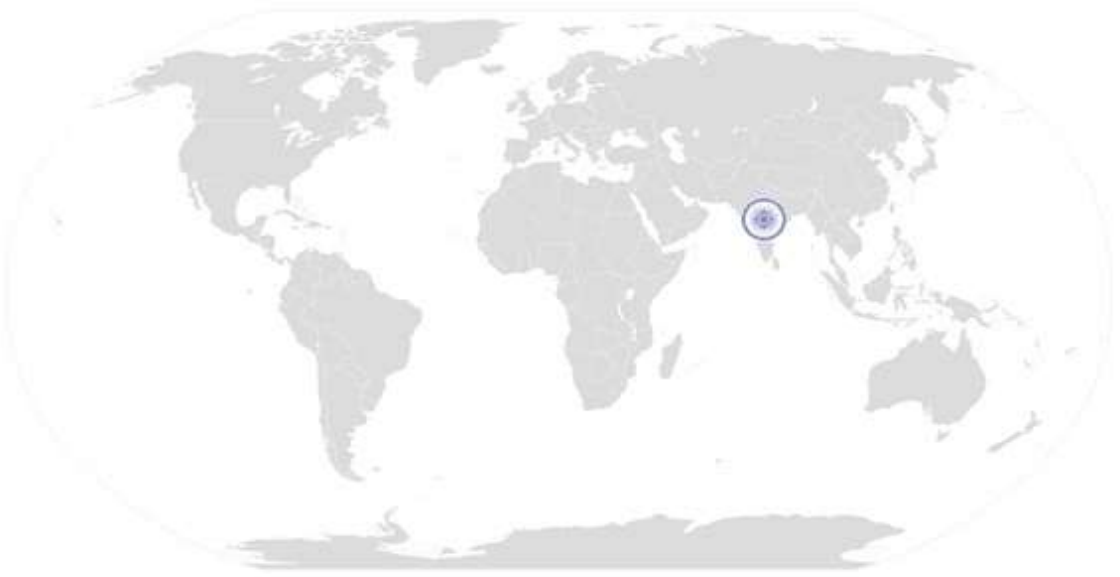
NOS Version Control

NOS Code	RSC / N 0610		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	02/12/14
Industry Sub-sector	Tyre and NonTyre	Last reviewed on	02/12/14
Occupation	Extrusion	Next review date	02/12/15



Back to QP

National Occupational Standard



Overview

This unit is about supervising operations which are carried out after the extrusion operation.

National Occupational Standard

Unit Code	RSC / N 0611
Unit Title (Task)	**Conduct post- extrusion supervisory operations**
Description	This unit is about supervising operations which are carried out after the extrusion operations.
Scope	This unit/task covers the following: • Ensure housekeeping and safety in extrusion area • Ensure extruded component is properly identified with all relevant details as mentioned in SOP • Arrange to send sample to lab for profile /gauge checks • Ensure proper storage of extruded component and waste disposal • Maintain Record • Manage to ensure proper extruder unit set up for incoming shift to facilitate continuity and productivity

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Batch Marking	PC1. Ensure identification and traceability by batch marking/coding for the compound as per the instructions laid down by the company. PC2. Ensure the details on number of component pieces booked, proper coding, contour/profile graph are in place PC3. Ensure profile drawing are placed along with ID tag on component trucks/books /pallets and include the component truck number PC4. Ensure the date and time of booking is mentioned for following the First in first out at tyre building and also to check if the component is overage
Sampling	PC5. Ensure to send sample of the extruded component in the specified sample size and method as directed by the company
	PC1. Get the the prepared component stored at designated place with proper ID tags and hold until release tags in the allotted storage area . PC2. Ensure the storage is done to facilitate the FIFO PC3. Ensure compliance of FIFO by the user department PC4. Manage to provide maintenance time for any repair and scheduled long maintenance of extruders PC5. Arrange to place DO NOT USE tag on component having any defects; either hold it for any other use, reschedule its preparation PC6. Arrange to reschedule the extrusion of the affected component to keep the plant process on for smooth running

	PC7. Send the defective/rejected material to hold area and keep the storage space free for OK material PC8. Coordinate with technical support for belt synchronization, extruder shrinkage checks , extrduwr screw clearance checks and machine adjustments with the help of maintenance for minimal process waste and efficient extrusion process PC9. Ensure that all the off spec/poor extrudate are moved to compound rework area
Record Maintenance and Reporting	PC10. Update the production sheet with the details of prepared material and record down time with details on reasons, time from to end and mention action taken to solve the down time PC11. Paper /computer documents must be complete and traceable in all respect PC12. Records of the team members for work done, availability in shift, working hours etc
Material Disposal	PC13. Ensure to get the waste material disposed off as per waste disposal/work away procedures laid down by the technical department
Health & Safety	PC1. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes). PC2. Arrange for hospitalization in case of accident PC3. Manage first aid, general medication etc. of the team members PC4. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department PC5. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards
Knowledge and Understanding (K)	
C. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. Implications of poorly prepared components/material KA2. Significance of batch marking KA3. Importance of record maintenance. KA4. Organisational Coding system of raw material, compounds and products KA5. Importance of identifying non-conforming material. KA6. Risk and impact of not following defined procedures/work instructions. KA7. Escalation matrix for reporting identified problems. KA8. Types of documentation in organization and importance of the same. KA9. Records to be maintained and the implications of their non-maintenance. KA10. Importance of housekeeping activities.

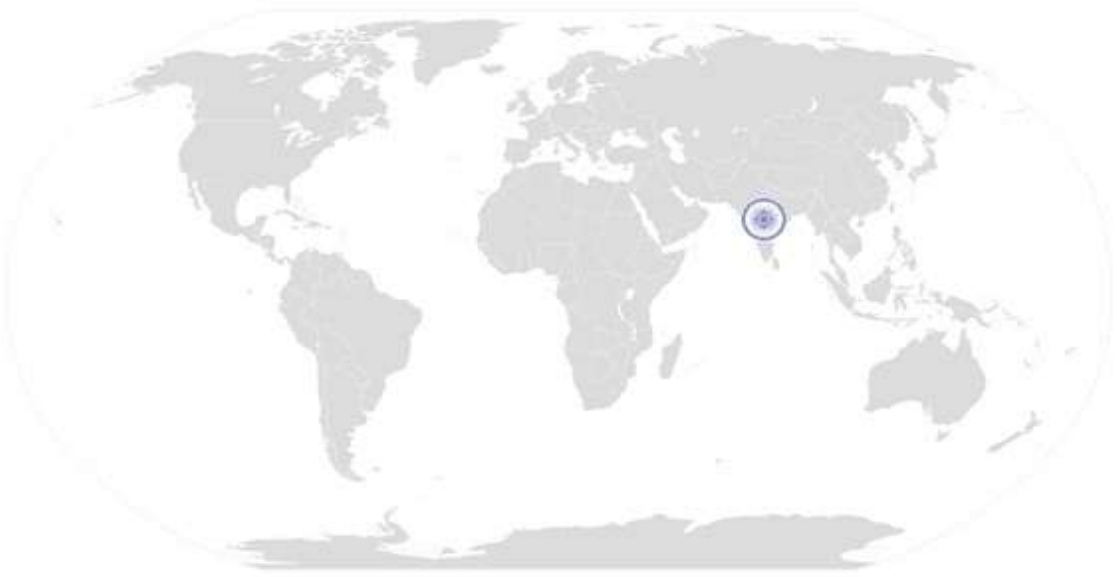
	KA11. Health, safety and environment guidelines, legislation and regulations as applicable. KA12. Personal and Personnel protection (which protective equipment to be used and how). KA13. Impact of poor practices on health, safety and environment. KA14. Potential hazards and actions to minimize them. KA15. The escalation matrix and procedures for reporting hazards. KA16. Importance of FIFO KA17. Impact of various practices on cost, quality, productivity, delivery and safety. KA18. Importance of optimal utilization of material, equipment and manpower.
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Proper take away through conveyors KB2. Methods and techniques involved in extrusion operation KB3. Use of Computer/application software – Use password as per Company SOP under information leaking problem KB4. Importance of record maintenance KB5. Importance of timely delivery of prepared component KB6. Effective communication at different levels KB7. Knowledge of traceability KB8. Record track of team members KB9. Process and importance of quality checks. KB10. Batch marking techniques. KB11. Implications of incorrect batch marking. KB12. Implications of inappropriate waste disposal. KB13. Types of defects leading to rejections and their indicators, reasons and possible solutions. KB14. Coding systems for identification and traceability. KB15. Knowledge of the storage life of prepared component, ambient temperature and its effect on final product. KB16. Removal of waste material and downgraded material from each areas operations to concerned places
Skills (S)	
E. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. Express the ideas, lodge complaints and give suggestions through effective written communication. SA2. Fill up appropriate activity logs in required format of the company SA3. Write simple letters, mails, etc SA4. Perform functional and advanced mathematical and statistical operations and techniques such as estimation and approximation, for practical purposes

	SA5. Prepare and fill up schedules SA6. Maintain records in specified format in books and using computers
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA1. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA2. Read images, graphs, diagrams SA3. Understand the various coding systems as per company norms SA4. Understand procedural guidelines SA5. Interpret and understand lab testing reports
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA1. Express statements, opinions or information clearly so that others can hear and understand SA2. Respond appropriately to any queries SA3. Communicate with team members and other job owners SA4. Instruct the team and encourage the team to adapt behavioral skills required to support the group activities. SA5. Disclose information only to those who have the right and need to know it. SA6. Communicate confidential and sensitive information discretely to authorized person as per SOP
	Integrity
	The user/individual on the job needs to know and understand how to: SA1. Practice honesty with respect to company property and time SA2. Communicate with people in a form and manner and using language that is open and respectful SA3. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA1. Take responsibility for completing one's own work assignment and the work under supervision SA2. Take initiative to enhance/learn skills in ones's area of work SA3. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA4. Is open to new ways of doing things SA5. The capacity to envisage and articulate personal goals; to develop strategies

	and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA1. Avoid absenteeism SA2. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA3. Work in disciplined factory environment SA4. Be punctual
F. Professional Skills	**Material, Equipment and Manpower Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handle test reports SB2. Handle record books SB3. Handle rough extrudate and extruded components SB4. Handle take away equipments SB5. Perform computer operations SB6. Managing pressure and adhereing to strict guidelines/procedures for completing extrusion operation in timely manner SB7. Handling the coordination among team members SB8. Report team members issues to HR department that is beyond his control
	Subject Knowledge and Analytical Thinking
	The user/individual on the job needs to have: SB1. Thorough knowledge of physics, chemistry, mathematics and electronics SB2. Knowledge of GMPs, SOPs and quality standards The user/individual on the job needs to know and understand how to: SB3. Diagnose common problems in the extruded components based on visual inspection and quality checks SB4. Suggest improvements(if any) in process based on experience SB5. Manage time and human resource effectively SB6. Ability to provide training to team members SB7. Attaining schedule targets in given timelines

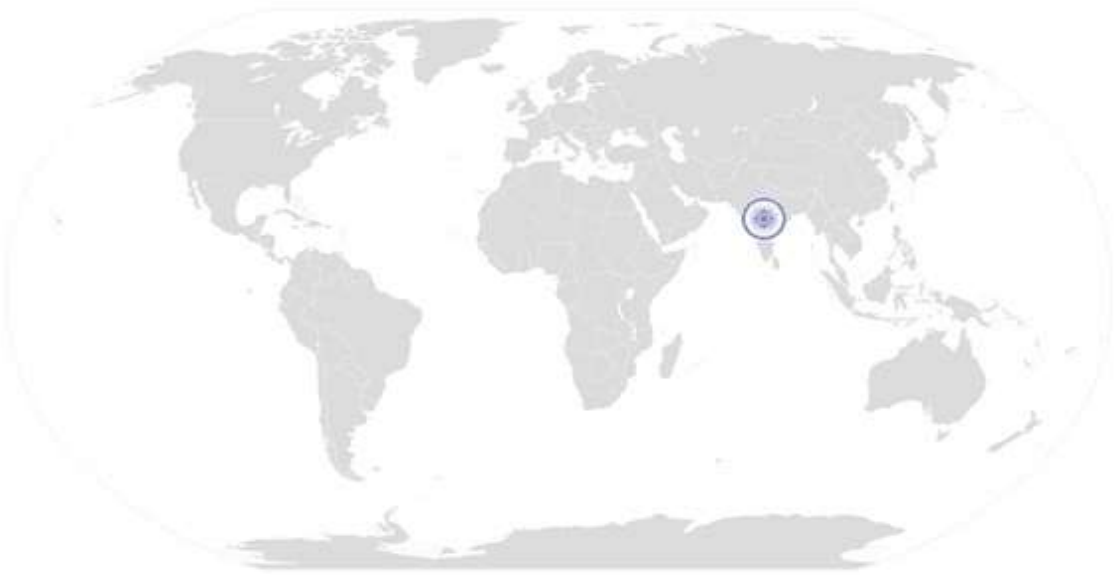
NOS Version Control

NOS Code	**RSC / N 0611**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**02/12/14**
Industry Sub-sector	**Tyre and NonTyre**	**Last reviewed on**	**02/12/14**
Occupation	**Extrusion**	**Next review date**	**02/12/15**



Back to QP

National Occupational Standard



Overview

This unit is about carrying out housekeeping

National Occupational Standard

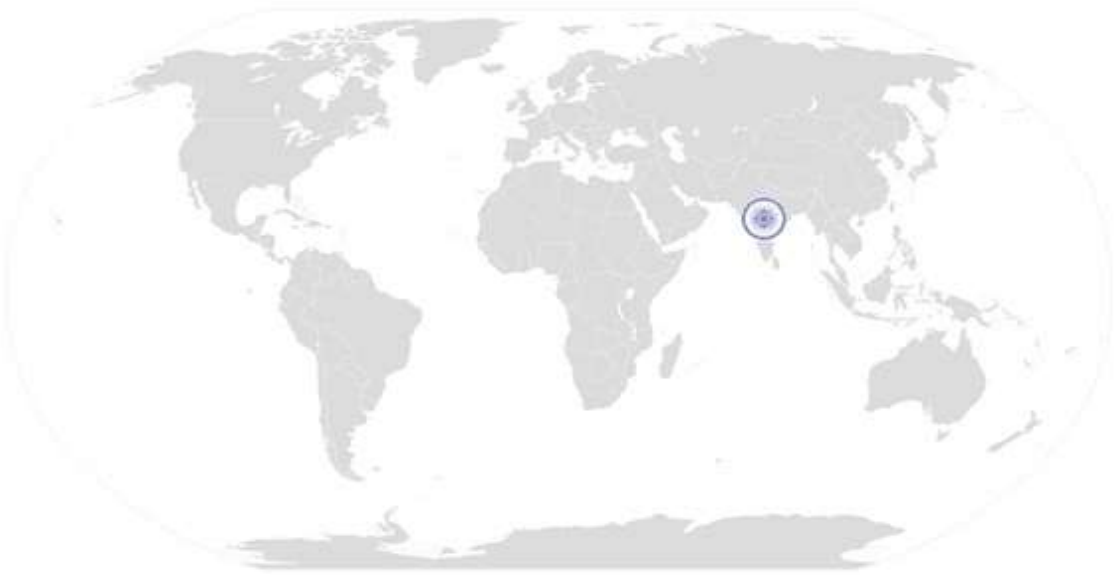
Unit Code	RSC / N 5001
Unit Title (Task)	To carry out housekeeping
Description	This unit is about carrying out housekeeping activities
Scope	This unit/task covers the following: • Preparing for housekeeping activities • Carry out housekeeping activities • Post housekeeping activities

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Pre housekeeping activities	To be competent, the user/individual on the job must be able to: 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
Operations	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
Post housekeeping activities	PC15. Ensure that there is no oily substance on the floor to avoid slippage PC16. Ensure that no scrap material is lying around PC17. Maintain and store housekeeping equipment and supplies

	PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements 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 PC21. Dispose the waste garnered from the activity in an appropriate manner PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly
General	PC23. Maintain schedules and records for housekeeping duty PC24. Replenish any necessary supplies or consumables
Knowledge and Understanding (K)	
A. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work KB2. How to inspect a work area to decide what cleaning it needs KB3. Methods and materials that used for cleaning variety of surfaces KB4. The types of cleansing agents that are not to be mixed together KB5. The correct method for cleaning equipment and/or machinery used during your work KB6. The importance of personal protective equipment KB7. Appropriate personal protective equipment for the work area,cleaning equipment, tools, materials and chemicals used KB8. The correct sequence for cleaning the work area KB9. The time taken by the treatment to work KB10. The importance of following manufacturer's instructions on cleaning agents KB11. The most appropriate place to carry out test cleans and why this should be done before applying treatments KB12. The importance of applying treatments evenly and the effect of not doing this KB13. Process of cleaning the surfaces without causing injury or damage KB14. The method to check the treated surface and equipment on completion of cleaning KB15. Procedures for reporting any unidentified soiling KB16. Procedures for disposing off waste KB17. Procedures for disposing off or storing personal protective equipment KB18. Escalation procedures for soils or stains that could not be removed

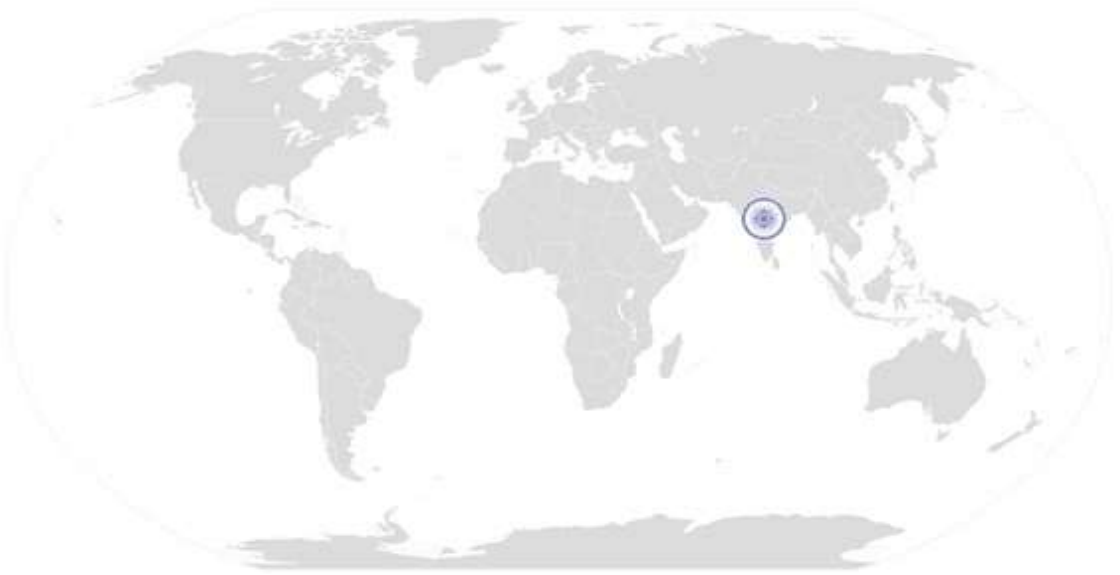
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	The user/ individual on the job needs to know and understand how to: SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required 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
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)
	Integrity
	The user/individual on the job needs to know and understand how to: SA13. Practice honesty with respect to company property and time SA14. Communicate with people in a form and manner and using language that is open and respectful SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.

	SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual



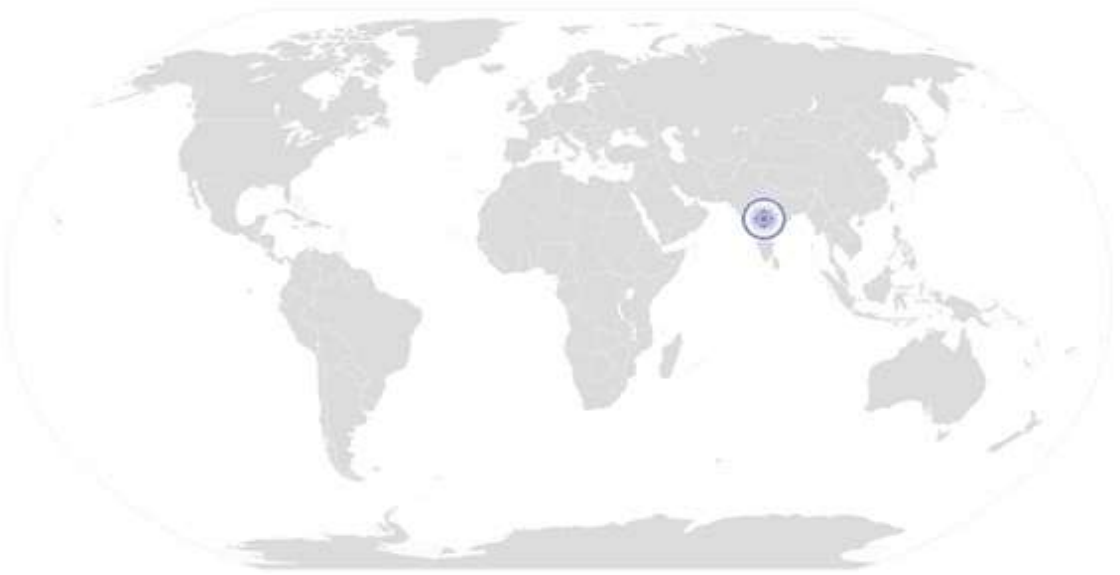
NOS Version Control

NOS Code	**RSC / N 5001**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**04/06/14**
Industry Sub-sector	**Tyre and NonTyre**	**Last reviewed on**	**14/06/14**
Occupation	**Extrusion**	**Next review date**	**14/06/15**



Back to QP

National Occupational Standard



Overview

This unit is about reporting and documentation

National Occupational Standard

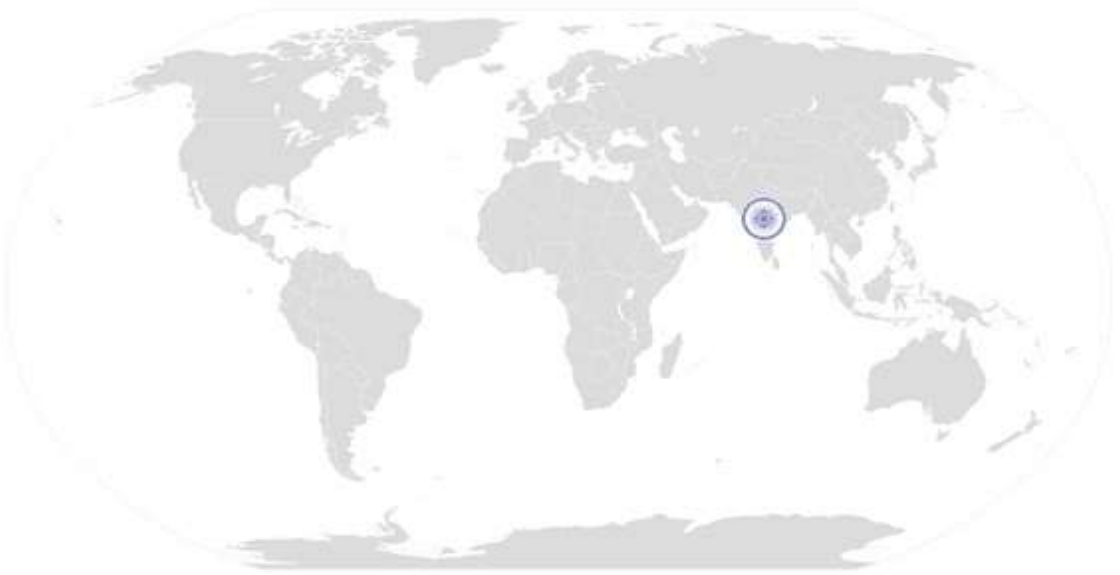
Unit Code	RSC / N 5002
Unit Title (Task)	To carry out reporting and documentation
Description	This unit is about carrying out reporting and documentation
Scope	This unit/task covers the following: • Reporting of data/problem/incidents etc • Documentation • Information Security
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Reporting	To be competent, the user/individual on the job must be able to: PC1. Report data/problems/incidents as applicable in a timely manner PC2. Report to the appropriate authority as laid down by the company PC3. Follow reporting procedures as prescribed by the company
Recording and Documentation	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
Information Security	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures PC10. Inform the appropriate authority of requests for information received
Knowledge and Understanding (K)	
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Different methods of recording information KB2. Various documents that need to be maintained KB3. Company procedure for filling/maintaining up the documents KB4. Procedures for reporting to the appropriate authority KB5. Procedures for recording damage, breakages etc KB6. Reporting incidents where standard operating procedures are not followed KB7. The importance of complete and accurate documentation KB8. How to maintain complete documentation accurately and within agreed timescales KB9. The importance of ensuring that the documents are correct

	KB10. The actions to be taken if the documents are not correct KB11. The importance of maintaining the security and confidentiality of recorded information KB12. Procedures to maintain confidentiality of information KB13. The appropriate method for responding to requests for information KB14. The reporting procedures to followed before disclosing information to any outside party
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	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
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)
	Integrity
	The user/individual on the job needs to know and understand how to: SA13. Practice honesty with respect to company property and time SA14. Communicate with people in a form and manner and using language that is open and respectful SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust

	Motivation
	The user/individual on the job needs to know and understand how to: SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual

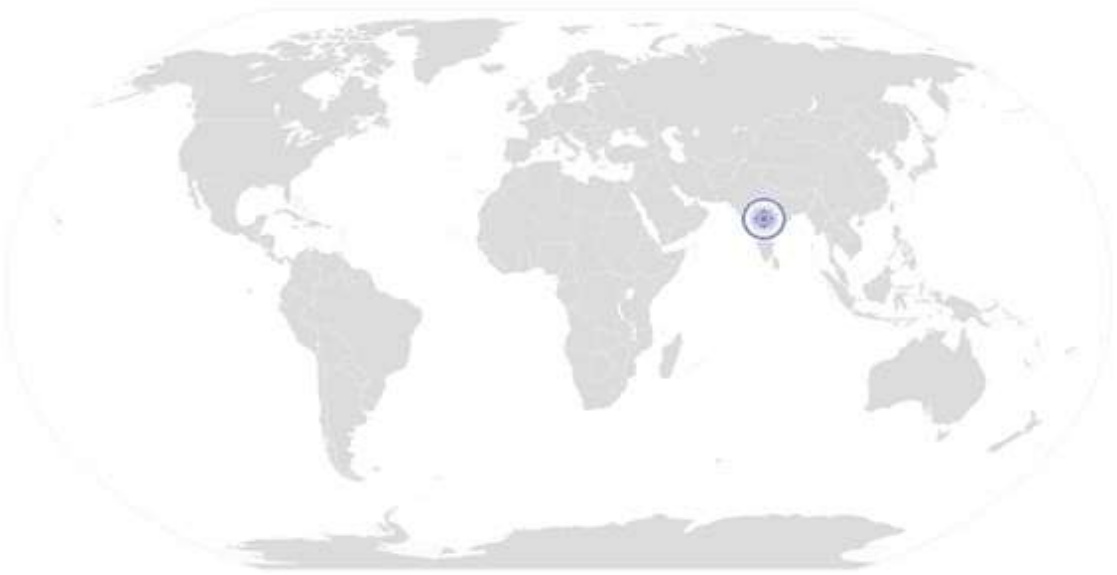
NOS Version Control

NOS Code	**RSC / N 5002**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**04/06/14**
Industry Sub-sector	**Tyre and NonTyre**	**Last reviewed on**	**14/06/14**
Occupation	**Extrusion**	**Next review date**	**14/06/15**



Back to QP

National Occupational Standard



Overview

This unit is about carrying out quality checks

National Occupational Standard

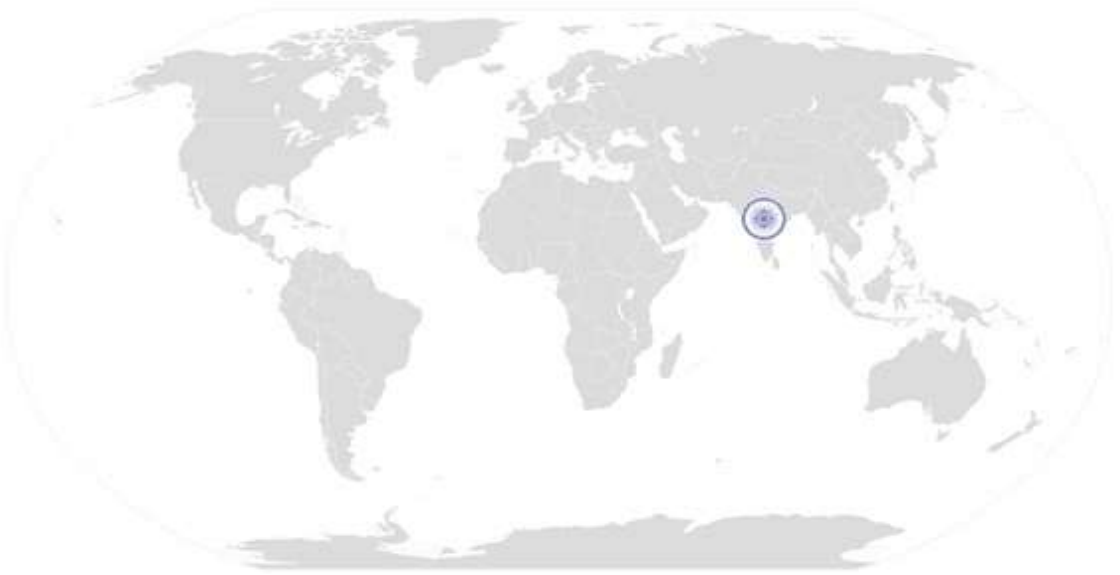
Unit Code	RSC / N 5003
Unit Title (Task)	**To carry out quality checks**
Description	This unit is about carrying out quality control activities
Scope	This unit/task covers the following: • Carrying out quality checks to identify problems • Take corrective actions • Reporting the results
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Inspection	To be competent, the user/individual on the job must be able to: PC1. Ensure that total range of checks are regularly and consistently performed PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required
Analysis	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
Reporting	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
Knowledge and Understanding (K)	
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. The importance of quality control procedures KB2. Relevance and importance of activities and how they contribute to the

	achievement of the quality objectives, KB3. Proper procedure for selecting the material/product and performing quality checks without affecting the material KB4. Availability of work instructions, as necessary, KB5. Characteristics of the product/material KB6. Use of suitable equipment KB7. Availability and use of monitoring and measuring devices, KB8. Requirements of records KB9. Importance of maintaining accurate up-to-date records KB10. The need to report within the stipulated time KB11. Implications of inaccurate measuring and testing instruments and equipment KB12. The cost of non-conformance to quality standards KB13. Implications (impact on internal/external customers) of defective products, materials or components
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills**
	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
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)

	Integrity
	The user/individual on the job needs to know and understand how to: SA13. Practice honesty with respect to company property and time SA14. Communicate with people in a form and manner and using language that is open and respectful SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual

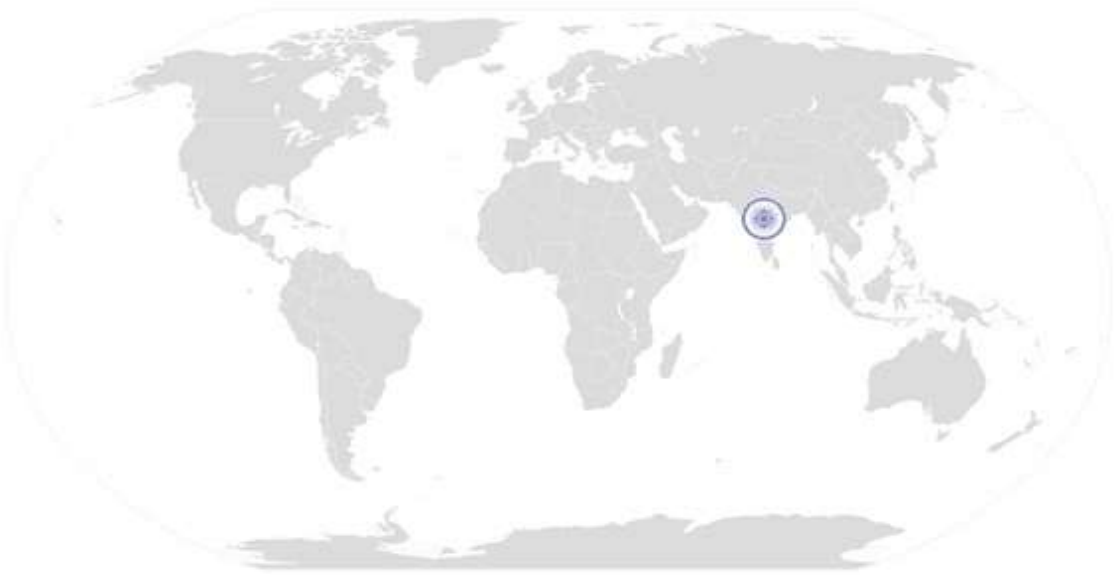
NOS Version Control

NOS Code	RSC / N 5003		
Credits(NSQF)	TBD	Version number	1.0
Industry	Rubber Manufacturing	Drafted on	04/06/14
Industry Sub-sector	Tyre and NonTyre	Last reviewed on	14/06/14
Occupation	Extrusion	Next review date	14/06/15



Back to QP

National Occupational Standard



Overview

This unit is about problem identification and escalation

National Occupational Standard

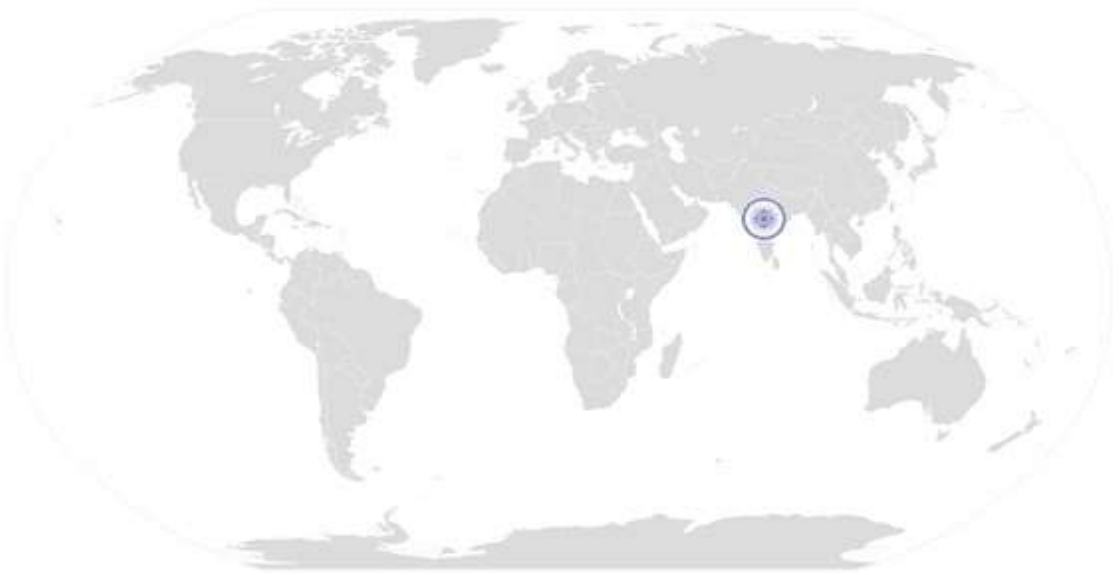
Unit Code	RSC / N 5004
Unit Title (Task)	**To carry out problem identification and escalation**
Description	This unit is about problem identification and escalation
Scope	This unit/task covers the following: • Identify problems across: - Raw materials - Compounds - Product - Equipment - Others • Identify solutions to problems • Take corrective action • Escalation of unresolved identified problems
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Problem Identification	To be competent, the user/individual on the job must be able to: 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
Necessary Action	PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required) 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
Problem Escalation	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
Knowledge and Understanding (K)	
B. Technical Knowledge	The user/individual on the job needs to know and understand: 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 norms KB12. The escalation matrix for reporting problems KB13. Escalation matrix for reporting unresolved problems KB14. The time frame within which in which each problem needs to be escalated KB15. Manner in which each problem needs to be escalated
Skills (S)	
A. Core Skills/ Generic Skills	**Writing Skills** 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
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc SA6. Read images, graphs, diagrams SA7. Understand the various coding systems as per company norms
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to: SA8. Express statements, opinions or information clearly so that others can hear and understand SA9. Respond appropriately to any queries SA10. Communicate with supervisor SA11. Communicate with upstream and downstream teams SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)
	Integrity
	The user/individual on the job needs to know and understand how to: SA13. Practice honesty with respect to company property and time SA14. Communicate with people in a form and manner and using language that is open and respectful SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	Motivation
	The user/individual on the job needs to know and understand how to: SA16. Take responsibility for completing one's own work assignment SA17. Take initiative to enhance/learn skills in ones's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	Reliability
	The user/individual on the job needs to know and understand how to: SA21. Avoid absenteeism SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA23. Work in disciplined factory environment SA24. Be punctual

NOS Version Control

NOS Code	**RSC / N 5004**		
Credits(NSQF)	**TBD**	**Version number**	**1.0**
Industry	**Rubber Manufacturing**	**Drafted on**	**04/06/14**
Industry Sub-sector	**Tyre and NonTyre**	**Last reviewed on**	**14/06/14**
Occupation	**Extrusion**	**Next review date**	**14/06/15**



Back to QP

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Extrusion Supervisor

Qualification Pack RSC/ Q 0601

Sector Skill Council Rubber Skill Development Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria

5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

			Marks Allocation		
NOS	**Elements**	**Performance Criteria**	**Total**	**Theory**	**Practical**
RSC / N 0609 Supervise the preparatory	Equipment readiness	PC1. Ensure that all the equipments and machines are operational	1	0	1
		PC2. Ensure all tools required for the extrusion operations are readily available	3	3	0
		PC3. Ensure regular checks are conducted for machines for accuracy and readiness for operation	2	2	0
		PC4. Identify defective equipment and take action as per SOP	12	4	8

activities for extrusion		PC5. Check the schedule and arrange all the dies and die holders required for extrusion during the shift to be placed in die heating cabinet.	4	4	0
		PC6. Ensure that the TCU's and die heating cabinet are put on heating as specified before the commencement of extrusion	3	0	3
		PC7. Set mill temepartures and nip gauges on different mills	5	2	3
		PC8. Arrange to provide hand tools and safety gears such as masks, gloves etc. for workers before starting the opeartion	4	2	2
		PC9. Ensure that all services such as steam, water ,electricity, etc are available at all times	2	2	0
		PC10. Comply with the maintenance schedule and ensure that maintenance programme of the extruder are carried out on regular basis	3	3	0
		PC11. Check the take away equipments (such as conveyors and Dancer rolls) and their adjustments	2	0	2
		PC12. Check skiver unit – ensure skiver capability checks are done regularly	4	2	2
	Raw Material Readiness	PC13. Check the compound received from the Banbury/ Mixer compound storage area and confirm that it is as per the scheduler	3	3	0
		PC14. Ensure the receiving of correct compound i.e. the material has lab release ID tags or correct code marking	7	5	2
		PC15. Inspect the material carefully to detect any defect and report the same to the concerned person before starting the operation and arrange for replacement of affected material in case required	12	6	6
		PC16. Ensure that the quality of cooling water is meeting the requirements of pH ,dissolved and suspended soilds	7	3	4
		PC17. Ensure compound is available in the form required for the type of extruder under use. Slabs which can go thru mills or strips which can be fed into cold feed extrduers directly	2	0	2
	Manpower Readiness	PC18. Ensure that the manpower required for achieving the extrusion schedule are available.	2	2	0
		PC19. Arrange for the substitute in case of absenteeism of any team member due to any injury, accident, leave etc.	2	2	0
		PC20. Delegate the task and inform the team members well in time about the schedule to be met in the given time frame	2	2	0

		PC21. Train the manpower for handling emergency situations	3	3	0
		PC22. Resolving issues (if any) among the team members before the commencement of operations	2	2	0
	Health & Safety	PC23. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks,earplugs, goggles and safety shoes).	4	2	2
		PC24. Manage first aid, general medication etc. of the team members	1	1	0
		PC25. Arrange for hospitalization in case of accident	1	1	0
		PC26. Ensure no tampering of safety ropes/switches/extinguishers/alarms fitted on the machines or work area	1	0	1
		PC27. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department	4	2	2
		PC28. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.	2	2	0
			100	60	40
RSC / N 0610 Supervise the extrusion operations	Operation	PC1. Ensure that the operator follows the extrusion process as per the authorized instructions issued by technical (manually/through automated operations)	5	2	3
		PC2. Ensure that the operator follow the sequence to make available different extruded component as per the requirement	8	2	6
		PC3. Ensure all laid out procedures/guidelines are in compliance	8	2	6
		PC4. Keep a check on change time (between extrusion of one code to other) to attain efficiency.	5	2	3
		PC5. Ensure that the extruder is properly warmed up by passing the compound and ensure the rough extrudate are sent for rework	6	2	4
		PC6. Extrduate that the bottom surface of the extrudate is painted by cement adhesive thru online cementing (In case this process is required in the operation)	4	0	4
		PC7. Ensure that the component passes through the cooling water tank with minimum/zero stretch	6	0	6
		PC8. Ensure the skiver cutting is good with No wavy or rough cuts . s. Ensure the skived portion is painted with specified cement (rubber adhesive)	11	5	6
		PC9. Conduct quality checks for booking tolerance and ensure proper booking weight	11	5	6
		PC10. Check final product dimensions w.r.t quality, quantity, size weight etc.	14	8	6

		PC11. Ensure no bye passing/ short cutting of sequence in process	4	2	2
		PC12. Avoid contamination while carrying out the operation	6	2	4
	Health & Safety	PC13. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes).	4	2	2
		PC14. Arrange for hospitalization in case of accident	1	1	0
		PC15. Manage first aid, general medication etc. of the team members	1	1	0
		PC16. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department	4	2	2
		PC17. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.	2	2	0
			100	40	60
RSC / N 0611 Conduct post-extrusion supervisory operations	Batch Marking	PC1. Ensure identification and traceability by batch marking/coding for the compound as per the instructions laid down by the company.	11	7	4
		PC2. Ensure the details on number of component pieces booked, proper coding, contour/profile graph are in place	7	4	3
		PC3. Ensure profile drawing are placed along with ID tag on component trucks/books /pallets and include the component truck number	4	4	0
		PC4. Ensure the date and time of booking is mentioned for following the First in first out at tyre building and also to check if the component is overage	3	3	0
	Sampling	PC5. Ensure to send sample of the extruded component in the specified sample size and method as directed by the company	6	3	3
	Operation	PC6. Get the the prepared component stored at designated place with proper ID tags and hold until release tags in the allotted storage area .	7	4	3
		PC7. Ensure the storage is done to facilitate the FIFO	5	2	3
		PC8. Ensure compliance of FIFO by the user department	5	2	3
		PC9. Manage to provide maintenance time for any repair and scheduled long maintenance of extruders	2	2	0
		PC10. Arrange to place DO NOT USE tag on component having any defects; either hold it for any other use, reschedule its preparation	5	2	3
		PC11. Arrange to reschedule the extrusion of the affected component to keep the plant process on for smooth running	2	2	0

		PC12. Send the defective/rejected material to hold area and keep the storage space free for OK material	6	4	2
		PC13. Coordinate with technical support for belt synchronization, extruder shrinkage checks , extrduwr screw clearance checks and machine adjustments with the help of maintenance for minimal process waste and efficient extrusion process	3	3	0
		PC14. Ensure that all the off spec/poor extrudate are moved to compound rework area	6	4	2
	Record Maintenance and Reporting	PC15. Update the production sheet with the details of prepared material and record down time with details on reasons, time from to end and mention action taken to solve the down time	6	0	6
		PC16. Paper /computer documents must be complete and traceable in all respect	3	3	0
		PC17. Records of the team members for work done, availability in shift, working hours etc	3	3	0
	Material Disposal	PC18. Ensure to get the waste material disposed off as per waste disposal/work away procedures laid down by the technical department	2	0	2
	Health & Safety	PC19. Ensure that team members adhere to all safety norms (such as wearing protective gloves,masks, goggles and safety shoes).	5	2	3
		PC20. Arrange for hospitalization in case of accident	1	1	0
		PC21. Manage first aid, general medication etc. of the team members	1	1	0
		PC22. Avoid spillage and in case of spillage occur , follow safety measures as laid down by safety department	5	2	3
		PC23. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards	2	2	0
			100	60	40
RSC/N5001 To Carry Out Housekeeping	Pre housekeeping activities	PC1. Inspect the area while taking into account various surfaces	3	3	0
		PC2. Identify the material requirements for cleaning the areas inspected, by considering risk, time, efficiency and type of stain	3	3	0
		PC3. Ensure that the cleaning equipment is in proper working condition	3	3	0
		PC4. Select the suitable alternatives for cleaning the areas in case the appropriate equipment and materials are not available and inform the appropriate person	3	3	0
		PC5. Plan the sequence for cleaning the area to avoid re-soiling clean areas and	3	3	0

		surfaces			
		PC6. Inform the affected people about the cleaning activity	2	2	0
		PC7. Display the appropriate signage for the work being conducted	3	3	0
		PC8. Ensure that there is adequate ventilation for the work being carried out	3	3	0
		PC9. Wear the personal protective equipment required for the cleaning method and materials being used	3	3	0
	Operations	PC10. Use the correct cleaning method for the work area, type of soiling and surface	3	3	0
		PC11. Carry out cleaning activity without disturbing others	3	3	0
		PC12. Deal with accidental damage, if any, caused while carrying out the work	3	3	0
		PC13. Report to the appropriate person any difficulties in carrying out your work	3	3	0
		PC14. Identify and report to the appropriate person any additional cleaning required that is outside one's responsibility or skill	3	3	0
	Post housekeeping activities	PC15. Ensure that there is no oily substance on the floor to avoid slippage	9	3	6
		PC16. Ensure that no scrap material is lying around	9	3	6
		PC17. Maintain and store housekeeping equipment and supplies	3	3	0
		PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process	3	3	0
		PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements	8	2	6
		PC20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored	3	3	0
		PC21. Dispose the waste garnered from the activity in an appropriate manner	9	3	6
		PC22. Dispose of used and un-used solutions according to manufacturer's instructions, and clean the equipment thoroughly	9	3	6
	General	PC23. Maintain schedules and records for housekeeping duty	3	3	0
		PC24. Replenish any necessary supplies or consumables	3	3	0
			100	70	30
RSC/N5002	Reporting	PC1. Report data/problems/incidents as applicable in a timely manner	12	8	4
		PC2. Report to the appropriate authority as laid down by the company	12	8	4

To Carry Out Reporting And Documentation		PC3. Follow reporting procedures as prescribed by the company	12	8	4
	Recording and Documentation	PC4. Identify documentation to be completed relating to one's role	10	6	4
		PC5. Record details accurately an appropriate format	16	6	10
		PC6. Complete all documentation within stipulated time according to company procedure	14	4	10
		PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly	6	4	2
		PC8. Make sure documents are available to all appropriate authorities to inspect	6	4	2
	Information Security	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures	6	6	0
		PC10. Inform the appropriate authority of requests for information received	6	6	0
			100	60	40
RSC/N5003 To Carry Out Quality Checks	Inspection	PC1. Ensure that total range of checks are regularly and consistently performed	24	10	14
		PC2. Use appropriate measuring instruments, equipment, tools, accessories etc ,as required	24	10	14
	Analysis	PC3. Identify non-conformities to quality assurance standards	6	4	2
		PC4. Identify potential causes of non-conformities to quality assurance standards	5	3	2
		PC5. Identify impact on final product due to non-conformance to company standards	5	3	2
		PC6. Evaluating the need for action to ensure that problems do not recur	6	4	2
		PC7. Suggest corrective action to address problem	5	3	2
		PC8. Review effectiveness of corrective action	5	3	2
	Reporting	PC9. Interpret the results of the quality check correctly	4	4	0
		PC10. Take up results of the findings with QC in charge/appropriate authority.	3	3	0
		PC11. Take up the results of the findings within stipulated time	3	3	0
		PC12. Record of results of action taken	3	3	0
		PC13. Record adjustments not covered by established procedures for future reference	3	3	0
		PC14. Review effectiveness of action taken	2	2	0
		PC15. Follow reporting procedures where the cause of defect cannot be identified	2	2	0

			100	60	40
RSC/N5004 To Carry Out Problem Identification And Escalation	Problem Identification	PC1. Identify defects/indicators of problems	7	4	3
		PC2. Identify any wrong practices that may lead to problems	6	3	3
		PC3. Identify practices that may impact the final product quality	6	3	3
		PC4. Identify if the problem has occurred before	5	3	2
		PC5. Identify other operations that might be impacted by the problem	6	4	2
		PC6. Ensure that no delays are caused as a result of failure to escalate problems	5	3	2
	Necessary Action	PC7. Take appropriate materials and sample, conduct tests and evaluate results to establish reasons to confirm suspected reasons for non-conformance (where required)	8	5	3
		PC8. Consider possible reasons for identification of problems	8	5	3
		PC9. Consider applicable corrections and formulate corrective action	3	3	0
		PC10. Formulate action in a timely manner	3	3	0
		PC11. Communicate problem/remedial action to appropriate parties	7	5	2
		PC12. Take corrective action in a timely manner	2	2	0
		PC13. Take corrective action for problems identified according to the company procedures	2	2	0
		PC14. Report/document problem and corrective action in an appropriate manner	8	5	3
		PC15. Monitor corrective action	2	2	0
		PC16. Evaluate implementation of corrective action taken to determine if the problem has been resolved	2	2	0
		PC17. Ensure that corrective action selected is viable and practical	2	2	0
		PC18. Ensure that correct solution is identified to an identified problem	2	2	0
		PC19. Take corrective action for problems identified according to the company procedures	1	1	0
		PC20. Ensure that no delays are caused as a result of failure to take necessary action	1	1	0
	Problem Escalation	PC21. Escalate problem as per laid down escalation matrix	4	3	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
			100	70	30