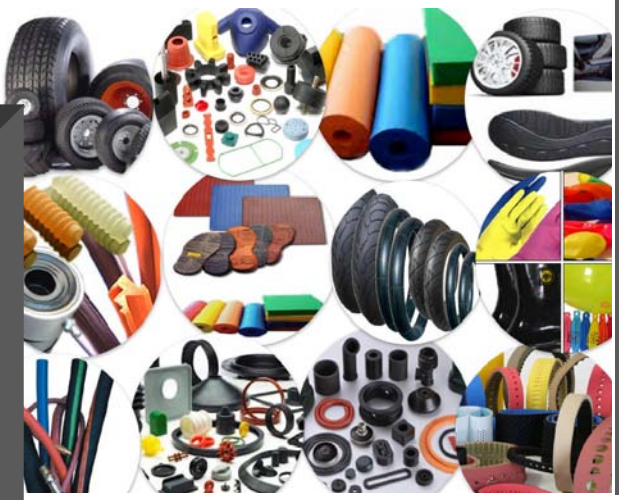
QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR RUBBER INDUSTRY



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

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Introduction

Qualifications Pack- Injection Moulding Operator

SECTOR: RUBBER INDUSTRY

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

OCCUPATION: Moulding/Curing

REFERENCE ID: RSC/ Q 0207

Brief Job Description: The Injection moulding operator is responsible for feeding the rubber compound/strip into the Injection moulding machine for making rubber parts

Personal Attributes: This job requires the individual to be result oriented.At all times he should strive to achieve highest quality standards. The operator is expected to be able to work in a factory environment.

Job Details

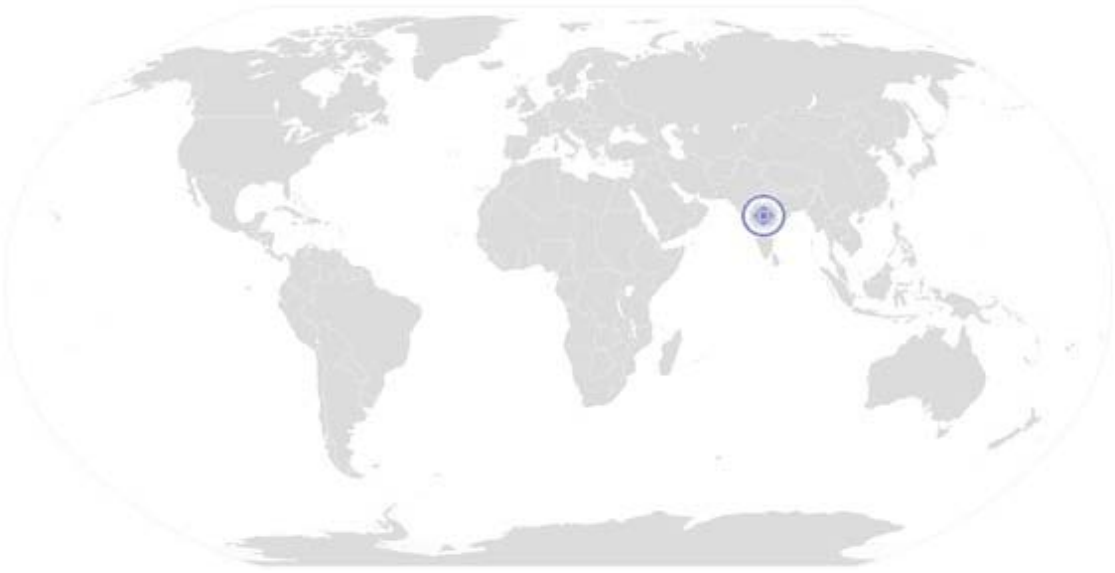
Qualifications Pack Code	**RSC/ Q 0207**		
Job Role	**Injection Moulding Operator**		
Credits(NVEQF/NVQF/NSQF) [*OPTIONAL*]		**Version number**	**1.0**
Sector	**Rubber**	**Drafted on**	**20/03/13**
Sub-sector	**Tyre and Non- tyre**	**Last reviewed on**	**05/05/13**
Occupation	**Moulding/Curing**	**Next review date**	**05/05/14**

Job Role	**Injection Moulding Operator**
Role Description	The Injection moulding operator is responsible for feeding the rubber compound/strip into the Injection moulding machine for making rubber parts
NVEQF/NVQF level	4
Minimum Educational Qualifications*	Class X
Maximum Educational Qualifications*	ITI/Graduate in Science
Training (Suggested but not mandatory)	Training on operation of machinery
Experience	Worked as a semi-skilled helper for 3-6 months in the same role
Applicable National Occupational Standards (NOS)	**Compulsory:** 1. RSC/ N0701 (**Prepare injection moulding machine**) 2. RSC/ N0702 (**Perform injection moulding operation**) 3. RSC/ N0703 (**Undertake post moulding activities**) 4. RSC/ N5001 (**To carry out housekeeping**) 5. RSC/ N5002 (**To carry out reporting and documentation**) 6. RSC/ N5003 (**To carry out quality checks**) 7. RSC/ N5004 (**To carry out problem identification and escalation**) **Optional:** 8. 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 preparing injection moulding machine and other accessories for injection moulding operation to make rubber products

National Occupational Standard

Unit Code	RSC/N 0701
Unit Title (Task)	**Prepare injection moulding machine**
Description	This unit is about preparing equipment for injection moulding operation
Scope	This unit/task covers the following: • Ensuring housekeeping and safety in the moulding area • Preparing the injection moulding machine • Setting parameters on the injection moulding machine • Loading the mould
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 injection moulding machine is clean and fit for use as per SOP PC2. Ensure upstream feeding device is loaded and ready for operation PC3. Ensure emergency safety feature of machine is working PC4. Select the correct mould and distribution system (sprue, drop, runners & gates) PC5. Ensure that the mould is clean PC6. Ensure that barrel & distribution system (sprue, drop, runners & gates) are clean PC7. Assemble the mould & distribution system properly on the ~~platen~~ machine PC8. Load the mould and distribution system on the machine ~~press~~ for preheating PC9. Set parameters for the injection moulding equipment (injection cycle time, temperature and clamping pressure) , as per company's SOP PC10. Keep all the accessories like cleaning brush, mould release lever (made of brass or aluminum flat), ready including mould release agent PC11. Apply the mould release agent appropriately as per SOP PC12. Ensure that identified rubber compound strip or granule is ready for feeding into the Injection Moulding machine for the entire shift
Raw material appropriateness	PC13. Ensure that rubber compound strip or granule to be fed is approved by laboratory PC14. Match the batch code of each rubber compound with the batch code on the job schedule given by the planning department PC15. Ensure desired shape of rubber compound strip or granule for continuous feeding to Injection moulding machine. PC16. Ensure, by visual inspection, that rubber compound strip or granule is of desired quality (free of contamination/ bloom)

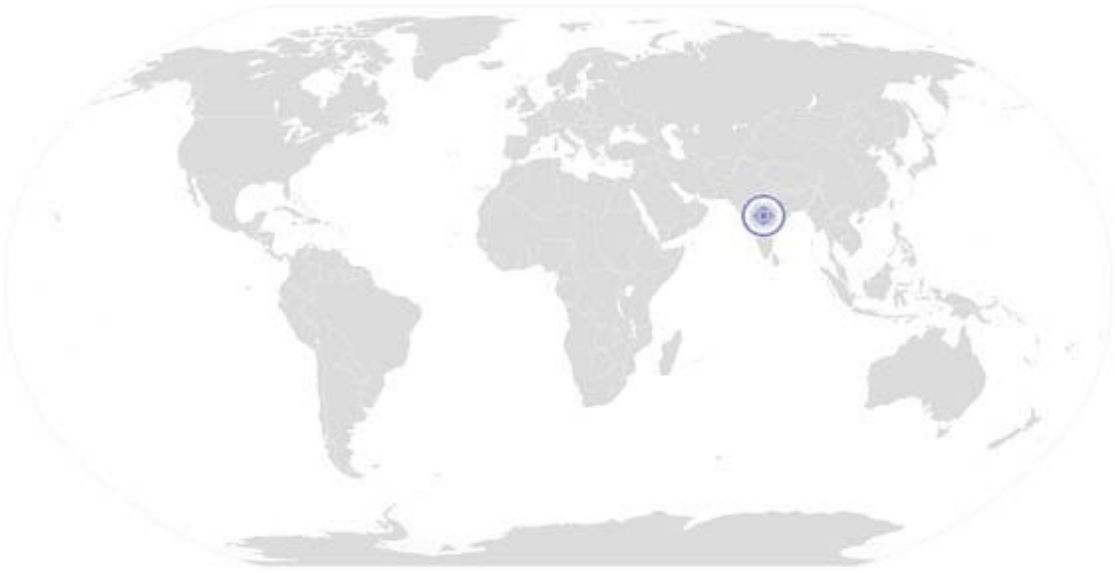
Health & Safety	PC17. Ensure housekeeping/safety in the moulding area as per SOP PC18. Use lifting equipment such as forklift / Trolleys while lifting heavy materials such as moulds and distribution systems to avoid physical injury. PC19. Ensure mould lifting/ ejection/ slide mechanism of the press are properly functioning PC20. Ensure that signage indicating hot surfaces is put up wherever necessary PC21. Adhere to all safety norms (eg wearing protective gloves,shoes, safety glasses) PC22. Comply with health, safety, environment guidelines, regulations in accordance with international/national standards or organizational SOP
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. Different types of Injection moulding machine operation. KA2. Different types of mould & distribution systems KA3. Implications of poorly prepared equipment, power failure 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 (knowledge of 3S & 5S) KA10. Health, Safety and Environment guidelines, legislation and regulations as applicable KA11. Personal 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 the same KA14. Escalation matrix and escalation procedure for reporting hazards KA15. Importance of FIFO, good shop floor practices (e.g. 5S) KA16. The usage of different type of fire extinguisher KA17. Impact of various practices on cost, quality, productivity, delivery and safety KA18. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Injection moulding machine and operation (including typical process followed for different batches) KB2. Possible causes of common moulding problems & their remedies KB3. Health hazards of process and compounding ingredients KB4. Different heating system (steam/Electrical/Thermic fluid) including correlation of steam pressure and temperature) KB5. Operation of PLC or touch screen computer consoles KB6. Checks to be done on the flash to minimize leakage KB7. Use of cleaner batches

	KB8. Influence of parameters (e.g. time, temperature, pressure) on Injection moulding operation KB9. Use of different mould release agents KB10. Type of defects/problems leading to rejections, indicators, reasons and possible solutions. KB11. Cleanliness and safety requirements for commencing ~~a~~ injection moulding operation KB12. Units of measurement KB13. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster KB14. Appropriate batch size with respect to appropriate machinery KB15. Use of weighing scale, time, temperature & pressure measurement
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
B. Professional Skills	**Material and Equipment Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handle injection moulding machine SB2. Assemble/load mould on the plate SB3. Handle rubber compound SB4. Handle chemicals SB5. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB6. Diagnose common problems in the machine based on visual inspection, sound , temperature etc SB7. Suggest improvements(if any) in process based on experience

NOS Version Control

NOS Code	RSC / N 0701		
Credits(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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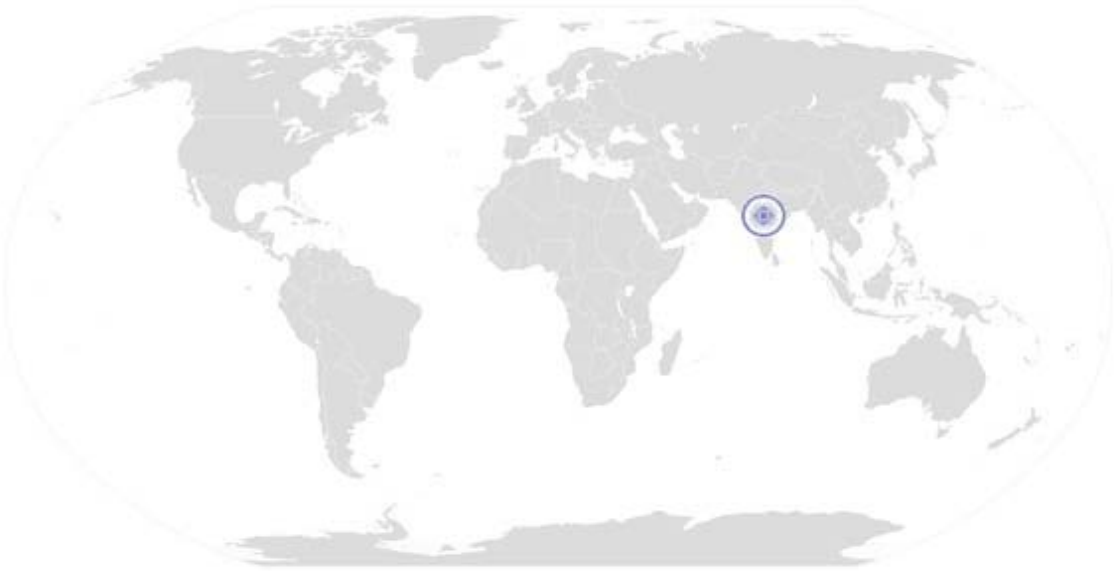
National Occupational Standard



Overview

This unit is about performing injection moulding operation to make rubber products

National Occupational Standard

Unit Code	RSC / N 0702
Unit Title (Task)	**Perform injection moulding operation**
Description	This unit is about performing injection moulding operation
Scope	This unit/task covers the following: • Ensuring housekeeping and safety in the moulding area • Operate the machine • Feed rubber compound and other materials into the machine • Does not cover blown/expanded products
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Raw material appropriateness	To be competent, the user/individual on the job must be able to : PC1. Handle the rubber compound to avoid contamination
Operations	PC2. Load the material in the correct pattern as per SOP to minimize material overflow/ wastage/ excess flash PC3. Check the identified feed strip for dimension uniformity/identified granules PC4. Make the rubber compound strip or granule ready for feeding into the machine PC5. Start the machine and feeding simultaneously PC6. Ensure that moulding pressure and temperature is maintained during the curing cycle PC7. Ensure mould lifting/ ejection/ slide mechanism of the press are properly functioning PC8. Cure the product as per SOP PC9. Remove the cured product from the mould as per SOP.
Health & Safety	PC10. Ensure Housekeeping and Safety in mixing area PC11. Adhere to all other safety norms (like wearing shoes) PC12. Comply with health, safety, environment guidelines, regulations in accordance with international/national standards or organizational SOP
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. Different types of batches that are run in plant KA2. Injection moulding process to get minimum rejection KA3. Curing process and effect of the same KA4. Types of different heating processes (steam, electrical, thermic fluid) KA5. Implications of poorly prepared material, power failure KA6. Material disposal procedure, importance of appropriate disposal of material

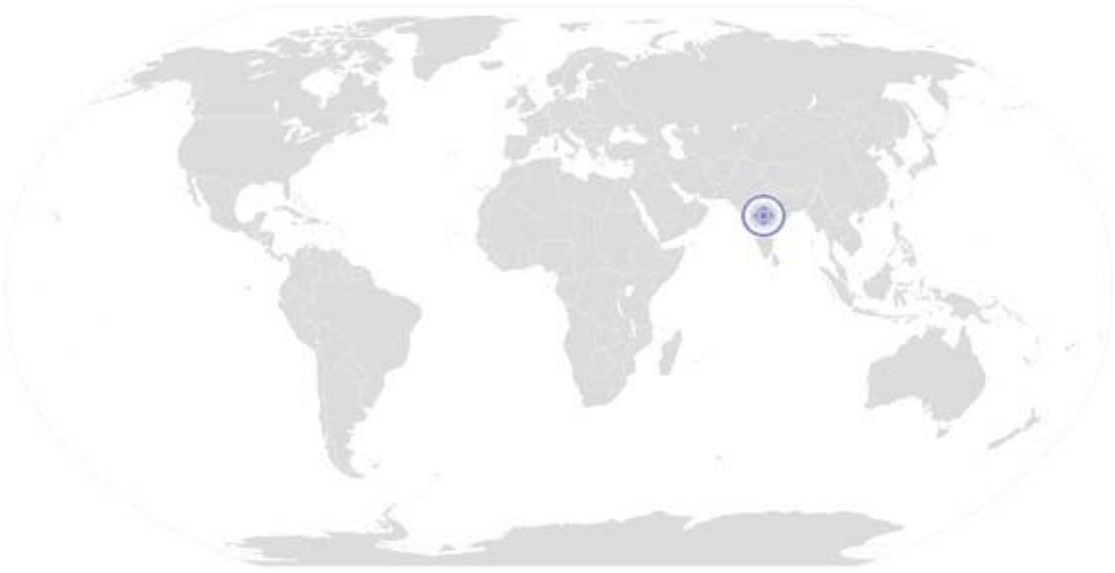
	and implications of not following the material disposal procedure KA7. Quality and damage checks to be done and importance of the same KA8. Importance of identifying non-conforming products and storage of the same KA9. Risk and impact of not following defined procedures/work instructions KA10. Escalation matrix for reporting identified issues KA11. Types of documentation in organization and importance of the same KA12. Records to be maintained and implications of non-maintenance of the same KA13. Importance of housekeeping & good shop floor practices (knowledge of 3S & 5S) KA14. Health, Safety and Environment guidelines, legislation and regulations as applicable KA15. Personal protection (Which protective equipment to be used and how) KA16. Impact of poor practices on health, safety and environment KA17. Potential hazards and actions to minimize the same KA18. Escalation matrix and escalation procedure for reporting hazards KA19. Importance of FIFO KA20. The usage of different fire extinguisher KA21. Impact of various practices on cost, quality, productivity, delivery and safety KA22. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand KB1. Possible causes of common moulding problems & their remedies KB2. Cleanliness and safety requirements for operating a Injection moulding machine KB3. Influence of parameters (e.g. time, temperature, pressure) on injection moulding operation KB4. Injection moulding operation to get minimum rejection KB5. Operation of moulding machine (Equipment working, possible setting levels, typical process followed for different batches) KB6. Different types of Injection moulding machine, distributions systems and moulds. KB7. Operation of multiple presses with common power pack and importance of sequencing KB8. Specific pressure required for different types of moulding KB9. Influence of time and temperature on curing of thick products KB10. State of curing – undercuring and overcuring KB11. Effect of improper processing on properties of rubber compound & product KB12. Units of measurement KB13. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster KB14. Appropriate batch size with respect to appropriate machinery KB15. Use of weighing scale, time, temperature & pressure measurement

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
B. Professional Skills	**Material and Equipment Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handle and operation of injection moulding machine and related accessories SB2. Handle rubber compound SB3. Handle chemicals SB4. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. Diagnose common problems in the machine based on visual inspection, sound , temperature etc SB6. Suggest improvements(if any) in process based on experience

NOS Version Control

NOS Code	RSC / N 0702		
Credits(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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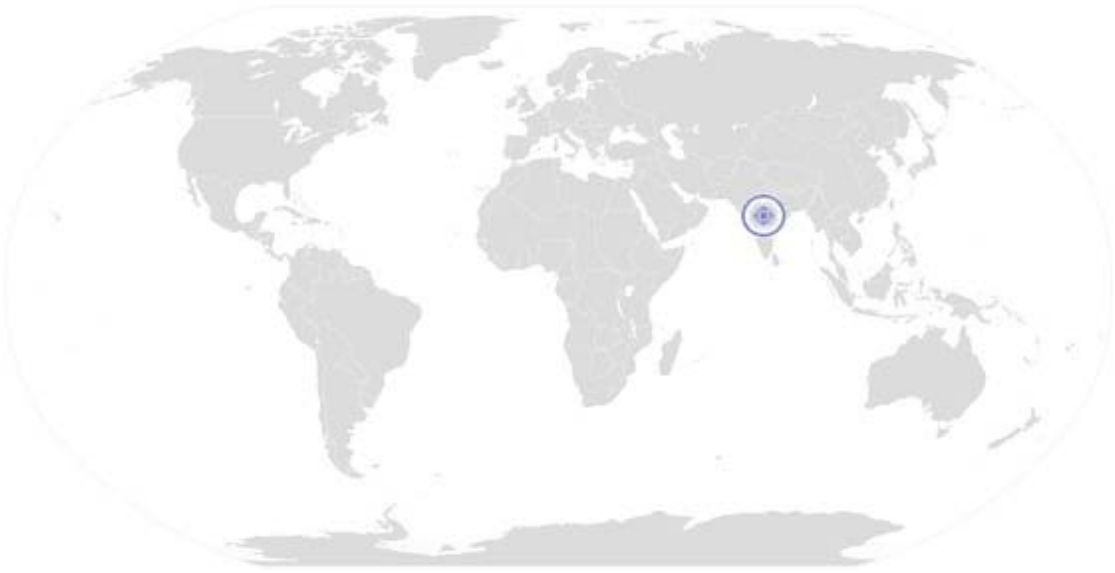


Overview

This unit is about undertaking activities post injection moulding operation to make rubber products

National Occupational Standard

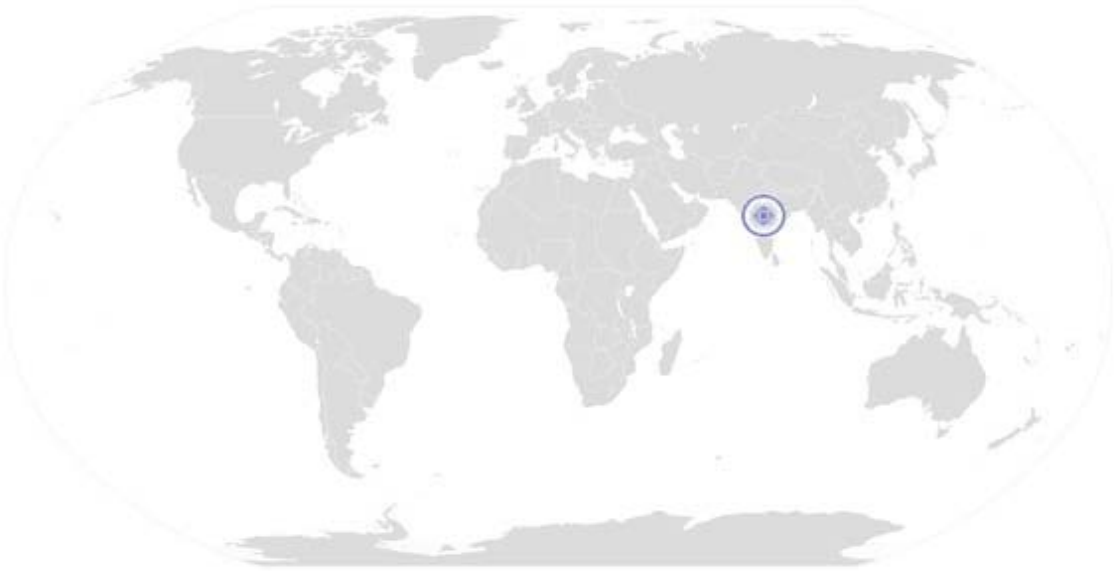
Unit Code	RSC / N 0703
Unit Title (Task)	**Undertake post moulding activities**
Description	This unit is about undertaking activities after injection moulding operation
Scope	This unit/task covers the following: • Ensuring housekeeping and safety in the moulding area • Remove cured piece • Trim the piece to remove flash • Effect cleaning of compound feed mechanism, mould runner grooves, gating points after completion of continuous injection cycle using the same compound • Form appropriate batches of the product • Mark the batch for proper identification for further processing • Send sample to lab for testing

Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Operation	To be competent, the user/individual on the job must be able to PC1. Remove cured product properly as per SOP PC2. Remove the cured compound from the pot/ flow grooves and ensure clean mould for next cycle PC3. Trim the piece to remove flash in a manner that does not cause injury to the operator or the product PC4. Ensure finishing operation including surface treatment of the cured product if required as per SOP before sending to inspection/warehouse.
Material disposal	PC5. Dispose waste material in safe manner as per company's SOP
Batch Marking	PC6. 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)
Sampling	PC7. Send sample of specified compound/ batch in specified form to lab for testing PC8. Send the remaining material to the designated storage area
Health & Safety	PC9. Ensure mould lifting/ ejection/ slide mechanism of the press are properly functioning PC10. Adhere to all safety norms (like wearing protective gloves, shoes, safety glasses)

	PC11. Comply with health, safety, environment guidelines, regulations in accordance with international/national standards or organizational SOP
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 material, power failure KA2. Significance of batch marking KA3. Importance of identifying non-conforming product and storage of the same KA4. Risk and impact of not following defined procedures/work instructions KA5. Escalation matrix and procedure for reporting identified problems KA6. Types of documentation in organization and importance of the same KA7. Records to be maintained and implications of non-maintenance of the same KA8. Importance of housekeeping & good shop floor practice (knowledge of 3S & 5S) KA9. Health, Safety and Environment guidelines, legislation and regulations as applicable KA10. Personal protection(Which protective equipment to be used and how) KA11. Potential hazards and actions to minimize the same KA12. Impact of poor practices on health, safety and environment KA13. Escalation matrix and procedure for reporting hazards KA14. Handover/ Takeover the equipment/ work area as per company's SOP
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Mould fouling and remedial measures KB2. Possible causes of common moulding problems & their remedies KB3. Loading/unloading mechanisms and aids KB4. State of curing – undercuring and overcuring KB5. The process and importance of quality check, including visual, hardness and dimension check KB6. Cleanliness and safety requirements for deflashing KB7. Units of measurement KB8. Coding systems for identification and traceability KB9. Use of weighing scales, time, temperature & pressure measurement KB10. Storage life of the compound KB11. Ambient temperature and effect on compound
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

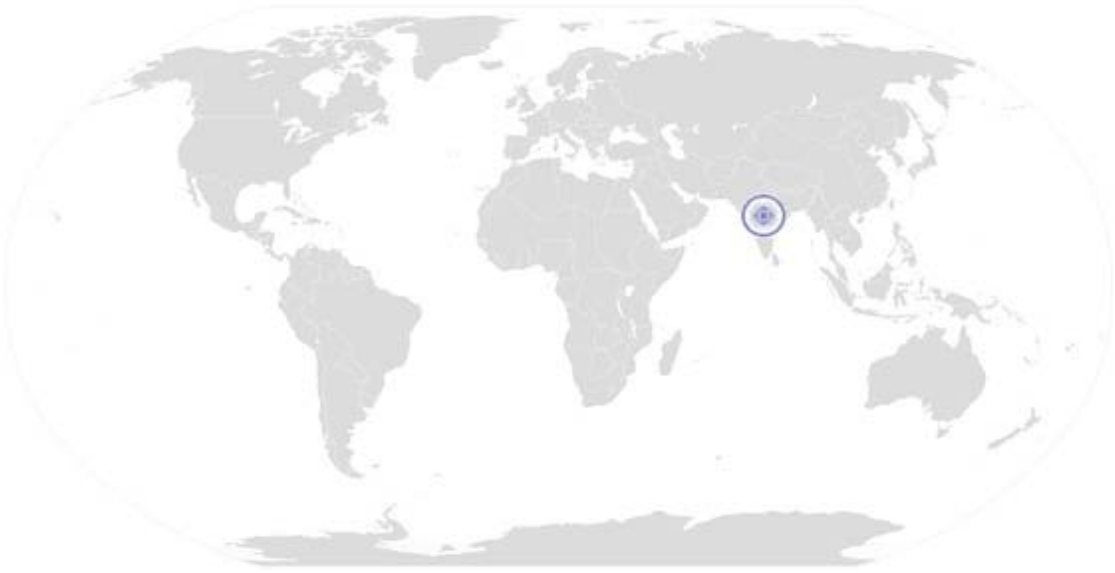
	mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes
	Reading and Understanding Skills
	The user/individual on the job needs to know and understand how to: SA5. Read and understand manuals, health and safety instructions, memos, 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

B. Professional Skills	**Material and Equipment Handling**
	The user/individual on the job needs to know and understand how to: SB1. Handling tools for deflashing SB2. Handle rubber product SB3. Handle chemicals SB4. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB5. Diagnose common problems in the machine based on visual inspection, sound , temperature etc SB6. Suggest improvements(if any) in process based on experience



NOS Version Control

NOS Code	RSC / N 0703		
Credits(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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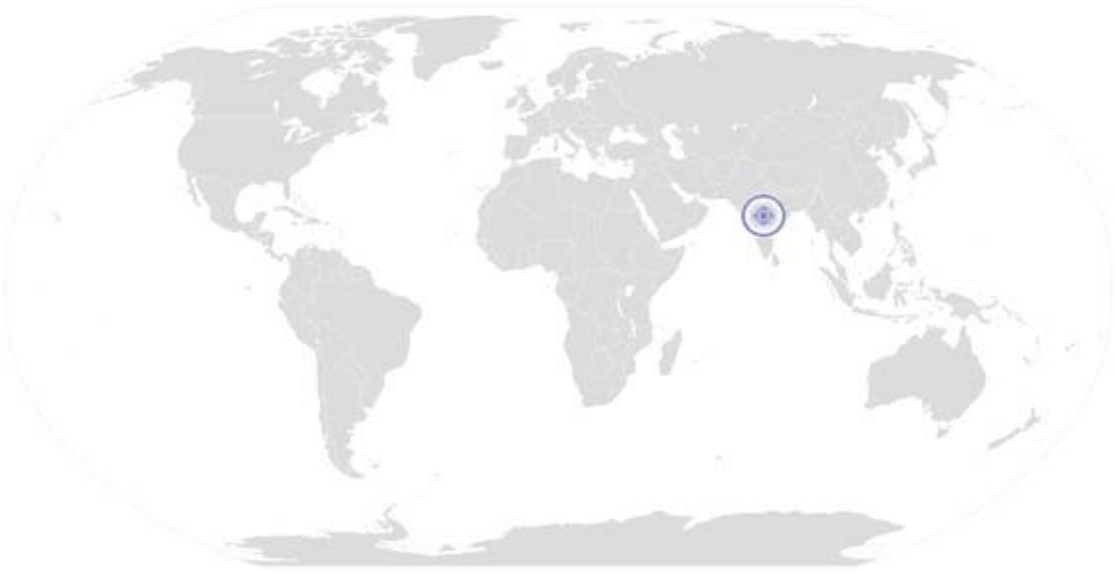


Overview

This unit is about carrying out housekeeping

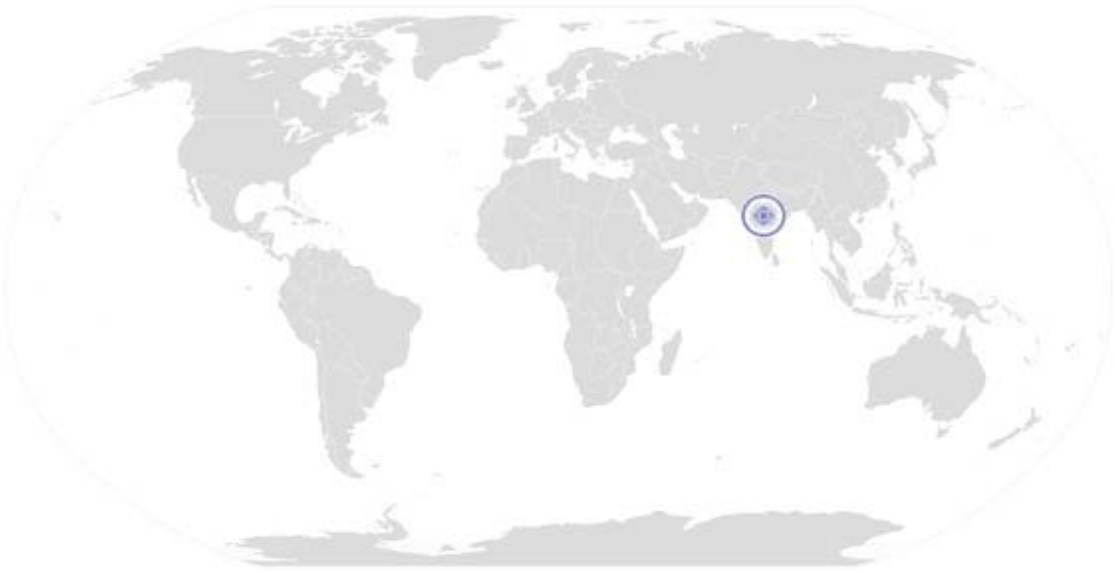
National Occupational Standard

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)	
B. 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

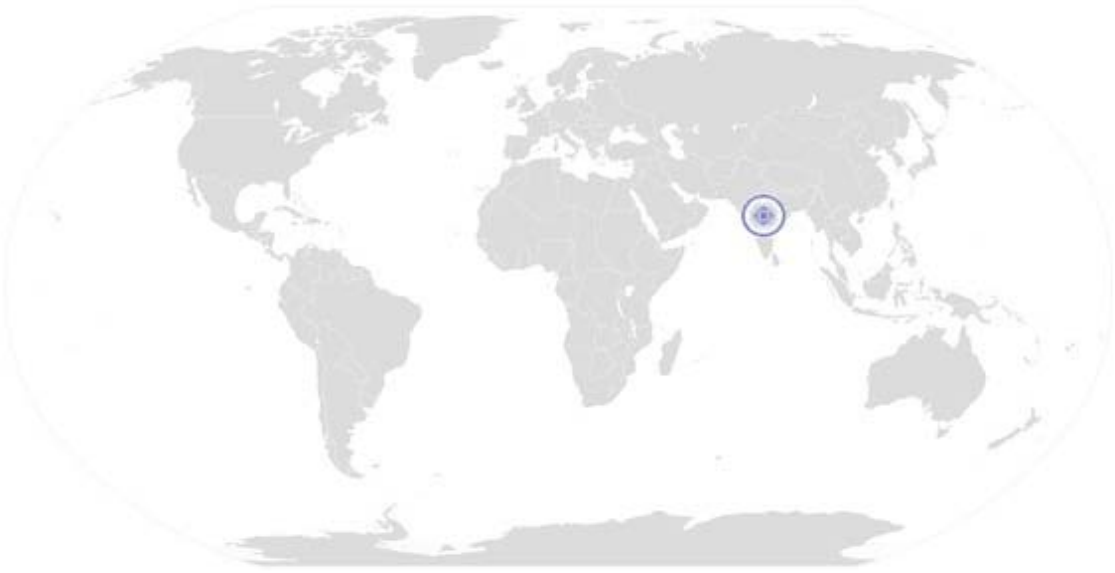
	format of the company SA3. Write simple letters, mails, etc SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes
	Reading and Understanding Skills
	The user/individual 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(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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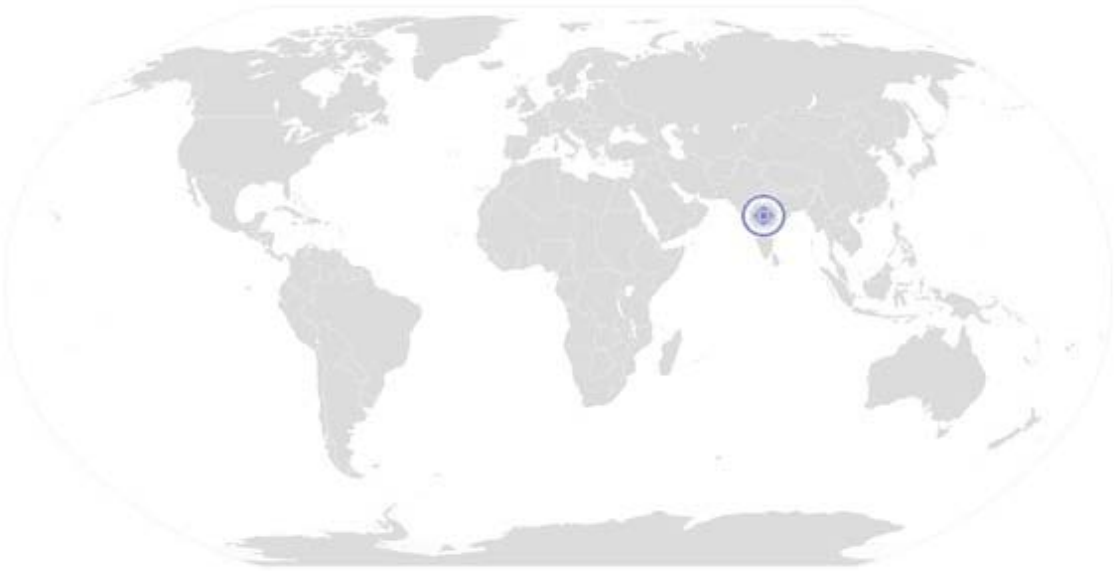


Overview

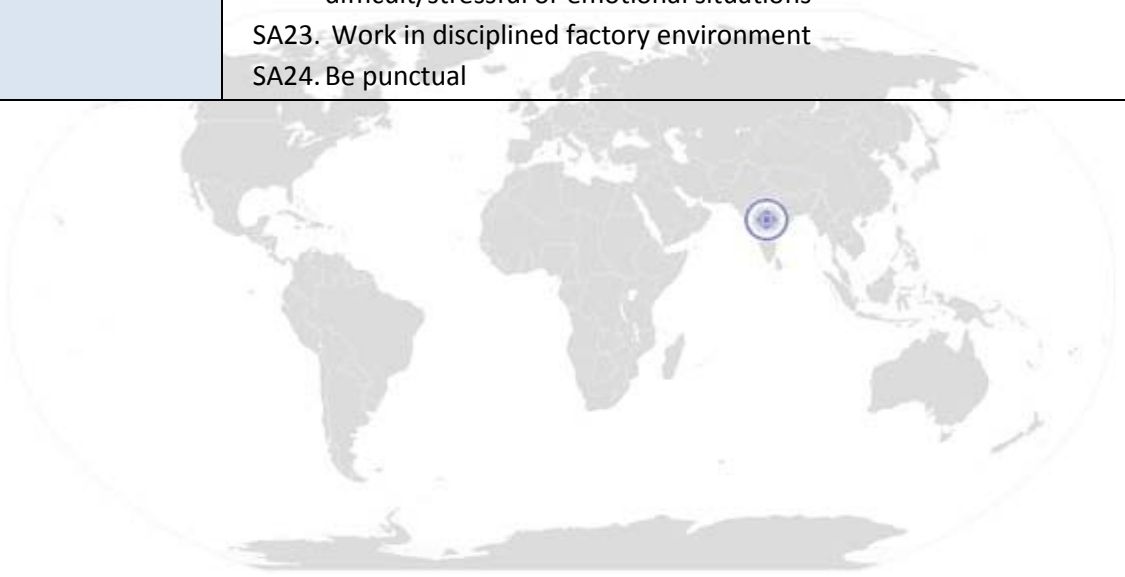
This unit is about reporting and documentation

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

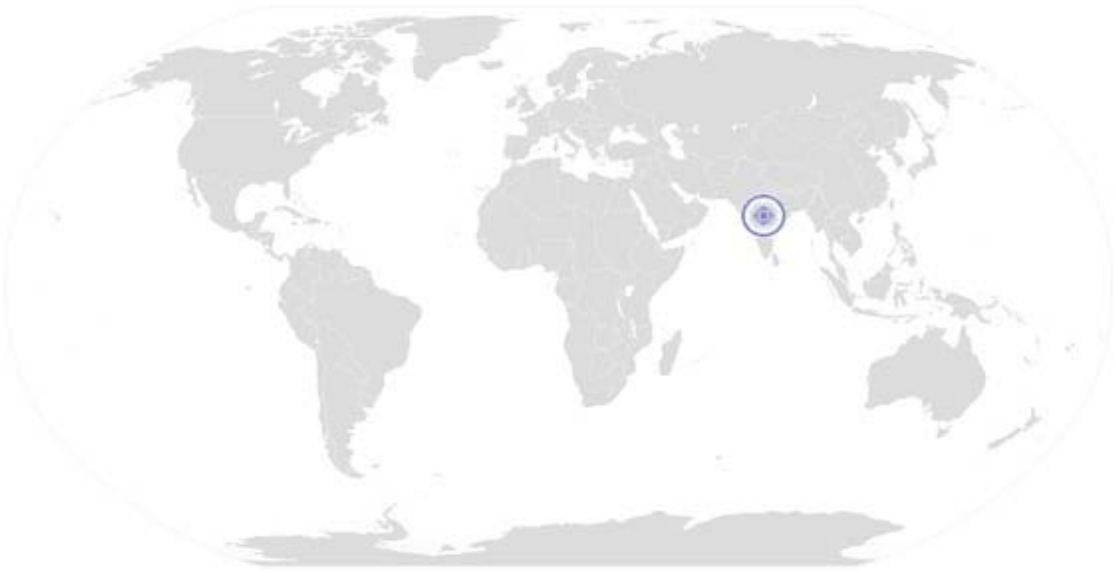
	KB10. The actions to be taken if the documents are not correct KB11. The importance of maintaining the security and confidentiality of recorded information KB12. Procedures to maintain confidentiality of information KB13. The appropriate method for responding to requests for information KB14. The reporting 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(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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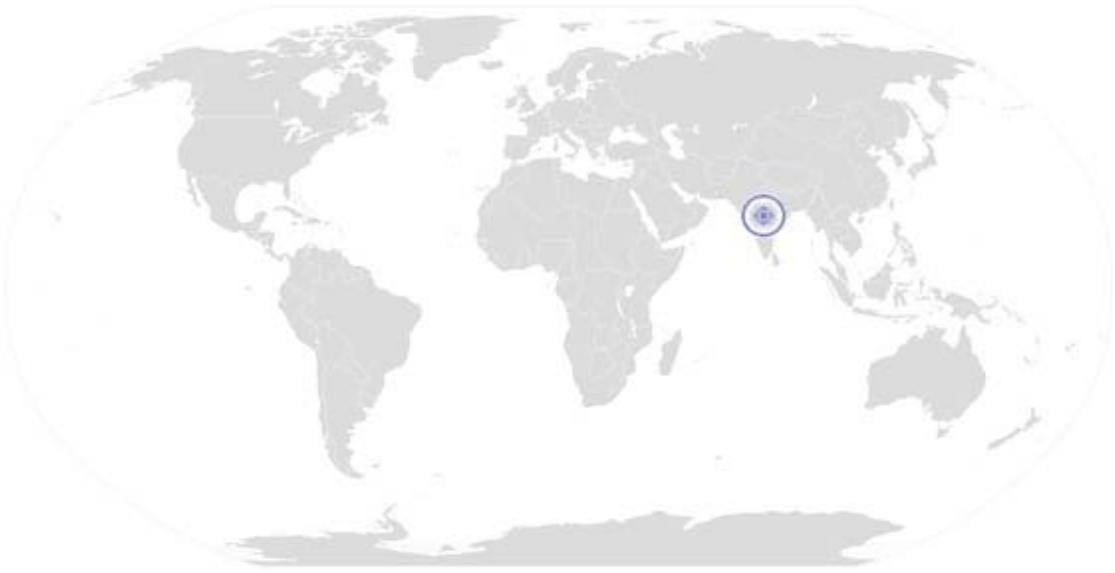


Overview

This unit is about carrying out quality checks

National Occupational Standard

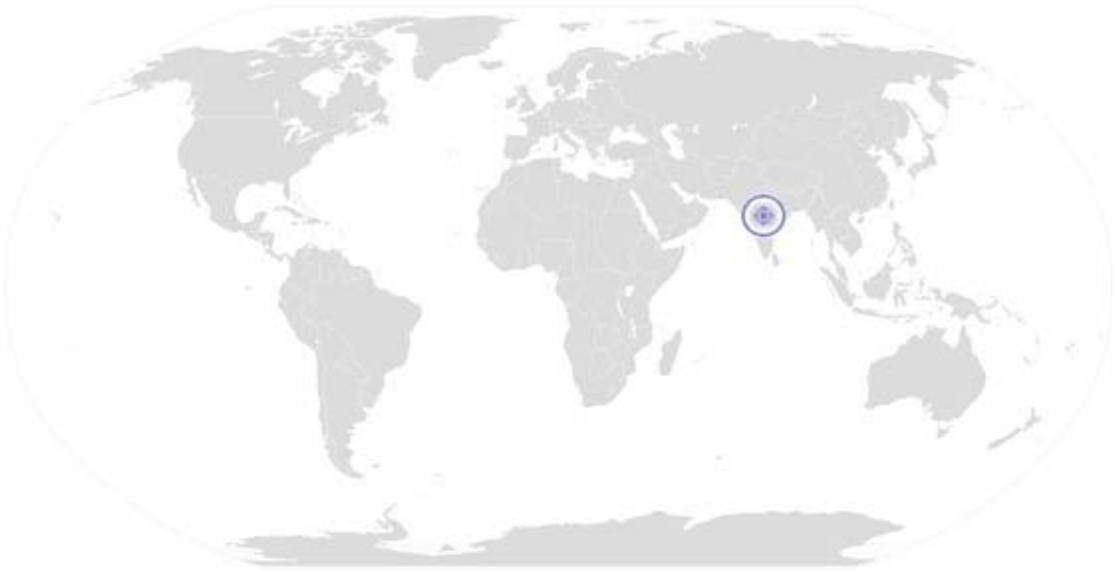
Unit Code	RSC / N 5003
Unit Title (Task)	**To carry out quality checks**
Description	This unit is about carrying out quality control activities
Scope	This unit/task covers the following: • Carrying out quality checks to identify problems • Take corrective actions • Reporting the results
Performance Criteria (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)	
A. 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(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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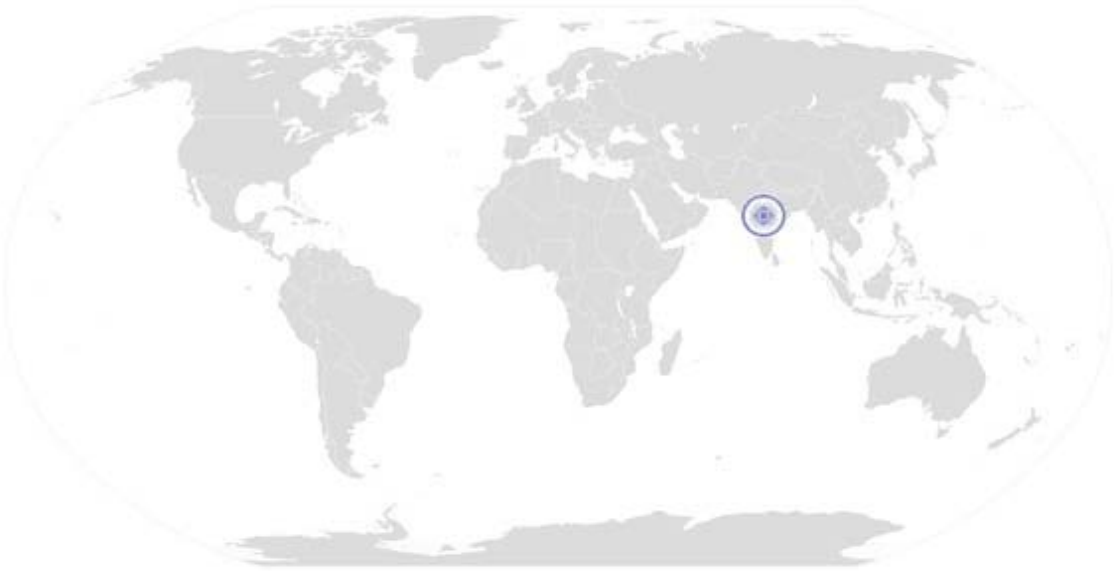


Overview

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

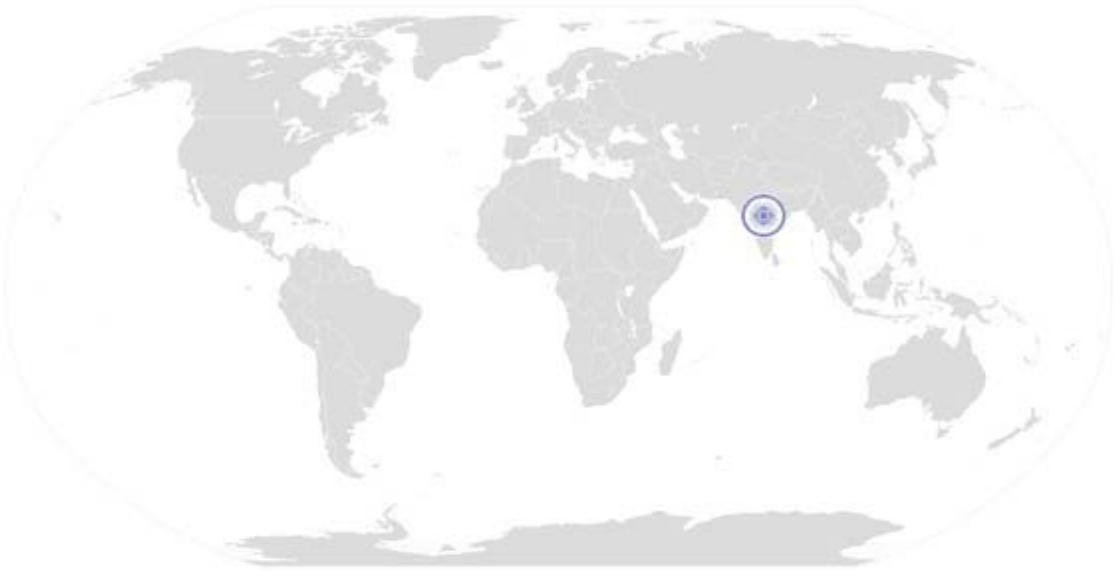
Performance Criteria (PC) w.r.t. the Scope	
Element	**Performance Criteria**
Problem Identification	To be competent, the user/individual on the job must be able to: PC1. Identify defects/indicators of problems PC2. Identify any wrong practices that may lead to problems PC3. Identify practices that may 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(NVEQF/NVQF/NSQF) *[OPTIONAL]*		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and Non- tyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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