

## QUALIFICATIONS PACK- OCCUPATIONAL STANDARDS FOR PLASTICS INDUSTRY

### What are Occupational Standards (OS)?

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

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## Introduction

### Qualifications Pack- Machine Operator –Plastics Extrusion

**SECTOR:** RUBBER

**SUB SECTOR:** PLASTICS PROCESSING

**OCCUPATION:** PLASTICS EXTRUSION

**REFERENCE ID:** RSC/Q4602 (CPC/Q 0304)

**ALIGNED TO:**

#### Brief Job Description:

The Machine Operator Plastics Extrusion is responsible for plastics raw material handling, mixing / compounding (if required), performing the extrusion operation to produce Plastics Pipes / Films as per the requirements.

#### Personal Attributes:

This job requires the individual to work independently. He must have excellent skills and result oriented and positive in attitude. The individual must be attentive and focused in attaining the set objectives. He should be able to handle multiple tasks and smart to resolve any problem emanating in machine and material at the level of production he is engaged in.

## Qualifications Pack for Machine operator Plastics Extrusion

Job Details	<b>Qualifications Pack Code</b>	<b>RSC/Q4602 (CPC/Q0304)</b>		
	<b>Job Role</b>	<b>Machine Operator Plastics Extrusion</b>		
	<b>Credits (NSQF)</b>	<b>48</b>	<b>Version number</b>	<b>1.0</b>
	<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
	<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
	<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>
	<b>NSQC Clearance on</b>	<b>21/07/2016</b>		

<b>Job Role</b>	<b>Machine Operator Plastics Extrusion</b>
<b>Role Description</b>	Plastics Extruder is responsible for plastics raw material handling, mixing / compounding (if required), performing the extrusion operation to produce Plastics Pipes / Films as per the requirements.
<b>NSQF level</b>	4
<b>Minimum Educational Qualifications*</b>	VIII Standard
<b>Maximum Educational Qualifications*</b>	
<b>Training</b> (Suggested but not mandatory)	Training on Operation of Plastics Extruders
<b>Minimum Job Entry Age</b>	18
<b>Experience</b>	No previous experience required
<b>Applicable National Occupational Standards (NOS)</b>	<b>Compulsory:</b> <ol style="list-style-type: none"> <li><a href="#">RSC/N4606 (CPC/N0319): Basics Plastics Raw Material &amp; Extrusion Concept</a></li> <li><a href="#">RSC/N4101 (CPC/N0411): Maintain basic Health and safety practices at thre workplace,5S.</a></li> <li><a href="#">RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing</a></li> <li><a href="#">RSC/N4608 (CPC/N0322): Perform the HDPE /PVC Pipe Extruder Machine Operation</a></li> <li><a href="#">RSC/N4609 (CPC/N0323): Perform the Plastic Film Extruder Machine Operation</a></li> <li><a href="#">RSC/N4610 (CPC/N0324): To Carryout House Keeping.</a></li> <li><a href="#">RSC/N4604 (CPC/N0315) Reporting &amp; Documentation</a></li> <li><a href="#">RSC/N4605 (CPC/N0316): To Carry Out Quality Checks</a></li> </ol>
<b>Performance Criteria</b>	As described in the relevant OS units

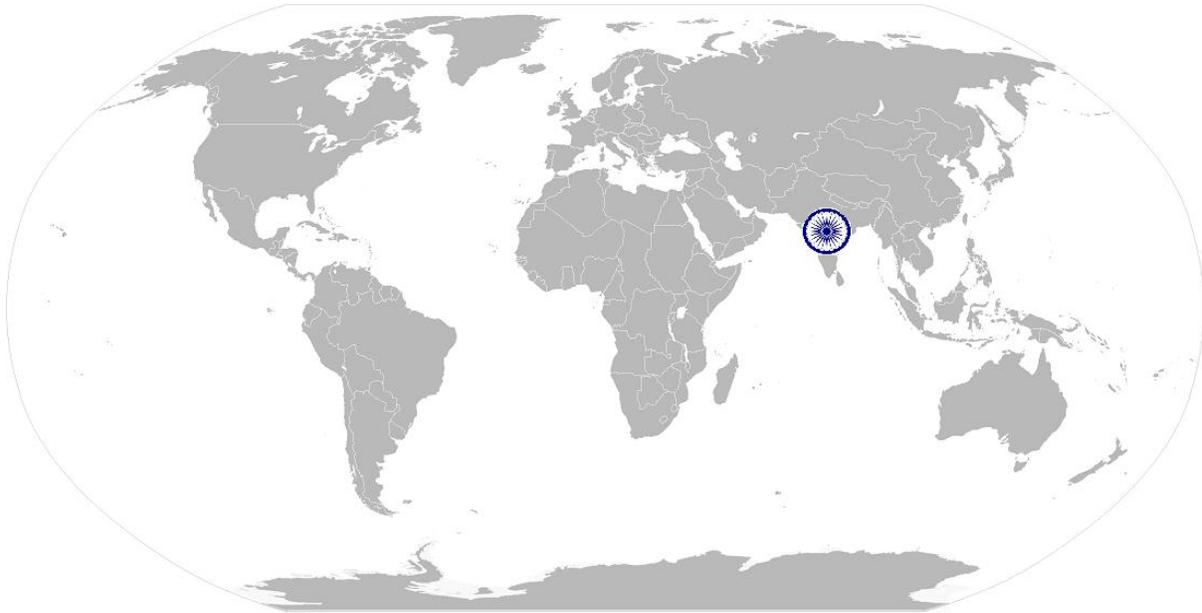
### Qualifications Pack for Machine operator Plastics Extrusion

Definitions	Keywords /Terms	Description
	Core Skills/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.
	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.
	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.
	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.
	Occupational Standards (OS)	OS are Occupational Standards which apply uniquely in the Indian context
	Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
	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.
	Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.	
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.	
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.	
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.	
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.	
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.	

*Qualifications Pack for Machine operator Plastics Extrusion*

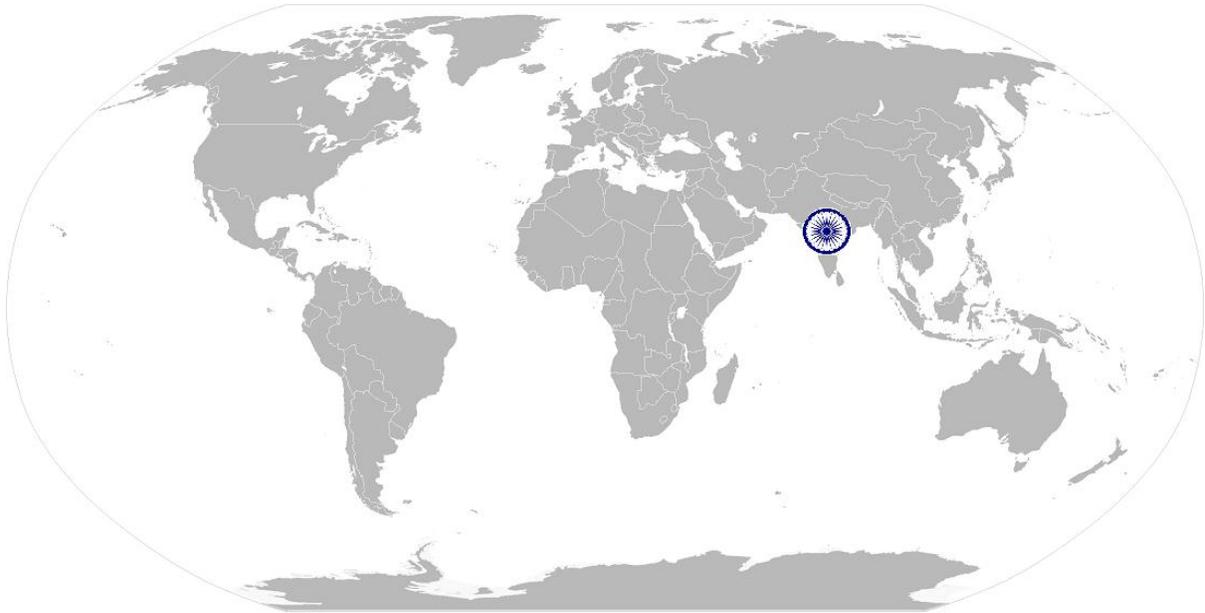
**Acronyms**

Unit Code	Unit Code is a unique identifier for a OS unit, which can be denoted with an 'N'
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
<b>Keywords /Terms</b>	<b>Description</b>
OS	Occupational Standard(s)
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework
NSQF	National Skills Qualifications Framework
OEM	Original Equipment Manufacturer
OS	Occupational Standard(s)
QP	Qualifications Pack



*RSC/N4606 (CPC/N0319)- Basics Plastics Raw Material & Extrusion Concept*

# National occupational Standards



## Overview

This unit is about Basics Plastics Raw Material with emphasizing on Poly Olefins and PVC & Plastics Extrusion Concept.

## RSC/N4606 (CPC/N0319)- Basics Plastics Raw Material &amp; Extrusion Concept

National occupational Standards	<b>Unit Code</b>	<b>RSC/N4606 (CPC/N0319)</b>
	<b>Unit Title (Task)</b>	<b>Basic Plastics Raw Material &amp; Extrusion Concept</b>
	<b>Description</b>	This OS unit is about providing a basic knowledge of Plastics Raw Materials Used in Extrusion Process and The Extrusion Process.
	<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Understanding Polymers &amp; Plastics</li> <li>• Common Plastics Materials Used in Extrusion Process</li> <li>• Types of Extrusion Items Produce</li> <li>• Extrusion Process</li> <li>• Types of Extruders</li> </ul>
	<b>Performance criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance criteria</b>
	<b>Plastics Raw Material</b>	To be competent, the user/individual on the job should be able to PC1. Learn the Types of Plastics used in Extrusion and Its Properties PC2. Select the Plastics Raw Materials based on the Items Produced. PC3. Handle the Raw Materials and House Keeping
	<b>Extrusion Process</b>	PC4. Observe the Types of Extruders Used in the Extrusion Process and their Parts PC5. Handle Types of Dies Used for different Extruded Products. PC6. Study Haul Off Units PC7. Store and Handling of Finished Products and House Keeping.
	<b>Compounding and Mixing</b>	PC8. Study the Types of Additives, Master Batches PC9. Study the Types of Mixing and Compounding PC10. Ensure Measurement of Additives and Materials and Maintaining Formulations. PC11. Store and Handling of Raw Materials in Compounding Area and House Keeping
	<b>Health &amp; Safety</b>	PC12. Perform Safety Equipments and Its Use. PC13. Do's and Don't in Area of Operation PC14. Follow Safety Precaution Majors before Operations.
<b>Knowledge and Understanding (K)</b>		
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. The Organization Chart, Relevant legislation, standards, policies, procedures &amp; Code of Conduct followed in the company</li> <li>KA2. Different Types of Products Manufactured by the Company</li> <li>KA3. Quality Check and Grading and Segregation of non conforming Products</li> <li>KA4. Risk and impact of not following defined procedures/work instructions</li> <li>KA5. Types of documentation in organization and importance of the same</li> <li>KA6. Records to be maintained and implications of non-maintenance of the same</li> <li>KA7. Importance of housekeeping &amp; good shop floor practices (e.g. 3S &amp; 5S)</li> <li>KA8. Health, Safety and Environment guidelines</li> <li>KA9. Impact of poor practices on health, safety and environment</li> <li>KA10. Potential hazards and actions to minimize the same.</li> </ul>	

## RSC/N4606 (CPC/N0319)- Basics Plastics Raw Material &amp; Extrusion Concept

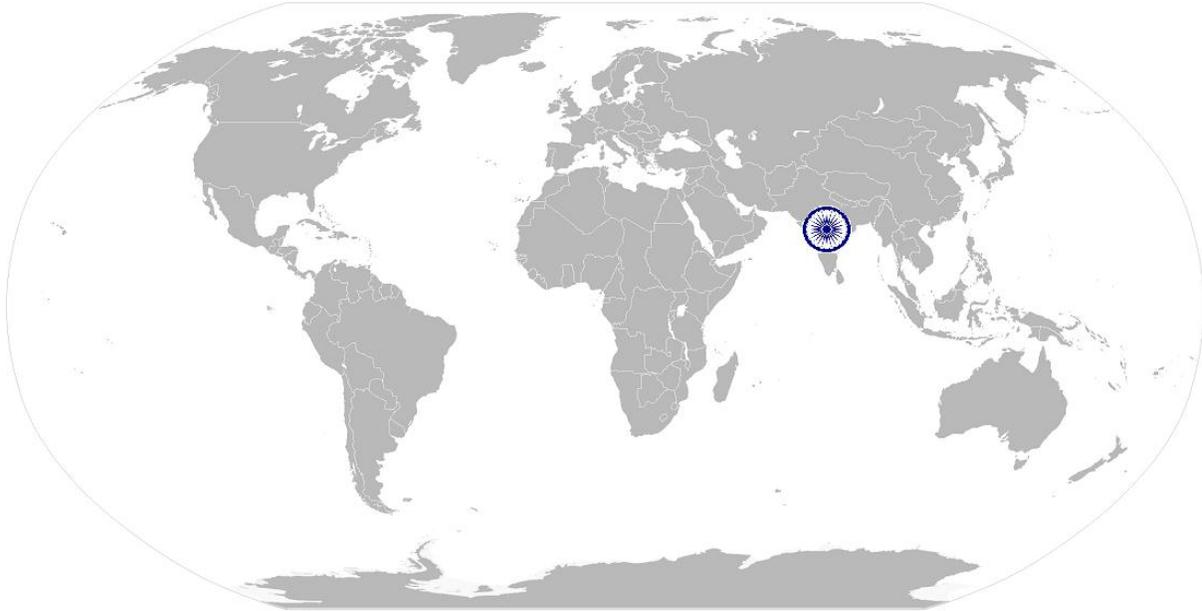
	KA11. Impact of various practices on cost, quality, productivity, delivery and safety KA12. Handover/ Takeover the equipment/ work area as per company's SOP
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. The Emergency Stops Procedure for Compounding and Extruder Machine KB2. Cleanliness and safety requirements for commencing Compounding & Extruder KB3. Importance of RPM, Temperature and Pressure Parameters. KB4. Preparation of Formulations KB5. Raw Material Feeding Auto / Manual Process, KB6. Health hazards of process and compounding ingredients KB7. Measurement techniques using gauges and balance (for thickness, width and weight) KB8. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster KB9. Knowledge of appropriate batch size with respect to appropriate machinery
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b> The user/ individual on the job needs to know and understand how to: SA1. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA2. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes SA3. Enter into the history card details of the fault identified in the plastic product manufactured
	<b>Reading Skills</b> The user/individual on the job needs to know and understand how to: SA4. Read and understand manuals, Warning, health and safety instructions, Raw Material Labels, Components, memos, reports, job cards etc. SA5. Read images, graphs, diagrams SA6. Understand the various coding systems as per company norms
	<b>Oral Communication (Listening and Speaking skills)</b> The user/individual on the job needs to know and understand how to: SA7. Express Opinions or Information clearly SA8. Discuss task lists, schedules, and work-loads with co-workers SA9. Communicate with Supervisors Job & Issue related tasks SA10. Do Communication between Upstream and Downstream teams SA11. Avoid using jargon, slang or acronyms when communicating with a supervisor /fellow subordinates etc unless it is required SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)
	<b>Integrity</b>

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	The user/individual on the job needs to know and understand how to: SA13. Practice honesty with respect to company property and time
	<b>Motivation</b>
	The user/individual on the job needs to know and understand or how to:  SA14. Take responsibility for completing one's own work assignment  SA15. Take initiative to enhance/learn skills in one's area of work  SA16. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.  SA17. Open to new ways of doing things  SA18. Envisage the capacity and articulate personal goals; to develop strategies and take action to achieve them.
	<b>Reliability</b>
	The user/individual on the job needs to know and understand how to: SA19. Avoid absenteeism  SA20. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations  SA21. Work in disciplined factory environment  SA22. Be punctual
<b>B. Professional Skills</b>	<b>Decision Making</b>
	The user/individual on the job needs to know and understand how to: SB1. Make decisions pertaining to the concerned area of work
	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand: SB2. Operation and different types of extruders SB3. Handling of Plastics Raw Materials, Additives and Master Batches SB4. Handling of various types of material handling equipment like forklifts, trolley etc.
	<b>Problem Solving</b>
	The user/individual on the job needs to know and understand how to: SB5. Think through the problem, evaluate the possible solution(s) and suggest

*RSC/N4606 (CPC/N0319)- Basics Plastics Raw Material & Extrusion Concept*

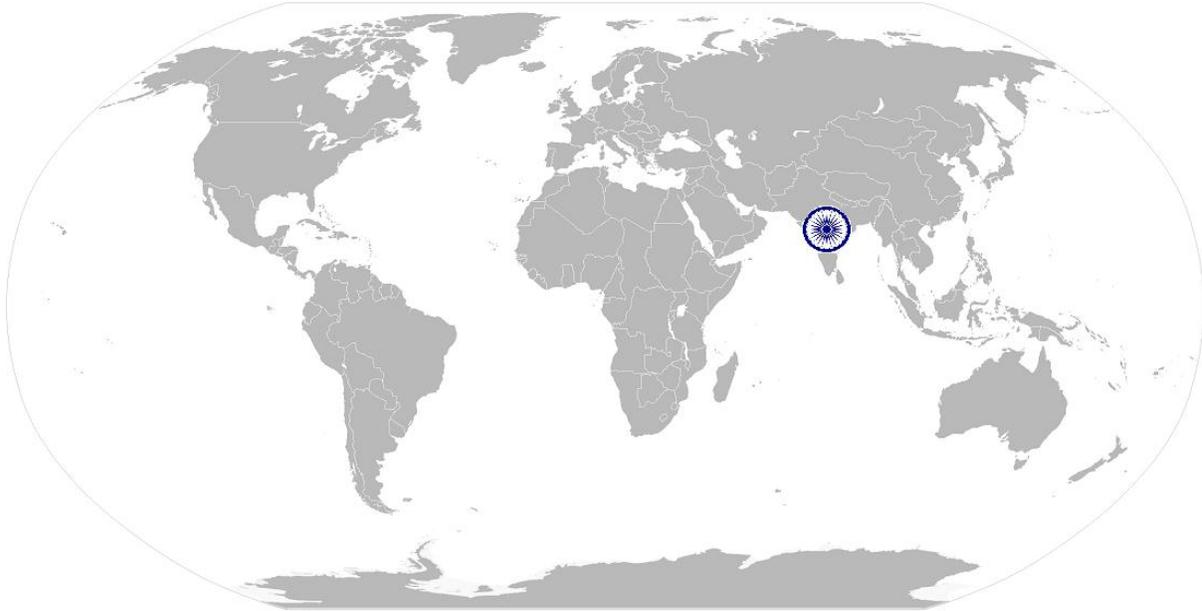
	<p>an optimum /best possible solution(s)</p> <p>SB6. Use common sense and make judgments during day to day basis.</p> <p>SB7. Use reasoning skills to identify and resolve basic problems.</p> <p>SB8. Identify immediate or temporary solutions to resolve delays</p>
	<p><b>Analytical Thinking</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB10. Diagnose common problems in the machine based on visual inspection, sound etc.</p> <p>SB11. Suggest improvements(if any) in process based on experience</p>



*RSC/N4606 (CPC/N0319)- Basics Plastics Raw Material & Extrusion Concept*

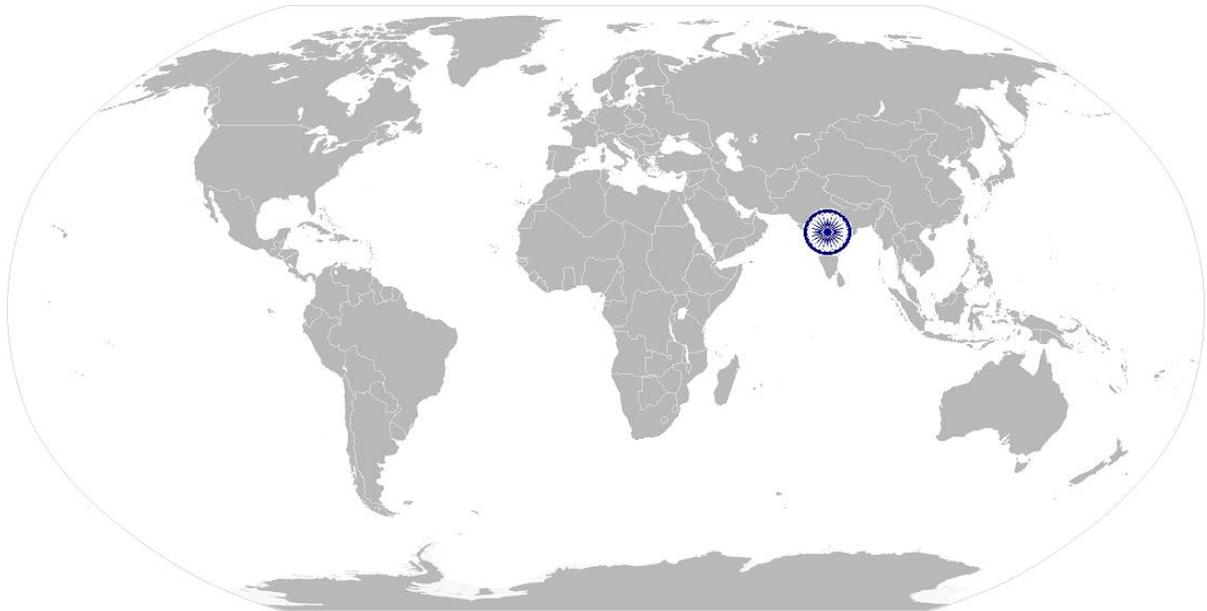
## **NOS Version Control**

<b>NOS Code</b>	<b>RSC/N4606 (CPC/N0319)</b>		
<b>Credits (NSQF)</b>	<b>6</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..*

# National occupational Standards



## Overview

This unit is about establishing health and safety practices maintaining at workplace.

RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..

National Occupational Standards	<b>Unit Code</b>	<b>RSC/N4101 (CPC/N 0411)</b>
	<b>Unit Title (Task)</b>	<b>Maintain basic health and safety practices at the workplace, 5S</b>
	<b>Description</b>	<p>This OS unit is about knowledge and practices relating to health, safety and security that candidates need to use in the workplace. It covers responsibilities towards self, others, assets and the environment.</p> <p>It includes understanding of risks &amp; hazards in the workplace, along with common techniques to minimize risk, deal with accidents, emergencies etc. It covers knowledge of fire safety, common first aid applications and safe practice.</p> <p>This OS is about ensuring all 5S activities both at the shop floor and the office area to facilitate increase in work productivity.</p>
	<b>Scope</b>	<p>The role holder will be responsible for</p> <ul style="list-style-type: none"> <li>• Health and safety procedure.</li> <li>• Fire safety procedure.</li> <li>• Emergencies, rescue and first aid procedures.</li> <li>• Ensure sorting, stream lining, storage and documentation, cleaning, standardization and sustenance across the plant premises of the organization.</li> </ul>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Health and safety</b>	<p>The individual on the job should be able to:</p> <p>PC1. Wear protective clothing/equipment for specific tasks and work conditions</p> <p>PC2. Carry out safe working practices while dealing with hazards to ensure the safety of Self and others.</p> <p>PC3. Keep good housekeeping practices at all times</p>
	<b>Fire safety</b>	<p>The individual on the job should be able to:</p> <p>PC4. Use the various appropriate fire extinguishers on different types of fires correctly</p> <p>PC5. Demonstrate rescue techniques applied during fire hazard, demonstrate good housekeeping in order to prevent fire hazards, demonstrate the correct use of a fire extinguisher.</p>
	<b>Emergencies, rescue and first aid procedures.</b>	<p>PC6. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise, and Identify areas in the plant which are potentially hazardous / unhygienic in nature. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine.</p> <p>PC7. Inform the concerned authorities on the potential risks identified in the processes, workplace area/ layout, materials used etc, Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations.</p> <p>PC8. Create awareness amongst others by sharing information on the identified risks.</p>

RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..

<p><b>Ensure sorting, stream lining, storage and documentation, cleaning, standardization and sustenance across the plant premises of the organization.</b></p>	<p>PC9. Follow the sorting process and check that the tools, fixtures &amp; jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.</p> <p>PC10. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions</p> <p>PC11. Follow the technique of waste disposal and waste storage in the proper bins as per SOP</p> <p>PC12. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places</p> <p>PC13. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions</p> <p>PC14. Ensure that areas of material storage are not overflowing</p> <p>PC15. Ensure properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required</p> <p>PC16. Return of extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area</p> <p>PC17. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards</p> <p>PC18. Follow the proper labelling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists</p> <p>PC19. Ensure to check the items in the respective areas have been identified as broken or damaged</p> <p>PC20. Follow the given instructions and check for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.</p> <p>PC21. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>B. Organizational Context</b> (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. The relevant standards, procedures and policies related to Health, Safety and Environment followed in the company</p> <p>KA2. The emergency handling procedures &amp; hierarchy for escalation</p>
<p><b>B. Technical Knowledge</b></p>	<p><b>The user/individual on the job needs to know and understand:</b></p> <p>KB1. The basic knowledge of Safety procedures (fire fighting, first aid) within the organization</p> <p>KB2. The basic knowledge of various types of PPEs and their usage</p>

RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..

	<p>KB3. The basic knowledge of risks/hazards associated with each occupation in the organization</p> <p>KB4. The knowledge of personal hygiene and how an individual contribute towards creating a highly safe and clean working environment the individual on the job needs to know and understand.</p> <p>KB5. The meaning of “hazards” and “risks”</p> <p>KB6. The health and safety hazards commonly present in the work environment and related precautions</p> <p>KB7. The possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible</p> <p>KB8. The Possible causes of risk and accident (due to oil leakage)</p> <p>KB9. Methods of accident prevention</p> <p>KB9. Safe working practices when working with tools and machines</p> <p>KB10. Safe working practices while working at various hazardous sites</p> <p>KB11. The general health and safety equipment in the workplace</p> <p>KB12. Various dangers associated with the use of electrical equipment</p> <p>KB13. Preventative and remedial actions to be taken in the case of exposure to toxic materials</p> <p>KB14. The Importance of using protective clothing/equipment while working</p> <p>KB15. Precautionary activities to prevent the fire accident</p> <p>KB16. Various causes of fire</p> <p>KB17. The techniques of using the different fire extinguishers</p> <p>KB18. Different methods of extinguishing fire</p> <p>KB19. Different materials used for extinguishing fire</p> <p>KB20. Rescue techniques applied during a fire hazard</p> <p>KB21. Various types of safety signs and what they mean</p> <p>KB22. The Appropriate basic first aid treatment relevant to the condition e.g. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries</p> <p>KB23. The content of written accident report</p> <p>KB24. Potential injuries and ill health associated with incorrect manual handling</p> <p>KB25. Safe lifting and carrying practices</p> <p>KB26. Personal safety, health and dignity issues relating to the movement of a person by others</p> <p>KB27. Potential impact to a person who is moved incorrectly</p> <p>KB28. The 5S procedures</p> <p>KB29. Various types 5s practices followed in various areas</p> <p>KB30. 5S checklists provided in the department/ team</p> <p>KB31. The Identification of useful &amp; non useful items</p> <p>KB32. The knowledge of labels , signs &amp; colours used as indicators</p> <p>KB33. The knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB34. Identification of various types of waste products</p> <p>KB35. The impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human body.</p>
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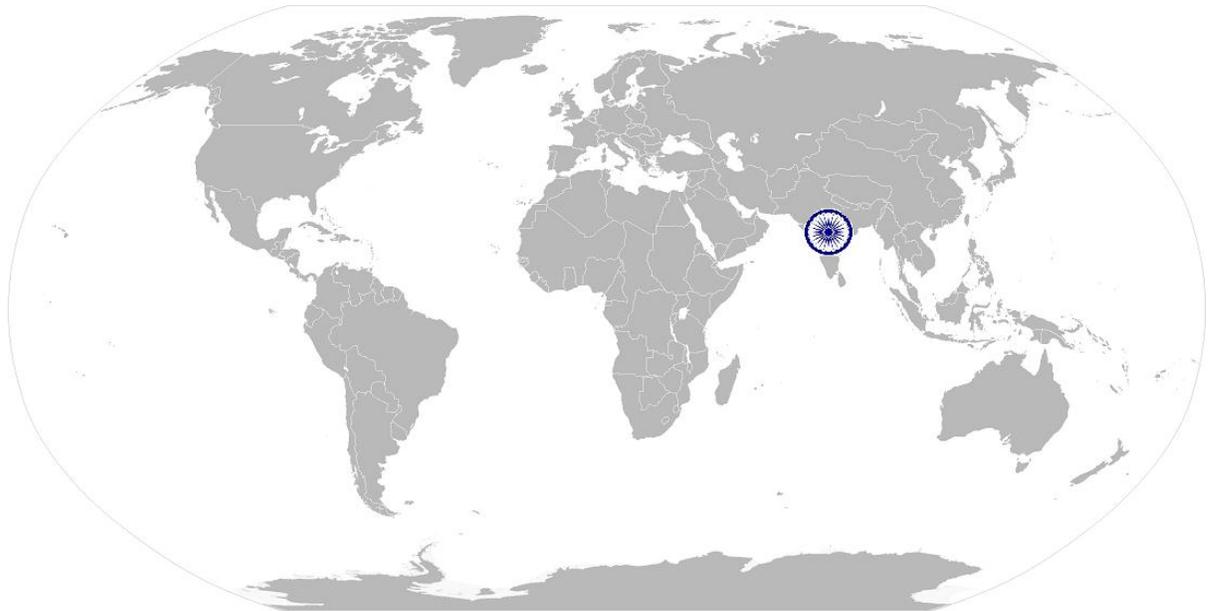
RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..

	KB36. The best ways of cleaning & waste disposal
<b>Skills (S) [Optional]</b>	
<b>Element</b>	<b>Skills</b>
<b>C. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	The user/ individual on the job needs to know and understand how to: SA1. Understand basic level notes and observations.
	<b>Reading Skills</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SA2. Put up safety instructions across the plant premises SA3. Put up Safety precautions mentioned in equipment manuals and panels and understand the potential risks associated
	<b>Oral Communication (Listening and Speaking skills)</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SA4. communicate information to team members effectively SA5. Inform employees in the plant and concerned functions about events, Incidents & potential risks observed related to Safety, Health and Environment. SA6. Question operator/ supervisor in order to understand the safety related issues SA7. Attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs
<b>D. Professional Skills</b>	<b>Plan and Organize</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB1. Process the work order and jobs received from the internal customers. SB2. Design documents received from internal customers SB3. Understand & organize all process/ equipment manuals so that sorting out information is fast.
	<b>Critical Thinking</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB4. Use common sense and make judgments during day to day basis SB5. Use intuition to detect any potential problems which could arise during operations
	<b>Problem solving</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB6. Follow instructions and work on areas of improvement identified SB7. Complete the assigned tasks with minimum supervision SB8. Complete the job defined by the supervisor within the timelines and quality norms

## NOS Version Control

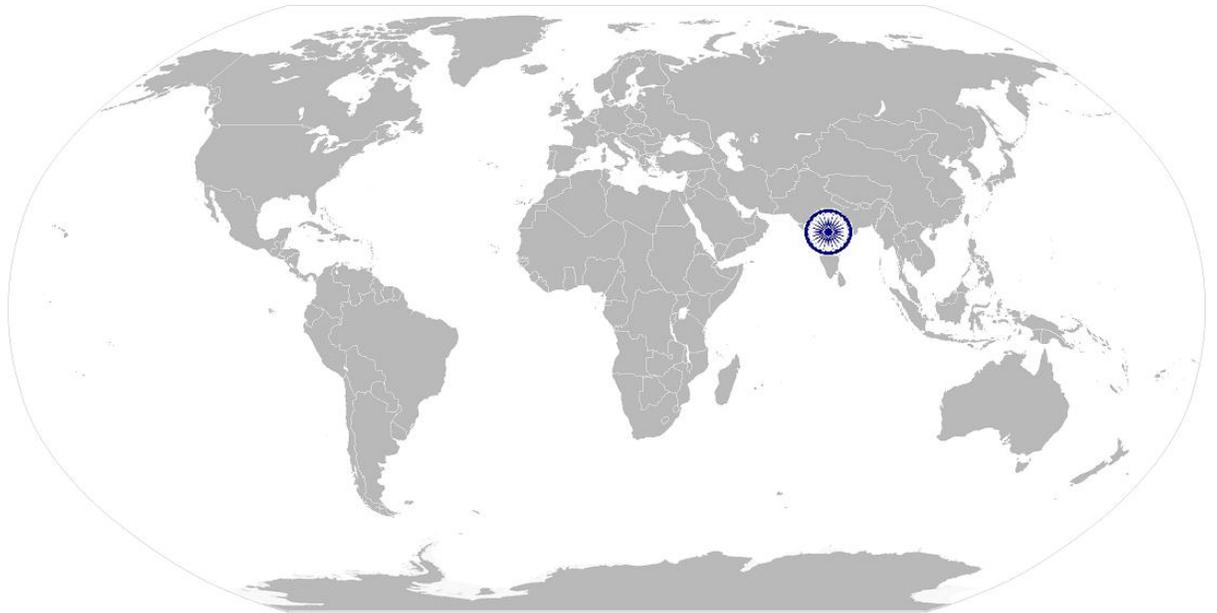
*RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S..*

<b>NOS Code</b>	<b>(RSC/N4101 (CPC/N0411))</b>		
<b>Credits (NSQF)</b>	<b>3</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing*

# National occupational Standards



## Overview

This unit is about Plastics Compounding and Mixing.

## RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing

National Occupational Standards

<b>Unit Code</b>	<b>RSC/N4607 (CPC/N0321)</b>
<b>Unit Title (Task)</b>	<b>Plastics Compounding / Mixing</b>
<b>Description</b>	This OS unit is about providing knowledge of Plastics Compounding and Mixing
<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Understanding Chemicals, Additives and Colorants</li> <li>• Types of Blenders and Mixers</li> <li>• Parameters Involved in High Speed Mixing and Blending</li> <li>• Health and Safety</li> </ul>
<b>Performance criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance criteria</b>
<b>Understanding Chemicals, Additives and Colorants</b>	To be competent, the user/individual on the job must be able to <ul style="list-style-type: none"> <li>PC1. Study the Types of Chemicals, Additives and Colorants.</li> <li>PC2. Study the Properties and Importance of Chemicals, Additives and Colorants and Pigments.</li> <li>PC3. Learn about Properties changes by adding Chemicals, additives and pigments in Plastics.</li> <li>PC4. Learn the Formulation laid down for different Products.</li> </ul>
<b>Types of Blenders and Mixers</b>	<ul style="list-style-type: none"> <li>PC5. Study the Types of Blenders , Mixers and their Parts</li> <li>PC6. Perform Preparation Batches as per the formulations.</li> <li>PC7. Perform Loading and unloading of Batches.</li> </ul>
<b>Parameters Involved in High Speed Mixing and Blending</b>	<ul style="list-style-type: none"> <li>PC8. Set the Temperature, Pressure and Speed involved in Blenders and Mixers.</li> <li>PC9. Ensure Importance of each and every Parameters.</li> <li>PC10. Ensure Precaution to be taken care during the batch preparation.</li> <li>PC11. Store the batches after preparation.</li> </ul>
<b>Health &amp; Safety</b>	<ul style="list-style-type: none"> <li>PC12. Perform Safety Equipment's and Its Use.</li> <li>PC13. Do's and Don't in Area of Operation</li> <li>PC14. Follow the Safety Precaution Majors before Operations.</li> </ul>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. Different Types of formulation vis-a-vis Products Manufactured by the Company</li> <li>KA2. Quality Check and Grading and Segregation of non conforming Batches</li> <li>KA3. Risk and impact of not following defined procedures/work instructions</li> <li>KA4. Types of documentation in organization and importance of the same</li> <li>KA5. Records to be maintained and implications of non-maintenance of the same</li> <li>KA6. Importance of housekeeping &amp; good shop floor practices (e.g. 3S &amp; 5S)</li> <li>KA7. Health, Safety and Environment guidelines</li> <li>KA8. Impact of poor practices on health, safety and environment</li> <li>KA9. Potential hazards and actions to minimize the same.</li> <li>KA10. Impact of various practices on cost, quality, productivity, delivery and safety</li> <li>KA11. Handover/ Takeover the equipment/ work area as per company's SOP</li> </ul>

## RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing

<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. The Emergency Stops Procedure for Mixing and Blending Machines.</p> <p>KB2. Machine Cleanliness and safety requirements for commencing Compounding Mixing &amp; Blender.</p> <p>KB3. Importance of RPM, Temperature and Pressure Parameters.</p> <p>KB4. Importance of Formulations Vis-a-Vis Items produced.</p> <p>KB5. Health hazards of process and compounding ingredients</p> <p>KB6. Measurement techniques using gauges and balance.</p> <p>KB7. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster</p> <p>KB8. Knowledge of appropriate batch size with respect to appropriate machinery</p>
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/ Generic Skills</b>	<p><b>Writing Skills</b></p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA2. 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>SA3. Enter into the history card details of the fault identified in the plastic product manufactured</p> <p><b>Reading Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. Read and understand manuals, Warning, health and safety instructions, Raw Material Labels, Components, memos, reports, job cards etc.</p> <p>SA5. Read images, graphs, diagrams</p> <p>SA6. Understand the various coding systems as per company norms</p>
	<p><b>Oral Communication (Listening and Speaking skills)</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. Express Opinions or Information clearly</p> <p>SA8. Discuss task lists, schedules, and work-loads with co-workers</p> <p>SA9. Communicate with Supervisors Job &amp; Issue related tasks</p> <p>SA10. Communication between Upstream and Downstream teams</p> <p>SA11. Avoid using jargon, slang or acronyms when communicating with a supervisor /fellow subordinates etc. unless it is required</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><b>Integrity</b></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>

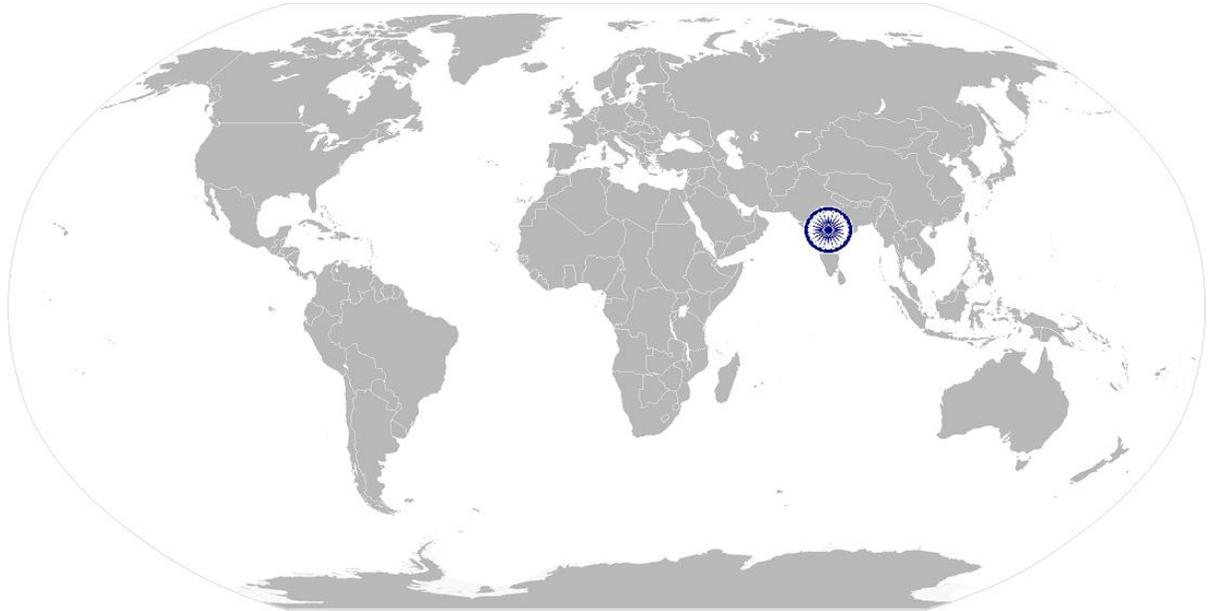
*RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing*

	<p><b>Motivation</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA14. Take responsibility for completing one’s own work assignment SA15. Take initiative to enhance/learn skills in one’s area of work SA16. The capacity to learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one’s learning. SA17. Open new ways of doing things SA18. Envisage and articulate personal goals; to develop strategies and take action to achieve them.</p>	
	<p><b>Reliability</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA19. Avoid absenteeism SA20. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA21. Work in factory environment disciplinarily SA22. Be punctual</p>	
<b>B. Professional Skills</b>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Make decisions pertaining to the concerned area of work</p>	
	<p><b>Plan and Organize</b></p> <p>The user/individual on the job needs to know and understand:</p> <p>SB2. Operation of different types of Blenders and Mixers. SB3. Handling of Plastics Additives, Colorants and Master Batches SB4. Handling of various types of material handling equipment like forklifts, trolley etc.</p>	
	<p><b>Problem Solving</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s) SB6. Use common sense and make judgments during day to day basis. SB7. Use reasoning skills to identify and resolve basic problems. SB8. Identify immediate or temporary solutions to resolve delays</p>	
	<p><b>Analytical Thinking</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Diagnose common problems in the machine based on visual inspection, sound etc. SB10. Suggest improvements(if any) in process based on experience</p>	

*RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing*

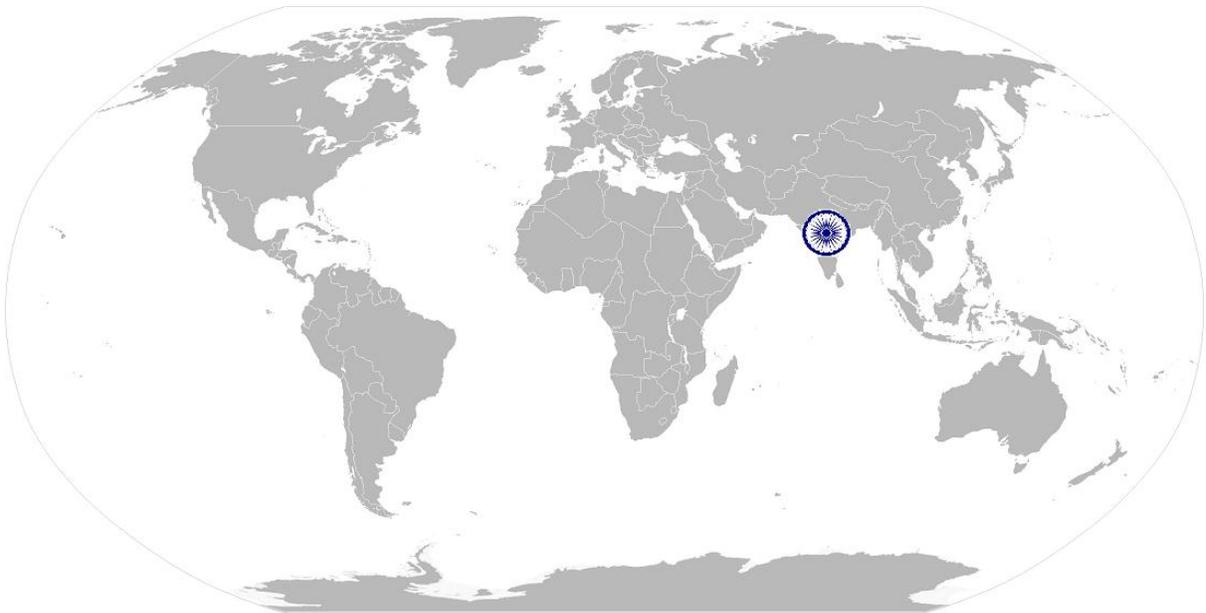
## NOS Version Control

<b>NOS Code</b>	<b>RSC/N4607 (CPC/N0321)</b>		
<b>Credits (NSQF)</b>	<b>5</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation*

# National occupational Standards



## Overview

This unit is about HDPE / PVC Pipe Extrusion Process.

## RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation

National Occupational Standards	<b>Unit Code</b>	<b>RSC/N4608 (CPC/N0322)</b>
	<b>Unit Title (Task)</b>	<b>Perform the HDPE /PVC Pipe Extruder Machine Operation</b>
	<b>Description</b>	This OS unit is about knowledge of HDPE / PVC Pipe Extrusion Process.
	<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• HDPE / PVC Pipe Extruders and their parts</li> <li>• Extrusion Process and Parameters.</li> <li>• Machine Operation and Controls.</li> <li>• Common faults and remedies.</li> <li>• Health and Safety</li> </ul>
	<b>Performance criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance criteria</b>
	<b>HDPE / PVC Pipe Extruders and their parts</b>	To be competent, the user/individual on the job must be able to PC1. Study about Types of HDPE / PVC Extruders. PC2. Learn the Extruder Parts and Their Functions. PC3. Learn the Pressure and Vacuum Sizing Units PC4. Study the Types of Dies Used for different Extruded Pipes. PC5. Operate Haul Off Units PC6. Perform Dismantling and assembling Extruder Parts. PC7. Ensure Safety Precaution taken during assembling and disassembling.
	<b>Extrusion Process and Parameters</b>	PC8. Set the Common Process Parameter like Temperature, Pressure and Speed and its controls. PC9. Learn the Effect of process parameters on Product Properties
	<b>Machine Operation and Controls</b>	PC10. Take Trial Production and checking product stabilization. PC11. Observe Actual Production and Parameter / Process Control. PC12. Follow Quality Check and Continuous Production. PC13. Follow post production and storing.
	<b>Common faults and remedies</b>	PC14. Ensure Common faults found and trouble shooting. PC15. Segregate faulty product and action taken. PC16. Dispose faulty products as per laid down procedure.
<b>Health &amp; Safety</b>	PC17. Perform Safety Equipment's and Its Use. PC18. Keep Do's and Don'ts in Area of Operation PC19. Follow Safety Precaution Majors before Operations.	
<b>Knowledge and Understanding (K)</b>		
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. The Organization Chart, Relevant legislation, standards, policies, procedures &amp; Code of Conduct followed in the company</li> <li>KA2. Different Types of Products Manufactured by the Company</li> <li>KA3. The Quality Check, Grading and Segregation of non conforming Products</li> <li>KA4. Risk and impact of not following defined procedures/work instructions</li> </ul>	

## RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation

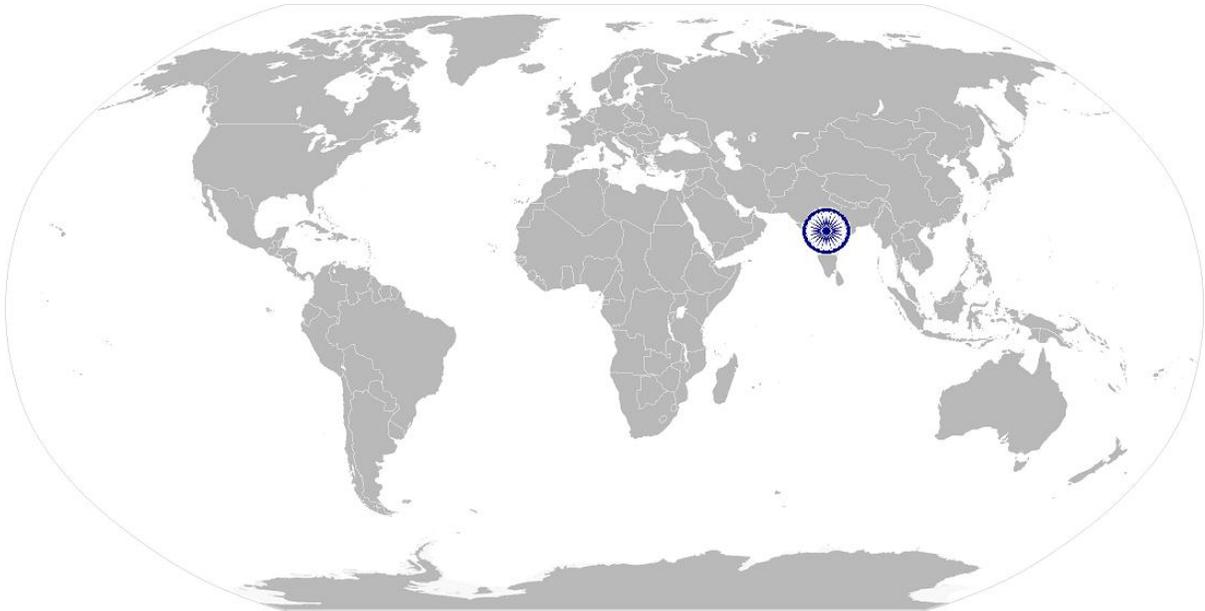
	KA5. Types of documentation in organization and importance of the same KA6. Records to be maintained and implications of non-maintenance of the same KA7. Importance of housekeeping & good shop floor practices (e.g. 3S & 5S) KA8. Health, Safety and Environment guidelines KA9. Impact of poor practices on health, safety and environment KA10. Potential hazards and actions to minimize the same. KA11. Impact of various practices on cost, quality, productivity, delivery and safety Handover/ Takeover the equipment/ work area as per company's SOP
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. The Emergency Stops Procedure for Extruder Machine. KB2. Cleanliness and safety requirements before and after Extruder operation. KB3. Importance of RPM, Temperature and Pressure Parameters. KB4. Process Parameters and its control. KB5. Common Faults and Trouble shooting. KB6. Health hazards of process and safety precautions. KB7. Measurement techniques using gauges and balance (for thickness, width and weight) KB8. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster KB9. Knowledge of appropriate batch size with respect to appropriate machinery
<b>Skills (S) [Optional]</b>	
<b>C. Core Skills/ Generic Skills</b>	<p style="background-color: #e6f2ff; padding: 2px;"><b>Writing Skills</b></p> The user/ individual on the job needs to know and understand how to: SA1. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA2. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes SA3. Enter into the history card details of the fault identified in the plastic product manufactured
	<p style="background-color: #e6f2ff; padding: 2px;"><b>Reading Skills</b></p> The user/individual on the job needs to know and understand how to: SA4. Read and understand manuals, Warning, health and safety instructions, Raw Material Labels, Components, memos, reports, job cards etc. SA5. Read images, graphs, diagrams SA6. Understand the various coding systems as per company norms
	<p style="background-color: #e6f2ff; padding: 2px;"><b>Oral Communication (Listening and Speaking skills)</b></p> The user/individual on the job needs to know and understand how to: SA7. Express Opinions or Information clearly SA8. Discuss task lists, schedules, and work-loads with co-workers SA9. Communicate with Supervisors Job & Issue related tasks SA10. Communicate between Upstream and Downstream teams
	SA11. Avoid using jargon, slang or acronyms when communicating with a supervisor /fellow subordinates etc. unless it is required

RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation

	<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><b>Integrity</b></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><b>Motivation</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA14. Take responsibility for completing one's own work assignment</p> <p>SA15. Take initiative to enhance/learn skills in one's area of work</p> <p>SA16. 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>SA17. Open to new ways of doing things</p> <p>SA18. Envisage the capacity and articulate personal goals; to develop strategies and take action to achieve them.</p> <p><b>Reliability</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA19. Avoid absenteeism</p> <p>SA20. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA21. Work in disciplined factory environment</p> <p>SA22. Be punctual</p>
<b>D. Professional Skills</b>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Make decisions pertaining to the concerned area of work</p> <p><b>Plan and Organize</b></p> <p>The user/individual on the job needs to know and understand:</p> <p>SB2. The operation of different types of extruders</p> <p>SB3. Handling of Plastics Raw Materials, Additives and Master Batches</p> <p>SB4. Handling of various types of material handling equipment like forklifts, trolley etc.,</p>
	<p><b>Problem Solving</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)</p> <p>SB6. Use common sense and make judgments during day to day basis.</p> <p>SB7. Use reasoning skills to identify and resolve basic problems.</p> <p>SB8. Identify immediate or temporary solutions to resolve delays</p>

*RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation*

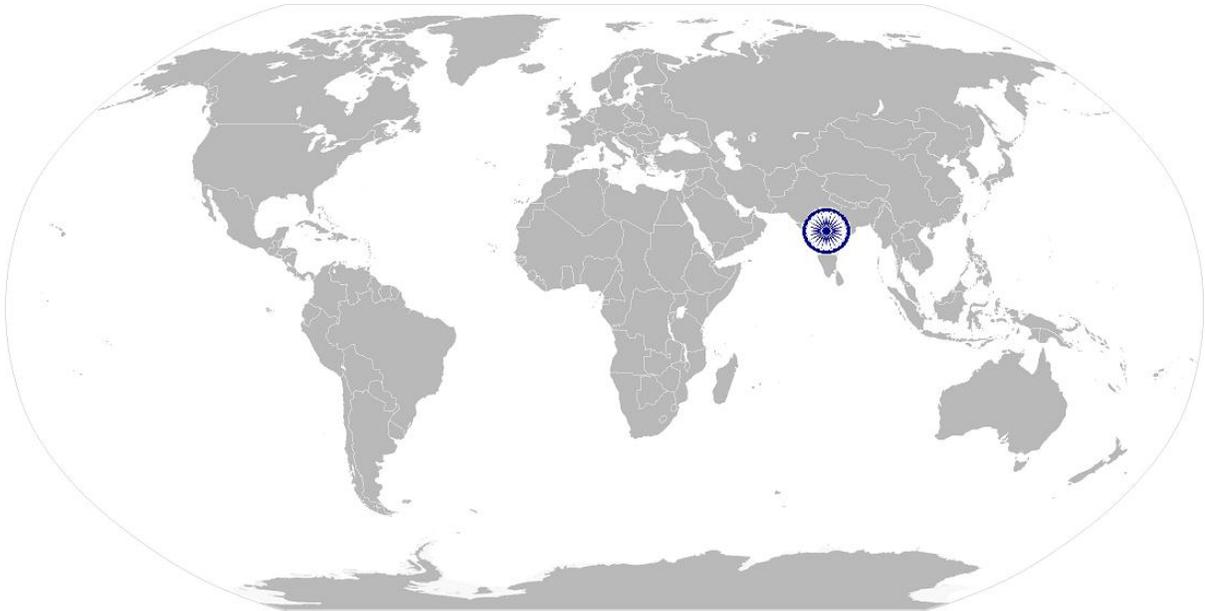
	<b>Analytical Thinking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Diagnose common problems in the machine based on visual inspection, sound etc.</p> <p>SB10. Suggest improvements(if any) in process based on experience</p>



RSC/N4608 (CPC/N0322) Perform the HDPE /PVC Pipe Extruder Machine Operation

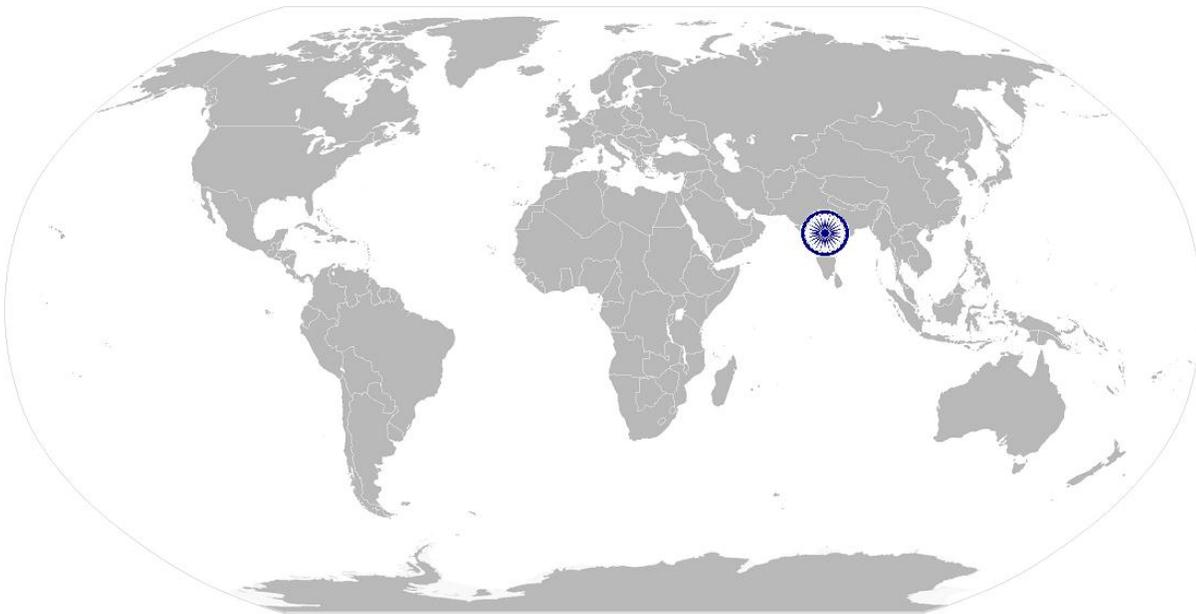
## NOS Version Control

<b>NOS Code</b>	<b>RSC/N4608 (CPC/N0322)</b>		
<b>Credits (NSQF)</b>	<b>12</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation*

# National occupational Standards



## Overview

This unit is about Plastics Film Extrusion Process.

## RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation

National Occupational Standards	<b>Unit Code</b>	RSC/N4609 (CPC/N0323)
	<b>Unit Title (Task)</b>	Perform the Plastic Film Extruder Machine Operation
	<b>Description</b>	This OS unit is about knowledge of Plastics Film Extrusion Process.
	<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Plastics Film Extruders and their parts</li> <li>• Extrusion Process and Parameters.</li> <li>• Machine Operation and Controls.</li> <li>• Common faults and remedies.</li> <li>• Health and Safety</li> </ul>
	<b>Performance criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance criteria</b>
	Plastics Film Extruders and their parts	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. Study the Types of Film Extruders.</p> <p>PC2. Learn Extruder Parts and Their Functions.</p> <p>PC3. Handle Air Compressor Pressure Sizing Units</p> <p>PC4. Handle Types of Dies Used for different Extruded Films.</p> <p>PC5. Operate Haul Off Units</p> <p>PC6. Perform Dismantling and assembling Extruder Parts.</p> <p>PC7. Follow the Safety Precaution during assembling and disassembling.</p>
	Extrusion Process and Parameters	<p>PC8. Set the Common Process Parameter like Temperature, Pressure and Speed and its controls.</p> <p>PC9. Learn the Effect of process parameters on Product Properties</p>
	Machine Operation and Controls	<p>PC10. Take Trial Production and checking product stabilization.</p> <p>PC11. Observe Actual Production and Parameter / Process Control.</p> <p>PC12. Follow Quality Check and Continuous Production.</p> <p>PC13. Follow Post production and storing.</p>
	Common faults and remedies	<p>PC14. Ensure Common faults found and trouble shooting.</p> <p>PC15. Segregate the faulty product and action taken.</p> <p>PC16. Dispose the faulty products as per laid down procedure.</p>
Health & Safety	<p>PC17. Perform Safety Equipment's and Its Use.</p> <p>PC18. Follow Do's and Don't in Area of Operation</p> <p>PC19. Follow Safety Precaution Majors before Operations.</p>	
<b>Knowledge and Understanding (K)</b>		
<b>A. Organizational Context</b> (Knowledge of the company / organization and	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. The Organization Chart, Relevant legislation, standards, policies, procedures &amp; Code of Conduct followed in the company</p> <p>KA2. Different Types of Products Manufactured by the Company</p> <p>KA3. Quality Check and Grading and Segregation of non-conforming Products</p>	

RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation

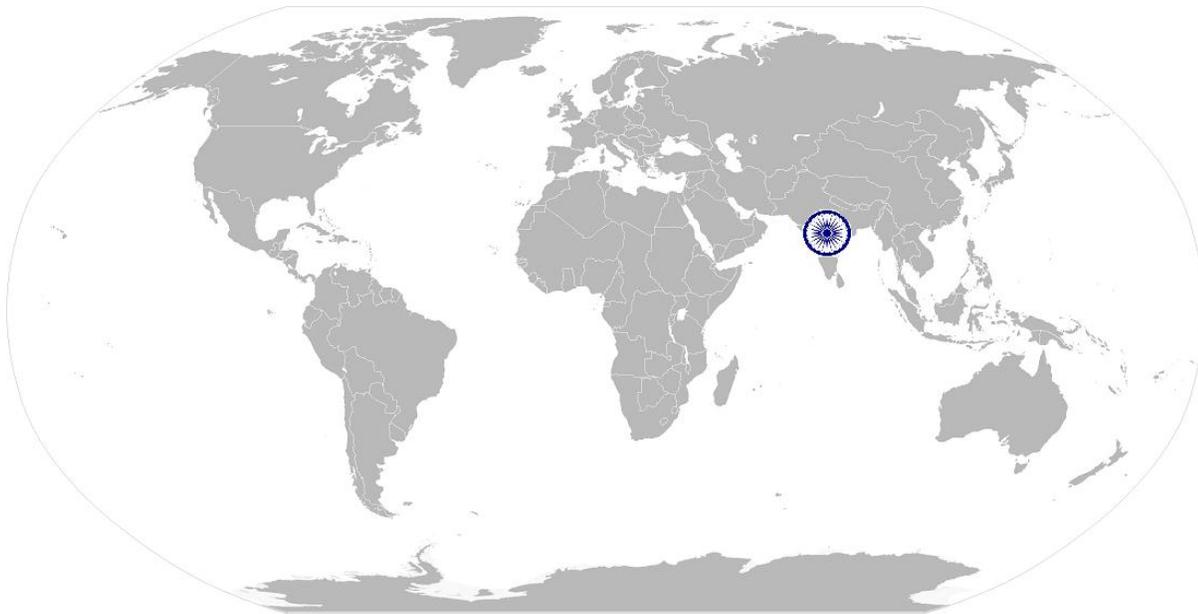
its processes)	KA4. Risk and impact of not following defined procedures/work instructions
	KA5. Types of documentation in organization and importance of the same KA6. Records to be maintained and implications of non-maintenance of the same KA7. Importance of housekeeping & good shop floor practices (e.g. 3S & 5S) KA8. Health, Safety and Environment guidelines KA9. Impact of poor practices on health, safety and environment KA10. Potential hazards and actions to minimize the same. KA11. Impact of various practices on cost, quality, productivity, delivery and safety Handover/ Takeover the equipment/ work area as per company's SOP
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. The Emergency Stops Procedure for Extruder Machine. KB2. Cleanliness and safety requirements before and after Extruder operation. KB3. Importance of RPM, Temperature and Pressure Parameters. KB4. Process Parameters and its control. KB5. Common Faults and Trouble shooting. KB6. Health hazards of process and safety precautions. KB7. Measurement techniques using gauges and balance (for thickness, width and weight) KB8. Response to emergencies e.g. Power failures, fire and system failures and manual intervention to avoid disaster KB9. Knowledge of appropriate batch size with respect to appropriate machinery
<b>Skills (S) [Optional]</b>	
<b>E. Core Skills/ Generic Skills</b>	<b>Writing Skills</b> The user/ individual on the job needs to know and understand how to: SA1. Fill up appropriate technical forms, process charts, activity logs in required format of the company SA2. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes SA3. Enter into the history card details of the fault identified in the plastic product manufactured
	<b>Reading Skills</b> The user/individual on the job needs to know and understand how to: SA4. Read and understand manuals, Warning, health and safety instructions, Raw Material Labels, Components, memos, reports, job cards etc. SA5. Read images, graphs, diagrams SA6. Understand the various coding systems as per company norms
	<b>Oral Communication (Listening and Speaking skills)</b> The user/individual on the job needs to know and understand how to: SA7. Express Opinions or Information clearly SA8. Discuss task lists, schedules, and work-loads with co-workers SA9. Communicate with Supervisors Job & Issue related tasks SA10. Communicate between Upstream and Downstream teams

RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation

	<p>SA11. Avoid using jargon, slang or acronyms when communicating with a supervisor /fellow subordinates etc. unless it is required</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><b>Integrity</b></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><b>Motivation</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA14. Take responsibility for completing one's own work assignment</p> <p>SA15. Take initiative to enhance/learn skills in one's area of work</p> <p>SA16. Learn the capacity to from experience in a range of settings and scenarios and the capacity to reflect on and analyse one's learning.</p> <p>SA17. Open to new ways of doing things</p> <p>SA18. Envisage the capacity and articulate personal goals; to develop strategies and take action to achieve them.</p>
	<p><b>Reliability</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA19. Avoid absenteeism</p> <p>SA20. Act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations</p> <p>SA21. Work in disciplined factory environment</p> <p>SA22. Be punctual</p>
<b>F. Professional Skills</b>	<p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Make decisions pertaining to the concerned area of work</p>
	<p><b>Plan and Organize</b></p> <p>The user/individual on the job needs to know and understand:</p> <p>SB2. Operation of different types of extruders</p> <p>SB3. Handling of Plastics Raw Materials, Additives and Master Batches</p> <p>SB4. Handling of various types of material handling equipment like forklifts, trolley etc.</p>
	<p><b>Problem Solving</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)</p> <p>SB6. Use common sense and make judgments during day to day basis.</p> <p>SB7. Use reasoning skills to identify and resolve basic problems.</p> <p>SB8. Identify immediate or temporary solutions to resolve delays</p>

*RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation*

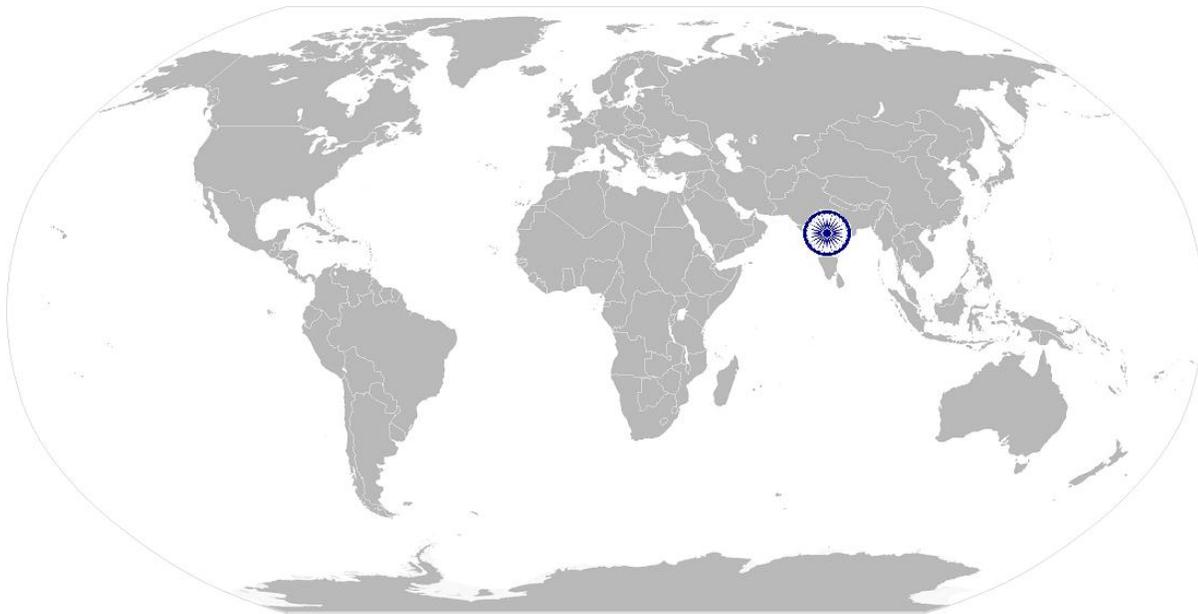
	<b>Analytical Thinking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. Diagnose common problems in the machine based on visual inspection, sound etc.</p> <p>SB10. Suggest improvements(if any) in process based on experience</p>



RSC/N4609 (CPC/N0323) Perform the Plastic Film Extruder Machine Operation

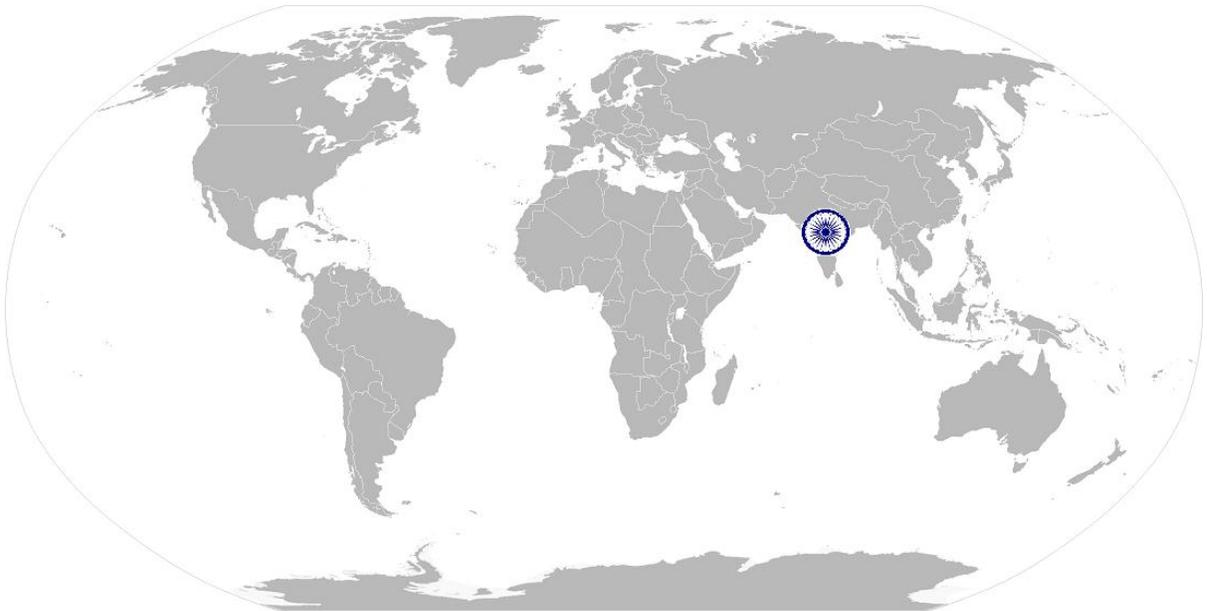
## NOS Version Control

<b>NOS Code</b>	<b>RSC/N4609 (CPC/N0323)</b>		
<b>Credits (NSQF)</b>	<b>12</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4610 (CPC/N0324) To Carryout Housekeeping*

# National occupational Standards



## Overview

This unit is about carrying out housekeeping activities.

*RSC/N4610 (CPC/N0324) To Carryout Housekeeping*

National Occupational Standards

<b>Unit Code</b>	<b>RSC/N4610 (CPC/N0324)</b>
<b>Unit Title (Task)</b>	<b>To carry out housekeeping</b>
<b>Description</b>	This OS unit is about providing a basic knowledge of House Keeping In the Raw Material and Finished Items Storage and Operational Area.
<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Preparing for housekeeping activities</li> <li>• Carry out housekeeping activities</li> <li>• Post housekeeping activities</li> </ul>
<b>Performance criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance criteria</b>
<b>Pre housekeeping activities</b>	To be competent, the user/individual on the job must be able to PC1. Take an overlook of the Area under House Keeping. PC2. Put appropriate Signage immediately if oily substance / Water spills on the floor to avoid accident PC3. Inform, If certain housekeeping activities require to be performed by housekeeping staffs. PC4. Carry out by self then, Identify the material / equipment required for cleaning the areas. PC5. Plan the sequence for cleaning the area to avoid re-soiling the cleaned areas and surfaces. PC6. Display the appropriate signage for the work being conducted. PC7. Ensure that there is adequate ventilation for the work being carried out. PC8. Wear the personal protective equipment required for the cleaning method and materials being used.
<b>Operations</b>	PC9. Carry out cleaning activities without disturbing others. PC10. Report to the appropriate person if any difficulties in carrying out your work.
<b>Post housekeeping activities</b>	PC11. Ensure that there is no oily substance / Water spill on the floor, If found the put the Signage immediately to avoid accident. PC12. Follow workplace procedures to deal with any accidental damage caused during the cleaning process. PC13. Ensure that, on completion of the work, the area is left clean and dry and free from any leftover or scrap. PC14. Return the equipment, materials and personal protective equipment that were used to the right places and check the inventory for the next cycle. PC15. Dispose the waste garnered from the activity in an appropriate manner.
<b>General</b>	PC16. Maintain schedules and records for housekeeping duty.

*RSC/N4610 (CPC/N0324) To Carryout Housekeeping*

Knowledge and Understanding (K)	
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Adequate knowledge about the levels of hygiene required at the workplace and why it is important to maintain them during your work.</p> <p>KB2. Type of Cleaning Materials / Equipment's and its uses for different cleaning needs.</p> <p>KB3. The right method of using cleaning equipment / machinery used during Housekeeping.</p> <p>KB4. The importance of appropriate personal protection like gloves, goggles and masks etc for handling different materials and chemicals.</p> <p>KB5. The correct sequence for cleaning the work area.</p> <p>KB6. The importance &amp; time taken by the treatment to work if any.</p> <p>KB7. Process of cleaning the surfaces without causing injury or damage</p> <p>KB8. The method to check the treated surface and equipment on completion of Cleaning.</p> <p>KB9. Procedures for reporting any unidentified soiling.</p> <p>KB10. Procedures for disposing off waste.</p> <p>KB11. Procedures for disposing off or storing personal protective equipment.</p> <p>KB12. Escalation procedures for soils or stains that could not be removed.</p>
Skills (S) [Optional]	
<b>A. Core Skills/ Generic Skills</b>	<p><b>Writing Skills</b></p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc.</p> <p><b>Reading Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. Read and understand manuals, health and safety instructions, memos, reports, job cards etc.</p> <p>SA5. Read Signage, Images, graphs, diagrams</p> <p>SA6. Understand the various coding systems as per company norms</p> <p><b>Oral Communication (Listening and Speaking skills)</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA8. Respond appropriately to any queries</p> <p>SA9. Communicate with supervisor, colleagues and downstream people.</p> <p>SA10. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p>

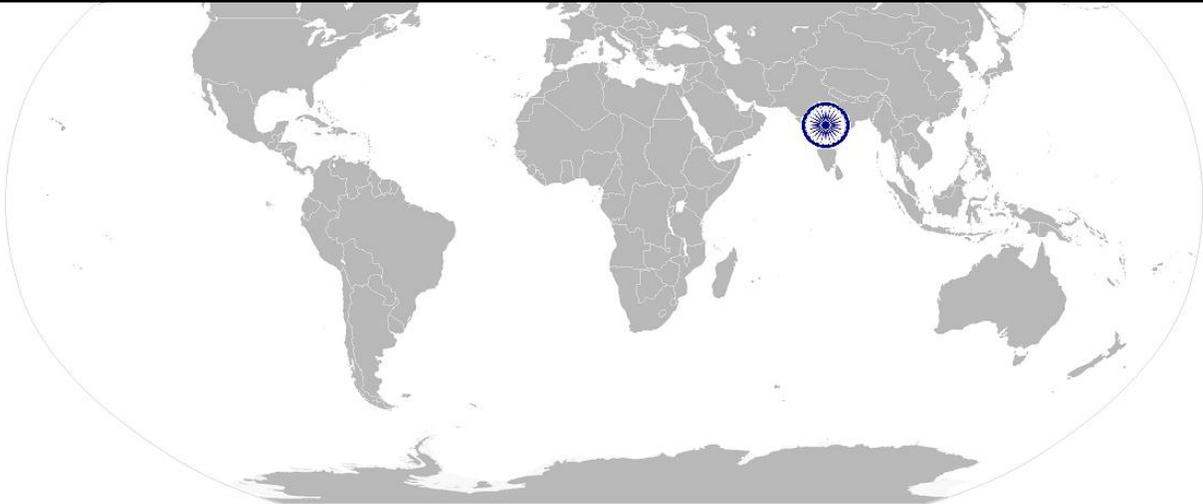
*RSC/N4610 (CPC/N0324) To Carryout Housekeeping*

	<b>Integrity</b>
	The user/individual on the job needs to know and understand how to: SA11. Practice honesty with respect to company property and time Communicate with people in a form and manner and using language that is open and respectful SA12. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust
	<b>Motivation</b>
	The user/individual on the job needs to know and understand how to: SA13. Take responsibility for completing one’s work assignment SA14. Take initiative to enhance/learn skills in one’s area of work
	<b>Reliability</b>
	The user/individual on the job needs to know and understand how to: SA15. Avoid absenteeism and be Punctual. SA16. Act objectively , rather than impulsively or emotionally when faced with difficult/stressful or emotional situations SA17. Work in disciplined factory environment
	<b>B. Professional Skills</b>
	<b>Decision Making</b>
	The user/individual on the job needs to know and understand how to: SB1. Operate different types Cleaning Machines and Equipment’s SB2. Handle different cleaning materials and chemicals SB3. Taking Immediate decision for unwanted mess-up of scrap or other issues related to housekeeping.
	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to: SB2. Observe, Inspect before taking up the job. SB3. Seek clarification or assistance on problems if any from others SB4. Apply problem-solving approaches in different situations
	<b>Customer Centricity</b>
	NA
	<b>Problem Solving</b>
	The user/individual on the job needs to know and understand how to: SB5. Suggest improvements (if any) in process/product/materials based on results and experience
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB6. Do Proper segregation and collection of waste material SB7. Identify the issues for generation of waste if more than the prescribed limit and communicate it at the earliest and suggest improvements(if any) in process/material based on experience.

*RSC/N4610 (CPC/N0324) To Carryout Housekeeping*

## **NOS Version Control**

<b>NOS Code</b>	<b>RSC/N4610 (CPC/N0324)</b>		
<b>Credits (NSQF)</b>	<b>2</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4604 (CPC/N0315) Reporting & Documentation*

# National occupational Standards



## Overview

This unit is about reporting and documentation.

*RSC/N4604 (CPC/N0315) Reporting & Documentation*

National Occupational Standards	<b>Unit Code</b>	<b>RSC/N4604 (CPC/N0315)</b>
	<b>Unit Title (Task)</b>	<b>To carry out reporting and documentation</b>
	<b>Description</b>	This unit is about carrying out reporting and documentation
	<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Reporting of data/problem/incidents etc.</li> <li>• Documentation</li> <li>• Information Security</li> </ul>
	<b>Performance criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance criteria</b>
	<b>Reporting</b>	To be competent, the user/individual on the job must be able to <ul style="list-style-type: none"> <li>PC1. Report data/problems/incidents as per the laid down procedure in the prescribed format and registers.</li> <li>PC2. Report to the appropriate authority as laid down by the company procedure.</li> </ul>
	<b>Recording and Documentation</b>	<ul style="list-style-type: none"> <li>PC3. Identify documentation to be completed relating to the job profile.</li> <li>PC4. Record details accurately in an appropriate format.</li> <li>PC5. Complete all documentation within stipulated time according to company procedure.</li> <li>PC6. Make sure documents are available to all appropriate authorities to inspect.</li> </ul>
	<b>Information Security</b>	<ul style="list-style-type: none"> <li>PC7. Respond to requests for information in an appropriate manner whilst following organizational procedures.</li> <li>PC8. Inform the appropriate authority of requests for information received.</li> </ul>
	<b>Knowledge and Understanding (K)</b>	
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. Different methods of recording information.</li> <li>KB2. Various documents that need to be maintained.</li> <li>KB3. Company procedure for filling/maintaining up the documents.</li> <li>KB4. Procedures for reporting to the appropriate authority.</li> <li>KB5. Procedures for recording damage, breakages etc.</li> <li>KB6. The importance of accurate documentation completion within a prescribed timeframe.</li> <li>KB7. The actions to be taken if the documents are not correct.</li> <li>KB8. The importance of maintaining the security and confidentiality of recorded information.</li> <li>KB9. Procedures to maintain confidentiality of information</li> <li>KB10. The appropriate method for responding to requests for information</li> <li>KB11. The reporting procedures to be followed before disclosing information to any outside party</li> </ul>	

*RSC/N4604 (CPC/N0315) Reporting & Documentation*

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

*RSC/N4604 (CPC/N0315) Reporting & Documentation*

	SA20. Work in disciplined factory environment SA21. Be punctual
<b>B. Professional Skills</b>	<b>Decision Making</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB1. Do the Operation of different types of extruders SB2. Handling of rubber compound & chemicals SB3. Handling of various types of material handling equipment like forklifts, trolley The SB4. capacity to apply technology, combining the physical and sensory skills needed to SB5. operate equipment with the understanding of scientific and technological SB6. Principles needed to explore and adapt systems.
	<b>Plan and Organize</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB7. Seek clarification on problems from others SB8. Apply problem-solving approaches in different situations SB9. Refer anomalies to the line manager
	<b>Customer Centricity</b>
	NA
	<b>Problem Solving</b>
	The user/individual on the job needs to know and understand how to: SB10. Interpret quality for sheet SB11. Suggest improvements(if any) in process/product/materials based on results and experience
	The user/individual on the job needs to know and understand how to: SB12. Collect waste material Properly SB13. Identify defects in the material and communicate it at the earliest and suggest improvements(if any) in process/material based on experience SB14. Diagnose common problems in the machine based on visual inspection, sound , temperature etc SB15. Suggest improvements(if any) in process based on experience
<b>Critical Thinking</b>	
The user/individual on the job needs to know and understand how to: SB16. Handle equipment/rubber sheet SB6. seek clarification on problems from others SB17. Apply problem-solving approaches in different situations SB18. Refer anomalies to the line manager	

*RSC/N4604 (CPC/N0315) Reporting & Documentation*

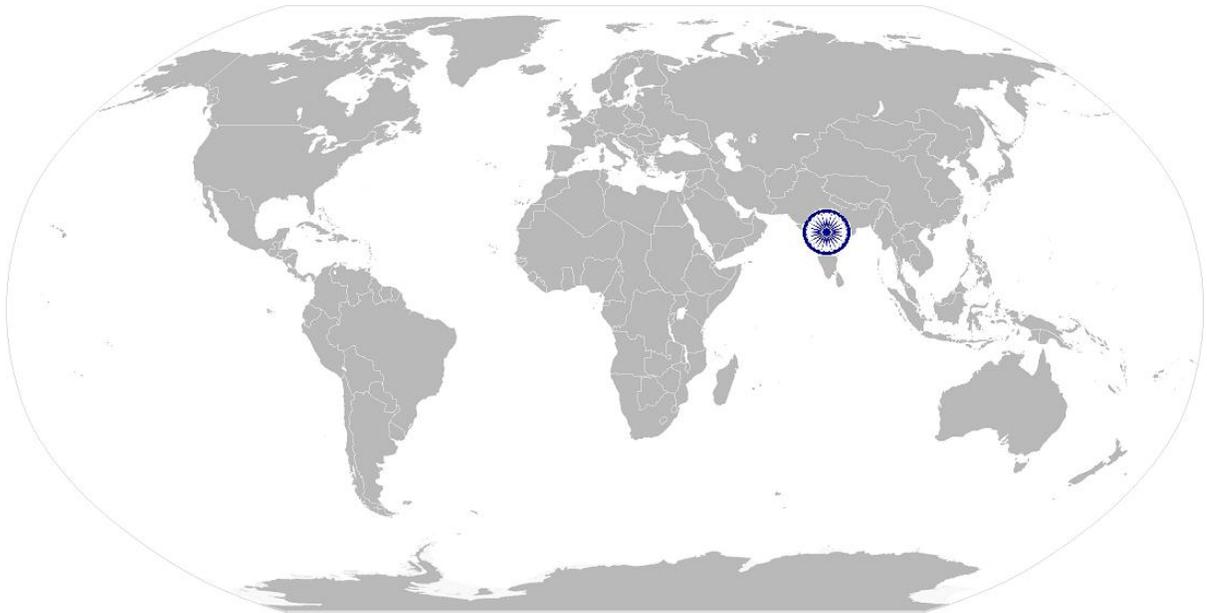
**NOS Version Control**

<b>NOS Code</b>	<b>RSC/N4604 (CPC/N0315)</b>		
<b>Credits (NSQF)</b>	<b>3</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*RSC/N4605 (CPC/N0316) To Carryout Quality Checks*

# National occupational Standards



## Overview

This unit is about carrying out quality checks.

*RSC/N4605 (CPC/N0316) To Carryout Quality Checks*

National Occupational Standards	<b>Unit Code</b>	<b>RSC/N4605 (CPC/N0316)</b>
	<b>Unit Title (Task)</b>	<b>To carry out quality checks</b>
	<b>Description</b>	This unit is about carrying out quality control activities
	<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Inspection: Carrying out quality checks to identify problems</li> <li>• Analysis: Take corrective actions</li> <li>• Reporting the results</li> </ul>
	<b>Performance Criteria (PC) w.r.t. the Scope</b>	
	<b>Element</b>	<b>Performance Criteria</b>
	<b>Inspection</b>	<b>To be competent, the user/individual on the job must be able to:</b> PC1. Ensure that total range of checks as per the prescribed national and International standards on regular intervals throughout the shifts. PC2. Use appropriate measuring instruments, equipment, tools, accessories etc, as prescribed / required
	<b>Analysis</b>	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 prescribed Standards. PC6. Evaluate the need for action to ensure that problems do not reoccur. PC7. Suggest corrective action to address problem. PC8. Review effectiveness of corrective action.
	<b>Reporting</b>	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.
	<b>Knowledge and Understanding (K)</b>	
<b>B. Technical Knowledge</b>	<b>The user/individual on the job needs to know and understand:</b> KB1. The importance of quality control procedures with respect to national and international standards. 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	

*RSC/N4605 (CPC/N0316) To Carryout Quality Checks*

	<p>KB6. Use of suitable equipment.</p> <p>KB7. Availability and use of monitoring and measuring devices,</p> <p>KB8. The requirements of records.</p> <p>KB9. The Importance of maintaining accurate up-to-date records.</p> <p>KB10. Need of reporting 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>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Writing Skills</b>
	<p><b>The user/ individual on the job needs to know and understand how to:</b></p> <p>SA1. Construct simple sentences and express ideas clearly through written communication</p> <p>SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p>SA3. Write simple letters, mails, etc</p> <p>SA4. Perform functional mathematical operations, including apply basic mathematical principles, such as numbers and space, and techniques such as estimation and approximation, for practical purposes</p>
	<b>Reading Skills</b>
	<p><b>The user/individual on the job needs to know and understand how to:</b></p> <p>SA5. Read and understand manuals, health and safety instructions, memos, reports, job cards etc</p> <p>SA6. Read images, graphs, diagrams</p> <p>SA7. Understand the various coding systems as per company norms</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p><b>The user/individual on the job needs to know and understand how to:</b></p> <p>SA8. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA9. Respond appropriately to any queries</p> <p>SA10. Communicate with supervisor</p> <p>SA11. Communicate with upstream and downstream teams</p> <p>SA12. Work in a team and other behavioral skills required to support the small group activities (Quality Circle, Cross Functional Team, Suggestion Scheme)</p>
<b>Integrity</b>	
<p><b>The user/individual on the job needs to know and understand how to:</b></p> <p>SA13. Practice honesty with respect to company property and time</p> <p>SA14. Communicate with people in a form and manner and using language that is open and respectful</p> <p>SA15. Resolve any difficulties in relationships with colleagues , or get help from an appropriate person, in a way that preserves goodwill and trust</p>	

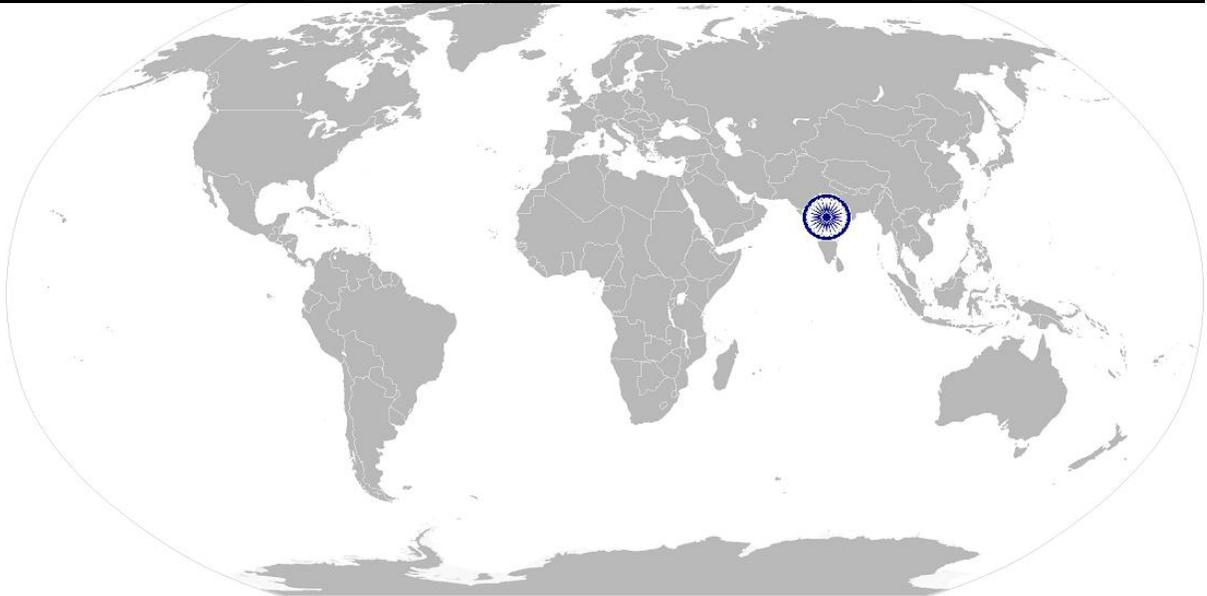
*RSC/N4605 (CPC/N0316) To Carryout Quality Checks*

	<b>Motivation</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SA16. Take responsibility for completing one’s own work assignment SA17. Take initiative to enhance/learn skills in one’s area of work SA18. Learn from experience in a range of settings and scenarios and the capacity to reflect on and analyse one’s learning. SA19. Identify new ways of doing things SA20. Envisage and articulate personal goals; to develop strategies and take action to achieve them.
	<b>Reliability</b>
	<b>The user/individual on the job needs to know and understand how to:</b> 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>B. Professional Skills</b>	<b>Decision Making</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB1. Operate different types of measuring instruments. SB2. Operate different types of Testing equipments. SB3. Handle of various types of material handling equipment like forklifts, trolley. SB4. 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.
	<b>Plan and Organize</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB5. Seek clarification on problems from others SB6. Apply problem-solving approaches in different situations SB7. Refer anomalies to the line manager
	<b>Customer Centricity</b>
	NA
	<b>Problem Solving</b>
	<b>The user/individual on the job needs to know and understand how to:</b> SB8. Interpret quality for sheet SB9. Suggest improvements(if any) in process/product/materials based on results and experience
<b>Analytical Thinking</b>	
<b>The user/individual on the job needs to know and understand how to:</b> SB10. Proper collection of waste material SB11. Identify defects in the material and communicate it at the earliest and suggest improvements (if any) in process/material based on experience SB12. Diagnose common problems in the machine based on visual inspection, sound , temperature etc SB13. To suggest improvements(if any) in process based on experience	

*RSC/N4605 (CPC/N0316) To Carryout Quality Checks*

## NOS Version Control

<b>NOS Code</b>	<b>RSC/N4605 (CPC/N0316)</b>		
<b>Credits (NSQF)</b>	<b>5</b>	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	<b>Rubber</b>	<b>Drafted on</b>	<b>18/05/2016</b>
<b>Sub Sector</b>	<b>Plastics Processing</b>	<b>Last reviewed on</b>	<b>26/12/2016</b>
<b>Occupation</b>	<b>Extrusion</b>	<b>Next review date</b>	<b>31/12/2021</b>



*Qualifications Pack For Machine operator Plastics Extrusion*

CRITERIA FOR ASSESSMENT OF TRAINEES				
<b>Job Role: Machine Operator – Plastics Extrusion</b>				
<b>Qualification Pack Code: RSC/Q4602 (CPC/Q0304)</b>				
<b>Sector Skill Council: Rubber Skill Development Council</b>				
<b>Guidelines for Assessment:</b>				
1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also laydown proportion of marks for Theory and Skills Practical for each PC. 2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC. 3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below) 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria. 5. To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS. 6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.				
Assessable Outcome		Marks Allocation		
LO	Performance criteria	Total	Theory	Practical
<b>RSC/N4606 (CPC/N0319) Basics Plastics Raw Material &amp; Extrusion Concept</b>	PC1. Learn the Types of Plastics used in Extrusion and Its Properties	6	2	4
	PC2. Select the Plastics Raw Materials based on the Items Produced.	6	2	4
	PC3. Handle the of Raw Materials and House Keeping	6	2	4
	PC4. Observe the Types of Extruders Used in the Extrusion Process and their Parts	6	2	4
	PC5. Handle Types of Dies Used for different Extruded Products.	6	2	4
	PC6. Study Haul Off Units	9	3	6
	PC7. Store and Handling of Finished Products and House Keeping.	8	2	6
	PC8. Study the Types of Additives, Master Batches	8	2	6
	PC9. Study the Types of Mixing and Compounding	8	2	6
	PC10. Ensure Measurement of Additives and Materials and Maintaining Formulations.	6	2	4
	PC11. Store, Handling of Raw Materials in Compounding Area and House Keeping	5	1	4
	PC12. Perform Safety Equipments and Its Use.	5	1	4
	PC13. Do's and Don't in Area of Operation	3	1	2
	PC14. Follow Safety Precaution Majors before Operations.	3	1	2
<b>Sub total</b>		<b>85</b>	<b>25</b>	<b>60</b>

*Qualifications Pack For Machine operator Plastics Extrusion*

<b>RSC/N4101 (CPC/N0411): Maintain basic health and safety practices at the workplace, 5S</b>	PC1. Wear protective clothing/equipment for specific tasks and work conditions	2.5	0.5	2
	PC2. Carry out safe working practices while dealing with hazards to ensure the safety of self and others.	2.5	0.5	2
	PC3. Keep good housekeeping practices at all times	2.5	0.5	2
	PC4. Use the various appropriate fire extinguishers on different types of fires correctly	2.5	0.5	2
	PC5. Demonstrate rescue techniques applied during fire hazard, demonstrate good housekeeping in order to prevent fire hazards, demonstrate the correct use of a fire extinguisher.	2.5	0.5	2
	PC6. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise, and Identify areas in the plant which are potentially hazardous/unhygienic in nature. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine.	2.5	0.5	2
	PC7. Inform the concerned authorities on the potential risks identified in the processes, workplace area/ layout, materials used etc, Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations.	2.5	0.5	2
	PC8. Create awareness amongst other by sharing information on the identified risks.	2.5	0.5	2
	PC9. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un- necessary items are not cluttering the workbenches or work surfaces.	2.5	0.5	2
	PC10. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions	2.5	0.5	2
	PC11. Follow the technique of waste disposal and waste storage in the proper bins as per SOP	1.5	0.5	1
	PC12. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places	1.5	0.5	1
	PC13. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work	1.5	0.5	1

*Qualifications Pack For Machine operator Plastics Extrusion*

	instructions			
	PC14. Ensure that areas of material storage areas are not overflowing PC15. Properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required	1.5	0.5	1
	PC16. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area	1.5	0.5	1
	PC17. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards.	1.5	0.5	1
	PC18. Follow the proper labelling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists	1.5	0.5	1
	PC19. Check that the items in the respective areas have been identified as broken or damaged	1.5	0.5	1
	PC20. Follow the given instructions and check for levelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same To avoid spillage, leakage, fire etc.	1.5	0.5	1
	PC21. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions.	1.5	0.5	1
	<b>Sub total</b>	<b>40</b>	<b>10</b>	<b>30</b>
<b>RSC/N4607 (CPC/N0321) Plastics Compounding / Mixing</b>	PC1. Study the Types of Chemicals, Additives and Colorants.	9	3	6
	PC2. Study the Properties and Importance of Chemicals, Additives and Colorants and Pigments.	9	3	6
	PC3. Learn about Properties changes by adding Chemicals, additives and pigments in Plastics.	6	2	4
	PC4. Learn the Formulation laid down for different Products.	6	2	4
	PC5. Study the Types of Blenders , Mixers and their Parts	6	2	4
	PC6. Perform Preparation Batches as per the formulations.	6	2	4
	PC7. Perform Loading and unloading of Batches.	6	2	4
	PC8. Set the Temperature, Pressure and Speed involved in Blenders and Mixers.	6	2	4
	PC9. Ensure Importance of each and every Parameters.	6	2	4
	PC10. Ensure Precaution to be taken care during the batch preparation.	5	1	4
	PC11. Store the batches after preparation.	5	1	4

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	PC12. Perform Safety Equipments and Its Use.	5	1	4
	PC13. Do's and Don't in Area of Operation	5	1	4
	PC14. Follow the Safety Precaution Majors before Operations.	5	1	4
	<b>Sub total</b>	<b>85</b>	<b>25</b>	<b>60</b>
<b>RSC/N4608 (CPC/N0322) : Perform the HDPE /PVC Pipe Extruder Machine Operation</b>	PC1. Study about Types of HDPE / PVC Extruders.	4	1	3
	PC2. Learn the Extruder Parts and Their Functions.	5	1	4
	PC3. Learn the Pressure and Vacuum Sizing Units	5	1	4
	PC4. Study the Types of Dies Used for different Extruded Pipes.	5	1	4
	PC5. Operations of Haul Off Units	5	1	4
	PC6. Perform Dismantling and assembling Extruder Parts.	5	1	4
	PC7. Ensure Safety Precaution taken during assembling and disassembling.	5	1	4
	PC8. Set the Common Process Parameter like Temperature, Pressure and Speed and its controls.	5	1	4
	PC9. Learn the Effect of process parameters on Product Properties	6	2	4
	PC10. Take Trial Production and checking product stabilization.	5	1	4
	PC11. Observe Actual Production and Parameter / Process Control.	5	1	4
	PC12. Follow Quality Check and Continuous Production.	5	1	4
	PC13. Follow Post production and storing.	5	1	4
	PC14. Ensure Common faults found and trouble shooting.	5	1	4
	PC15. Segregate of faulty product and action taken.	5	1	4
	PC16. Dispose faulty products as per laid down procedure.	5	1	4
	PC17. Perform Safety Equipments and Its Use.	5	1	4
	PC18. Do's and Don't in Area of Operation	5	1	4
	PC19. Follow Safety Precaution Majors before Operations.	5	1	4
	<b>Sub total</b>	<b>95</b>	<b>20</b>	<b>75</b>
<b>RSC/N4609 (CPC/N0323): Perform the Plastic Film Extruder Machine Operation</b>	PC1. Study the Types of Film Extruders.	3	1	2
	PC2. Learn Extruder Parts and Their Functions.	3	1	2
	PC3. Handle Air Compressor Pressure Sizing Units	5	1	4
	PC4. Handle Types of Dies Used for different Extruded Films.	5	1	4
	PC5. Operate of Haul Off Units	5	1	4
	PC6. Perform Dismantling and assembling Extruder Parts.	5	1	4
	PC7. Follow the Safety Precaution taken during assembling and disassembling.	7	1	6
	PC8. Set the Common Process Parameter like Temperature, Pressure and Speed and its controls.	8	2	6

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	PC9. Learn the Effect of process parameters on Product Properties	8	2	6
	PC1. Take Trial Production and checking product stabilization.	7	1	6
	PC2. Observe Actual Production and Parameter / Process Control.	7	1	6
	PC3. Follow Quality Check and Continuous Production. Post production and storing.	7	1	6
	PC14. Ensure Common faults found and trouble shooting.	5	1	4
	PC15. Segregate of faulty product and action taken.	5	1	4
	PC16. Disposal of faulty products as per laid down procedure.	5	1	4
	PC17. Follow Safety Equipments and Its Use.	5	1	4
	PC18. Do's and Don'ts in Area of Operation	3	1	2
	PC19. Follow Safety Precaution Majors before Operations.	2	1	1
	<b>Sub total</b>	<b>95</b>	<b>20</b>	<b>75</b>
<b>RSC/N4610 (CPC/N0324) : To Carryout House Keeping.</b>	PC1. Take an overlook of the Area under House Keeping.	2.5	0.5	2
	PC2. Put appropriate Signage immediately if oily substance / Water spills on the floor to avoid accident	2.5	0.5	2
	PC3. Inform, If certain housekeeping activities require to be performed by housekeeping staffs	2.5	0.5	2
	PC4 carried out by self then, Identify the material / equipment required for cleaning the areas.	2.5	0.5	2
	PC5. Plan the sequence for cleaning the area to avoid re-soiling the cleaned areas and surfaces.	2.5	0.5	2
	PC6. Display the appropriate signage for the work being conducted.	2.5	0.5	2
	PC7. Ensure that there is adequate ventilation for the work being carried out.	3	1	2
	PC8. Wear the personal protective equipment required for the cleaning method and materials being used.	5	1	4
	PC9. With right cleaning process carry out cleaning activities without disturbing others.	5	1	4
	PC10. Report to the appropriate person if any difficulties in carrying out your work.	5	1	4
	PC11. Ensure that there is no oily substance / Water spill on the floor, If found the put the Signage immediately to avoid accident.	4.5	0.5	4
	PC12. Follow workplace procedures to deal with any accidental damage caused during the cleaning process.	2.5	0.5	2
	PC13. Ensure that, on completion of the work, the area is left clean and dry and free from any leftover or scrap.	2.5	0.5	2

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	PC14. Return the equipment, materials and personal protective equipment that were used to the right places and check the inventory for the next cycle.	2.5	0.5	2
	PC15. Dispose the waste garnered from the activity in an appropriate manner.	2.5	0.5	2
	PC16. Maintain schedules and records for housekeeping duty.	2.5	0.5	2
	<b>Sub total</b>	<b>50</b>	<b>10</b>	<b>40</b>
<b>RSC/N4604 (CPC/N0315) : Reporting &amp; Documentation</b>	PC1. Report data/problems/incidents as per the laid down procedure in the prescribed format and registers.	4	2	2
	PC2. Report to the appropriate authority as laid down by the company procedure.	6	2	4
	PC3. Identify documentation to be completed relating to the job profile.	6	2	4
	PC4. Record details accurately in an appropriate format.	6	2	4
	PC5. Complete all documentation within stipulated time according to company procedure.	8	4	4
	PC6. Make sure documents are available to all appropriate authorities to inspect	8	4	4
	PC7. Respond to requests for information in an appropriate manner whilst following organizational procedures.	6	2	4
	PC8. Inform the appropriate authority of requests for information received.	6	2	4
	<b>Sub total</b>	<b>50</b>	<b>20</b>	<b>30</b>
<b>RSC/N4605 (CPC/N0316) : To Carry Out Quality Checks</b>	PC1. Ensure that total range of checks as per the prescribed national and International standards on regular intervals throughout the shifts.	5	1	4
	PC2. Use appropriate measuring instruments, equipment, tools, accessories etc, as prescribed / required	5	1	4
	PC3. Identify non-conformities to quality assurance standards.	5	1	4
	PC4. Identify potential causes of non-conformities to quality assurance standards	6	2	4
	PC5. Identify impact on final product due to non-conformance to prescribed Standards.	8	2	6
	PC6. Evaluating the need for action to ensure that problems do not reoccur.	8	2	6
	PC7. Suggest corrective action to address problem.	8	2	6
	PC8. Review effectiveness of corrective action.	8	2	6
	PC9. Interpret the results of the quality check correctly	7	1	6
	PC10. Take up results of the findings with QC in charge/appropriate authority.	7	1	6

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	PC11. Take up the results of the findings within stipulated time	7	1	6
	PC12. Record of results of action taken.	7	1	6
	PC13. Record adjustments not covered by established procedures for future reference.	7	1	6
	PC14. Review effectiveness of action taken.	7	1	6
	PC15. Follow reporting procedures where the cause of defect cannot be identified.	5	1	4
	<b>Sub total</b>	<b>100</b>	<b>20</b>	<b>80</b>
	<b>Total</b>	<b>600</b>	<b>150</b>	<b>450</b>