

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR RUBBER INDUSTRY

What are Occupational Standards(OS)?

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

Contact Us:

PHD House (4th Floor),
Opp. Asian Games Village,
Siri Fort Institutional Area, New Delhi - 110016

E-mail:
info@rsdcindia.in



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Introduction

Qualifications Pack- Autoclave Operator

SECTOR: RUBBER INDUSTRY

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

OCCUPATION: Moulding/Curing

REFERENCE ID: RSC/ Q 0210

Brief Job Description: An autoclave operator is responsible for feeding the rubber compound and other materials into an autoclave unit to perform the curing operation.

Personal Attributes: This job requires the individual to be disciplined and watchful. He must be able to work both independently and under supervision. He should be comfortable in performing labourious work and willing to work in the high temperature environment.

Qualifications Pack For Autoclave Operator

Job Details	Qualifications Pack Code	RSC/ Q 0210		
	Job Role	Autoclave Operator		
	Credits(NVEQF/NVQF/NSQF) [OPTIONAL]		Version number	1.0
	Sector	Rubber Manufacturing	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	Autoclave Operator
Role Description	The Autoclave operator is responsible for feeding the rubber compound and other materials into an autoclave unit to perform the curing operation.
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: <ol style="list-style-type: none"> 1. RSC/ N1001 (Prepare autoclave unit) 2. RSC/ N1002 (Perform curing operation using the autoclave unit) 3. RSC/ N1003 (Perform post-curing 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: <ol style="list-style-type: none"> 8. NA
Performance Criteria	As described in the relevant OS units

Qualifications Pack For Autoclave Operator

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

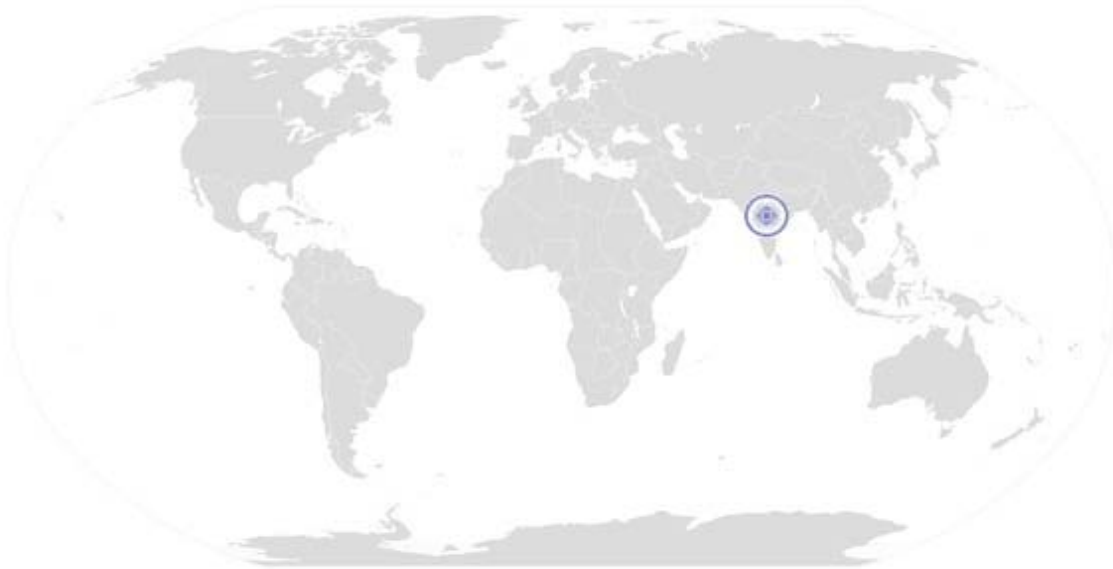
This unit is about preparing autoclaving unit

Unit Code	RSC / N 1001
Unit Title (Task)	Prepare autoclave unit
Description	This unit is about preparing autoclave unit for curing operation
Scope	This unit/task covers the following: <ul style="list-style-type: none"> • Ensure housekeeping and safety in curing area • Prepare an autoclave unit. • Set the parameters on an autoclave unit and accessories to carry out operations.
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 <ul style="list-style-type: none"> PC1. Ensure the emergency safety feature of a machine is working. PC1. Ensure that the equipment (autoclave, trolleys and mandrels) is clean. PC2. Set parameters for the equipment (temperature and pressure — steam and air) as per the organizational SOP. PC3. Set safety valves at the correct pressure. PC4. Prepare pre-formed components of desired size and shapes for the curing purpose.
Raw material appropriateness	<ul style="list-style-type: none"> PC5. Ensure that unvulcanized component to be fed are approved by an accredited laboratory. PC6. Collect all unvulcanized components required for production and store them in designated areas. PC7. Match batch codes of each unvulcanized component with batch codes on the job schedule given by the planning department.
Health & Safety	<ul style="list-style-type: none"> PC8. Ensure the use of certified/pressure-tested autoclaves and the functioning of safety valves. PC9. Adhere to all safety norms (such as wearing protective gloves and shoes). PC10. 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	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. Implications of poorly prepared equipment and power failures. KA2. Importance of identifying non-conforming materials and their storage. KA3. Risk and impact of not following defined procedures/work instructions. KA4. Escalation matrix for reporting identified problems

<p>its processes)</p>	<p>KA5. Types of documentation in organization and importance of the same KA6. Records to be maintained and the implications of their non-maintenance. KA7. Importance of housekeeping activities. KA8. Health, safety and environment guidelines, legislation and regulations as applicable. KA9. Personal protection (which protective equipment to be used and how). KA10. Impact of poor practices on health, safety and environment. KA11. Potential hazards and actions to minimize them. KA12. The escalation matrix and procedures for reporting hazards. KA13. Importance of FIFO and good shop floor practices (for example, 5S). KA14. Impact of various practices on cost, quality, productivity, delivery and safety. KA15. Handover/Takeover of the equipment/work area as per the organizational SOP.</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. How to adjust pressure and its importance. KB2. Functioning of valves and traps and venting and draining operations. KB3. Tolerance levels for various parameters (such as temperature and pressure). KB4. Setting the parameters for an autoclave system and the correlation between steam temperature and pressure. KB5. Various abnormalities and suitable response for abnormalities in equipment performance. KB6. Implications of delays in the preparation process. KB7. Types of defects leading to rejections and their indicators, reasons and possible solutions. KB8. Cleanliness and safety requirements for commencing an autoclave batch operation. KB9. Units of measurement. KB10. Response to emergencies, for example, power failures, fire, system failures and manual intervention to avoid disasters. KB11. Knowledge of appropriate batch sizes with respect to appropriate machinery. KB12. The usage of different types of fire extinguishers</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA3. Write simple letters, mails, etc SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>

	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 one's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	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

	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Handle an autoclave unit.</p> <p>SB2. Handle the unvulcanized component.</p> <p>SB3. Handle chemicals like release agents.</p> <p>SB4. Handling of various types of material handling equipment like forklifts, trolleys</p> <p>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.</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Diagnose common problems in the machine based on visual inspection, sound , temperature etc</p> <p>SB7. Suggest improvements(if any) in process based on experience</p>



NOS Version Control

NOS Code	RSC / N 0901		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and NonTyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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National Occupational Standard



Overview

This unit about performing curing operation using the Autoclave unit

Unit Code	RSC / N 1002
Unit Title (Task)	Perform curing operation using the Autoclave unit
Description	This unit is about performing curing operation using the Autoclave unit
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Ensure housekeeping and safety in curing areas. • Operate an autoclave unit. • Load pre-forms into an autoclave • Feed un-vulcanised rubber components to the machine.
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Raw material appropriateness	<p>To be competent, the user/individual on the job must be able to :</p> <p>PC1. Ensure, through visual inspections, that pre-forms are of the desired quality (uncontaminated).</p> <p>PC2. Ensure that batch sizes of pre-forms are as per the organisational SOP.</p>
Operation	<p>PC3. Load/Feed pre-forms into an autoclave unit.</p> <p>PC4. Load/Feed rubber components appropriately in the machine to have rejections and re-works within tolerance limit.</p> <p>PC5. Loading sequence of components in the autoclave should be as per plan to get maximum output.</p> <p>PC6. Monitor temperature, pressure and curing time properly during the operation.</p>
Health & Safety	<p>PC7. Handle the material coming out of autoclave equipment using hand gloves and other safety equipment.</p> <p>PC8. Adhere to all safety norms (such as wearing protective gloves and shoes, safety goggles etc)</p> <p>PC9. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational standards.</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company/ organization and	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Curing operation and its importance.</p> <p>KA2. Implications of poorly prepared material and power failures.</p> <p>KA3. The material disposal procedure, importance of appropriate disposal of material and implications of not following the material disposal procedure.</p>

Perform Curing Operation Using The Autoclave Unit

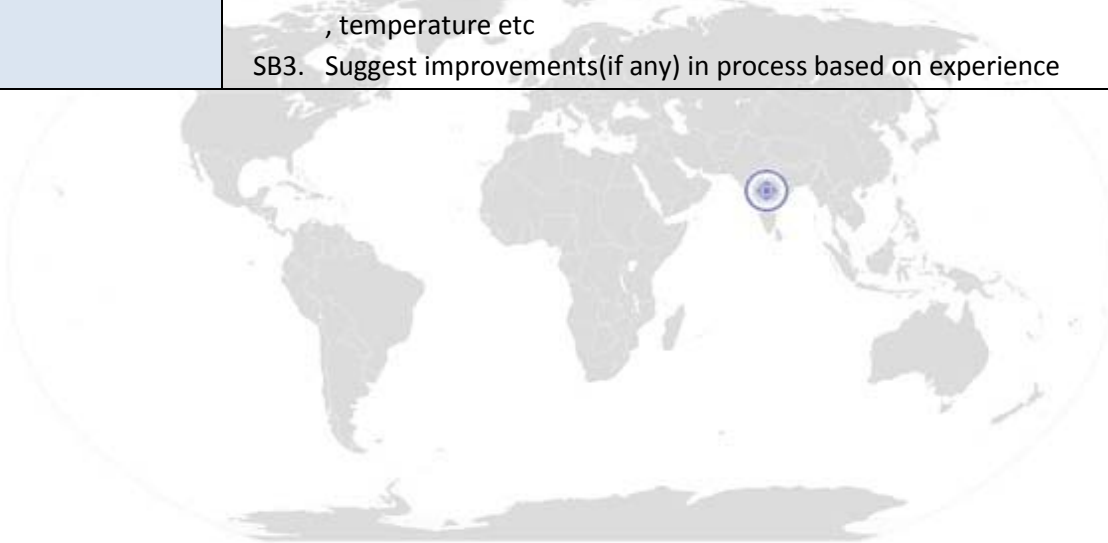
<p>its processes)</p>	<p>KA4. How to conduct quality and damage checks and their importance. KA5. Importance of identifying non-conforming products and their storage. KA6. Risk and impact of not following defined procedures/work instructions. KA7. The escalation matrix for reporting identified issues. KA8. Types of documentation in the organization and their importance. KA9. Records to be maintained and the implications of their non-maintenance. KA10. Importance of housekeeping & good shopfloor practices (eg. 3S & 5S) KA11. Health, safety and environment guidelines, legislations and regulations, as applicable. KA12. Personal 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. Handover/Takeover of the equipment/work area as per organizational SOP.</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Curing operation using an autoclave machine. KB2. Cleanliness and safety requirements for commencing an autoclave operation. KB3. Hot air and open steam curing techniques using autoclaves. KB4. Step curing of thick products using autoclaves. KB5. Operation of autoclave units (equipment working, possible setting levels and typical processes followed for different batches). KB6. Adjusting pressure and the correlation between steam temperature and pressure. KB7. Functioning of valves and traps. KB8. Effects of improper curing, temperature, cycle time and pressure on the properties of rubber products. KB9. The process and importance of quality checks. KB10. Types of defects leading to rejections and their indicators, reasons and possible solutions. KB11. Potential problems in the autoclave operation. KB12. Units of measurement. KB13. Response to emergencies, for example, power failures, fire, system failures and manual intervention to avoid disasters. KB14. Knowledge of appropriate batch sizes with respect to appropriate machinery. KB15. When and where to use cleaner batches and their disposal.</p>
<p>Skills (S)</p>	
<p>A. Core Skills/</p>	<p>Writing Skills</p>

Perform Curing Operation Using The Autoclave Unit

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

Perform Curing Operation Using The Autoclave Unit

	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA21. Avoid absenteeism</p> <p>SA22. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA23. Work in disciplined factory environment</p> <p>SA24. Be punctual</p>
<p>B. Professional Skills</p>	<p>Material and Equipment Handling</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Handle a autoclave unit.</p> <p>SB2. Handle the unvulcanized component and cured compounds.</p> <p>SB3. Handle chemicals like release agents.</p> <p>SB1. Handling of various types of material handling equipment like forklifts, trolleys.</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. Diagnose common problems in the machine based on visual inspection, sound , temperature etc</p> <p>SB3. Suggest improvements(if any) in process based on experience</p>



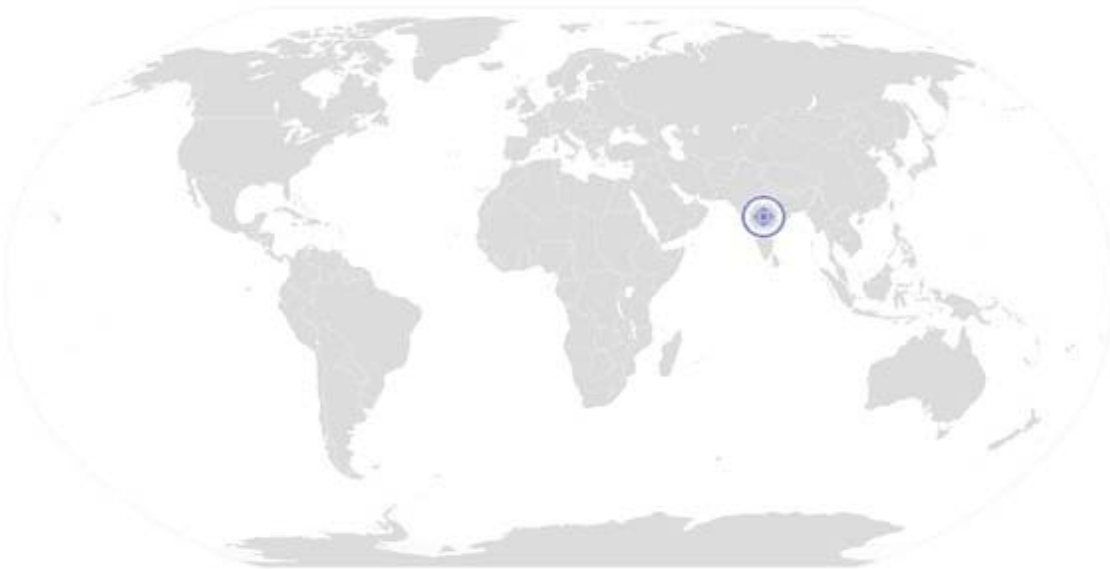
NOS Version Control

NOS Code	RSC / N 1002		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and NonTyre	Last reviewed on	05/05/13
		Next review date	05/05/14



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National Occupational Standard



Overview

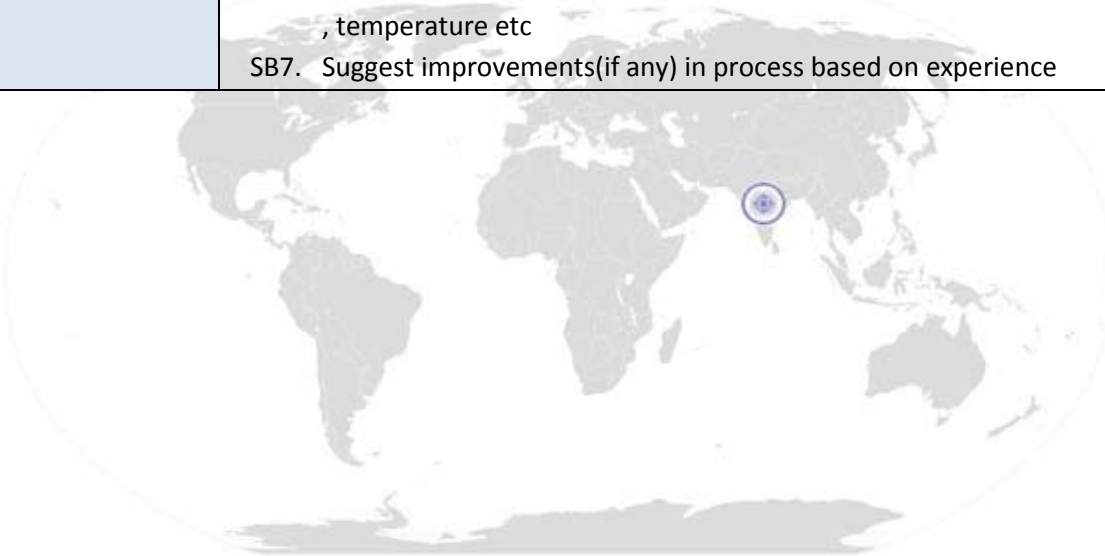
This unit is about performing activities after curing operation

Unit Code	RSC / N 1003
Unit Title (Task)	Perform post - curing activities
Description	This unit is about performing curing operation using the autoclave unit
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Ensuring housekeeping and safety in the autoclave area • Unloading cured product appropriately • Removal of cured product from the mandrel • 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	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Ensure that the steam pressure is at the normal level after the completion of cycle.</p> <p>PC2. Let off steam completely before opening an autoclave's door.</p> <p>PC3. Unload cured product appropriately.</p> <p>PC4. Drain condensates properly.</p> <p>PC5. Cool cured products/batches correctly.</p> <p>PC6. Remove products from mandrels.</p>
Material disposal	PC7. Dispose of waste material safely, as per organizational SOP.
Batch Marking	PC8. Ensure identification and traceability by batch marking/coding for the right product as per the instructions laid down by the company (in terms of batch number, weight, color and date stamp).
Sampling	<p>PC9. Send samples of specified compounds/batches in specified form to an accredited lab for testing.</p> <p>PC10. Send the remaining material to designated storage areas.</p>
Health & Safety	<p>PC11. Handle the material coming out of autoclave equipment using hand gloves and other safety equipment.</p> <p>PC12. Adhere to all safety norms (such as wearing protective gloves, shoes, safety goggles etc).</p> <p>PC13. Comply with health, safety, environment guidelines and regulations in accordance with international/national standards or the organizational</p>

	standards.
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Implications of poorly prepared material and power failures.</p> <p>KA2. Significance of batch marking.</p> <p>KA3. Importance of identifying nonconforming products and their storage.</p> <p>KA4. Risk and impact of not following defined procedures/work instructions.</p> <p>KA5. The escalation matrix and procedures for reporting identified problems.</p> <p>KA6. Types of documentation in the organization and their importance.</p> <p>KA7. Records to be maintained and the implications of their non-maintenance.</p> <p>KA8. Importance of housekeeping & good shopfloor practices (eg. 3S & 5S)</p> <p>KA9. Health, safety, and environment guidelines, legislations and regulations as applicable.</p> <p>KA10. Personal protection (which protective equipment to be used and how).</p> <p>KA11. Potential hazards and actions to minimize them.</p> <p>KA12. Impact of poor practices on health, safety and environment.</p> <p>KA13. The escalation matrix and procedures for reporting hazards.</p> <p>KA14. Handover/Takeover of the equipment/work area as per organizational SOP.</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Appropriate method for draining condensates.</p> <p>KB2. Methods for removing products from mandrels.</p> <p>KB3. Cooling procedure for cured compounds.</p> <p>KB4. Process and importance of quality checks.</p> <p>KB5. Batch marking techniques.</p> <p>KB6. Implications of incorrect batch marking.</p> <p>KB7. Implications of inappropriate waste disposal.</p> <p>KB8. Types of defects leading to rejections and their indicators, reasons and possible solutions.</p> <p>KB9. Units of measurement.</p> <p>KB10. Coding systems for identification and traceability.</p> <p>KB11. Knowledge of weighing scales.</p> <p>KB12. Knowledge of the storage life of compounds, ambient temperature and its effect on compounds.</p> <p>KB13. The usage of different types of fire extinguishers</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required</p>

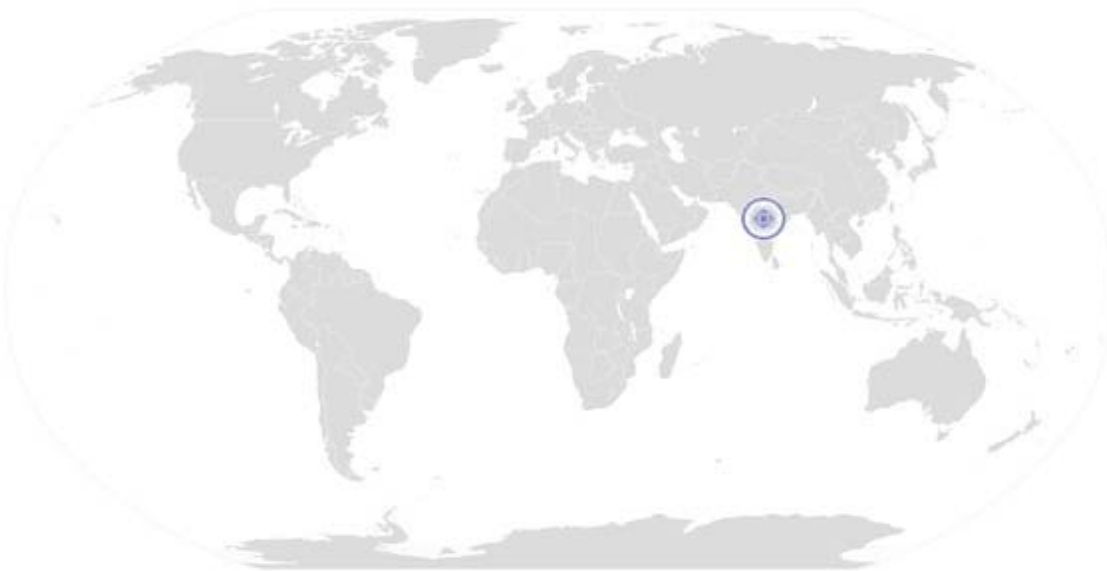
	<p>format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	<p>Reading and Understanding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

	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 a autoclave unit. SB2. Handle the unvulcanized component and cured compounds. SB3. Handle chemicals like release agents. SB4. Handling of various types of material handling equipment like forklifts, trolleys 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 1003		
Credits(NVEQF/NVQF/NSQF) [OPTIONAL]		Version number	1.0
Industry	Rubber Manufacturing	Drafted on	20/03/13
Industry Sub-sector	Tyre and NonTyre	Last reviewed on	05/05/13
		Next review date	05/05/14



National Occupational Standard



Overview

This unit is about carrying out housekeeping

Carry Out Housekeeping Activities

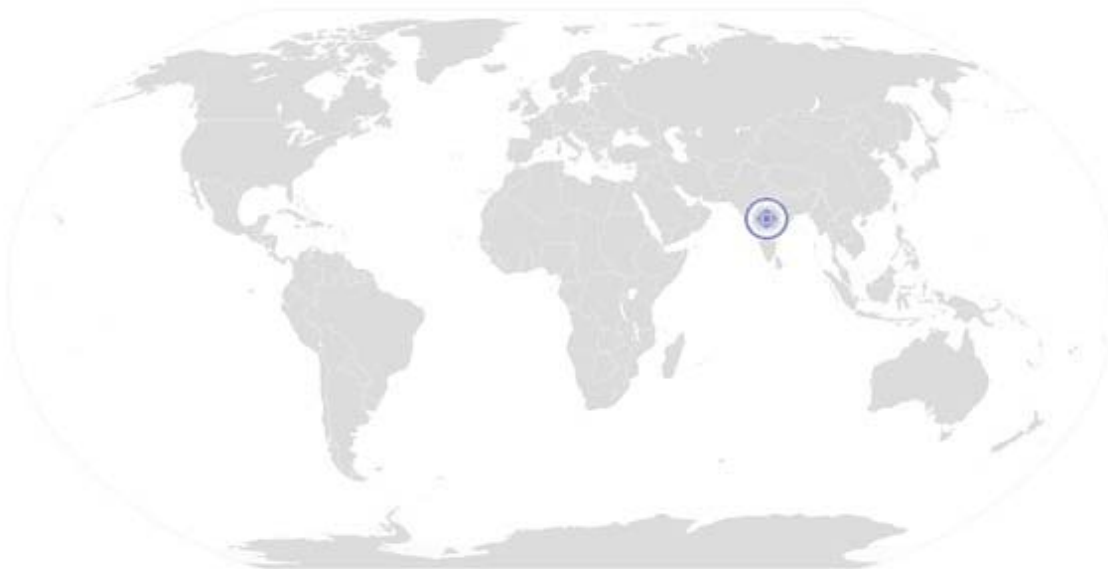
National Occupational Standard	Unit Code	RSC / N 5001
	Unit Title (Task)	To carry out housekeeping
	Description	This unit is about carrying out housekeeping activities
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Preparing for housekeeping activities • Carry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

Carry Out Housekeeping Activities

	<p>PC18. Follow workplace procedures to deal with any accidental damage caused during the cleaning process</p> <p>PC19. Ensure that, on completion of the work, the area is left clean and dry and meets requirements</p> <p>PC20. Return the equipment, materials and personal protective equipment that were used to the right places making sure they are clean, safe and securely stored</p> <p>PC21. Dispose the waste garnered from the activity in an appropriate manner</p> <p>PC22. Dispose of used and un-used solutions according to manufacturer’s instructions, and clean the equipment thoroughly</p>
<p>General</p>	<p>PC23. Maintain schedules and records for housekeeping duty</p> <p>PC24. Replenish any necessary supplies or consumables</p>
<p>Knowledge and Understanding (K)</p>	
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The levels of hygiene required by workplace and why it is important to maintain them during your work</p> <p>KB2. How to inspect a work area to decide what cleaning it needs</p> <p>KB3. Methods and materials that used for cleaning variety of surfaces</p> <p>KB4. The types of cleansing agents that are not to be mixed together</p> <p>KB5. The correct method for cleaning equipment and/or machinery used during your work</p> <p>KB6. The importance of personal protective equipment</p> <p>KB7. Appropriate personal protective equipment for the work area, cleaning equipment, tools, materials and chemicals used</p> <p>KB8. The correct sequence for cleaning the work area</p> <p>KB9. The time taken by the treatment to work</p> <p>KB10. The importance of following manufacturer's instructions on cleaning agents</p> <p>KB11. The most appropriate place to carry out test cleans and why this should be done before applying treatments</p> <p>KB12. The importance of applying treatments evenly and the effect of not doing this</p> <p>KB13. Process of cleaning the surfaces without causing injury or damage</p> <p>KB14. The method to check the treated surface and equipment on completion of cleaning</p> <p>KB15. Procedures for reporting any unidentified soiling</p> <p>KB16. Procedures for disposing off waste</p> <p>KB17. Procedures for disposing off or storing personal protective equipment</p> <p>KB18. Escalation procedures for soils or stains that could not be removed</p>

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 one's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.

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



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National Occupational Standard



Overview

This unit is about reporting and documentation

To Carry Out Reporting And Documentation

National Occupational Standard

Unit Code	RSC / N 5002
Unit Title (Task)	To carry out reporting and documentation
Description	This unit is about carrying out reporting and documentation
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Reporting of data/problem/incidents etc • Documentation • Information Security
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Reporting	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Report data/problems/incidents as applicable in a timely manner</p> <p>PC2. Report to the appropriate authority as laid down by the company</p> <p>PC3. Follow reporting procedures as prescribed by the company</p>
Recording and Documentation	<p>PC4. Identify documentation to be completed relating to one's role</p> <p>PC5. Record details accurately an appropriate format</p> <p>PC6. Complete all documentation within stipulated time according to company procedure</p> <p>PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly</p> <p>PC8. Make sure documents are available to all appropriate authorities to inspect</p>
Information Security	<p>PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures</p> <p>PC10. Inform the appropriate authority of requests for information received</p>
Knowledge and Understanding (K)	
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different methods of recording information</p> <p>KB2. Various documents that need to be maintained</p> <p>KB3. Company procedure for filling/maintaining up the documents</p> <p>KB4. Procedures for reporting to the appropriate authority</p> <p>KB5. Procedures for recording damage, breakages etc</p> <p>KB6. Reporting incidents where standard operating procedures are not followed</p> <p>KB7. The importance of complete and accurate documentation</p> <p>KB8. How to maintain complete documentation accurately and within agreed timescales</p> <p>KB9. The importance of ensuring that the documents are correct</p>

To Carry Out Reporting And Documentation

	<p>KB10. The actions to be taken if the documents are not correct</p> <p>KB11. The importance of maintaining the security and confidentiality of recorded information</p> <p>KB12. Procedures to maintain confidentiality of information</p> <p>KB13. The appropriate method for responding to requests for information</p> <p>KB14. The reporting procedures to followed before disclosing information to any outside party</p>
Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	Reading and Understanding Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p>
	Integrity
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust</p>

To Carry Out Reporting And Documentation

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



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National Occupational Standard



Overview

This unit is about carrying out quality checks

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

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

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

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National Occupational Standard



Overview

This unit is about problem identification and escalation

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

To Carry Out Problem Identification And Escalation

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

To Carry Out Problem Identification And Escalation

	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 one's area of work SA18. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning. SA19. Is open to new ways of doing things SA20. The capacity to envisage and articulate personal goals; to develop strategies and take action to achieve them.
	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

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