

# Plastic Moulding Operator/Technician

QP Code: ASC/Q4401

NSQF Level: 4

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## Qualification Pack

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## Qualification Pack

### ASC/Q4401: Plastic Moulding Operator/Technician

#### Brief Job Description

This role primarily involves managing the specifications of the plastic and its granules, setting up and operating the moulding machinery and forming & finishing the output.

#### Personal Attributes

Reading, writing and communication skills, ability to plan and prioritize, quality consciousness, safety orientation, Physique to sustain strenuous conditions, Dexterity, Ability to use fingers, hands and feet with ease to complete the assigned task (Dexterity), high precision and sensitivity to problem solving and sensitivity towards safety for self and equipment.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [ASC/N0006: Maintain a safe and healthy working environment](#)
2. [ASC/N0021: Maintain 5S at the work premises](#)
3. [ASC/N4401: Understand plastic moulding job requirements and related processes](#)
4. [ASC/N4402: Perform the moulding related operations and monitor process parameters](#)
5. [ASC/N4403: Conduct quality checks and inspection of the finished plastic mould products](#)

#### Qualification Pack (QP) Parameters

<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Moulding
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/8142.1301

## Qualification Pack

<b>Minimum Educational Qualification &amp; Experience</b>	I.T.I (Mechanical) with 2-3 years of experience Moulding or L3 Moulding Technician OR I.T.I (Mechanical) OR I.T.I (Mechanical)
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	Latest Moulding techniques and methodologies Properties of different plastic materials Reading and writing skills Safety and 5S
<b>Minimum Job Entry Age</b>	18 Years
<b>Last Reviewed On</b>	20/08/2013
<b>Next Review Date</b>	31/03/2020
<b>NSQC Approval Date</b>	20/07/2015
<b>Version</b>	1.0

## Qualification Pack

### ASC/N0006: Maintain a safe and healthy working environment

#### Description

This NOS is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area, following practices which are not impacting the environment in a negative manner and training team members on health and safety related issues

#### Scope

The role holder will be responsible for

- identifying and reporting of risks
- creating and sustaining a safe, clean and environment friendly work place This NOS will be applicable to all Automotive sector manufacturing job roles

#### Elements and Performance Criteria

##### *Identify and report the risks identified*

To be competent, the user/individual on the job must be able to:

- PC1..** Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise
- PC2.** Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc
- PC3.** Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations
- PC4.** Create awareness amongst other by sharing information on the identified risks

##### *Create and sustain a Safe, clean and environment friendly work place*

To be competent, the user/individual on the job must be able to:

- PC5..** Follow the instructions given on the equipment manual describing the operating process of the equipments
- PC6..** Follow the Safety, Health and Environment related practices developed by the organization
- PC7.** Operate the machine using the recommended Personal Protective Equipments (PPE)
- PC8. .** Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc
- PC9.** Maintain high standards of personal hygiene at the work place
- PC10.** Ensure that the waste disposal is done in the designated area and manner as per organization SOP.
- PC11.** Inform appropriately the medical officer/ HR in case of self or an employees illness of contagious nature so that preventive actions can be planned for others

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

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- KU1.** relevant standards, procedures and policies related to Health, Safety and Environment followed in the company
- KU2.** basic knowledge of Safety procedures( fire fighting, first aid) within the organization
- KU3.** knowledge of various types of PPEs and their usage
- KU4.** basic knowledge of risks/hazards associated with each occupation in the organization
- KU5.** how to safely operate various tools and machines and risks associated with the tools/ equipment
- KU6.** knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write basic level notes and observations
- GS2.** read safety instructions put up across the plant premises
- GS3.** read safety precautions mentioned in equipment manuals and panels to understand the potential risks associated
- GS4.** effectively communicate information to team members
- GS5.** inform employees in the plant and concerned functions about events, incidents & potential risks observed related to Safety, Health and Environment.
- GS6.** question operator/ supervisor in order to understand the safety related issues
- GS7.** attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs
- GS8.** use common sense and make judgments during day to day basis
- GS9.** use reasoning skills to identify and resolve basic problems
- GS10.** use common sense and make judgments during day to day basis
- GS11.** use reasoning skills to identify and resolve basic problems

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Identify and report the risks identified</i>	<b>8</b>	<b>23</b>	-	-
<b>PC1..</b> Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise	3	6	-	-
<b>PC2.</b> Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc	2	6	-	-
<b>PC3.</b> Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations	2	6	-	-
<b>PC4.</b> Create awareness amongst other by sharing information on the identified risks	1	5	-	-
<i>Create and sustain a Safe, clean and environment friendly work place</i>	<b>17</b>	<b>52</b>	-	-
<b>PC5..</b> Follow the instructions given on the equipment manual describing the operating process of the equipments	3	7	-	-
<b>PC6..</b> Follow the Safety, Health and Environment related practices developed by the organization	3	8	-	-
<b>PC7.</b> Operate the machine using the recommended Personal Protective Equipments (PPE)	3	8	-	-
<b>PC8. .</b> Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc	2	8	-	-
<b>PC9.</b> Maintain high standards of personal hygiene at the work place	2	7	-	-
<b>PC10.</b> Ensure that the waste disposal is done in the designated area and manner as per organization SOP.	3	8	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11.</b> Inform appropriately the medical officer/ HR in case of self or an employees illness of contagious nature so that preventive actions can be planned for others	1	6	-	-
<b>NOS Total</b>	<b>25</b>	<b>75</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N0006
<b>NOS Name</b>	Maintain a safe and healthy working environment
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing
<b>Occupation</b>	Maintenance
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/09/2013
<b>Next Review Date</b>	15/09/2015
<b>NSQC Clearance Date</b>	20/07/2015

## Qualification Pack

### ASC/N0021: Maintain 5S at the work premises

#### Description

This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity

#### Elements and Performance Criteria

##### *Ensure sorting*

To be competent, the user/individual on the job must be able to:

- PC1..** follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.
- PC2..** ensure segregation of waste in hazardous/ non hazardous waste as per the sorting work instructions
- PC3..** follow the technique of waste disposal and waste storage in the proper bins as per sop
- PC4..** segregate the items which are labelled as red tag items for the process area and keep them in the correct places
- PC5.** sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5s guidelines/ work instructions
- PC6. .** ensure that areas of material storage areas are not overflowing
- PC7.** 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
- PC8.** return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area
- PC9.** follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards
- PC10.** follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists

##### *Ensure proper documentation and storage ( organizing , streamlining)*

To be competent, the user/individual on the job must be able to:

- PC11.** check that the items in the respective areas have been identified as broken or damaged
- PC12.** 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
- PC13.** make sure that all material and tools are stored in the designated places and in the manner indicated in the 5s instructions

##### *Ensure cleaning of self and the work place*

To be competent, the user/individual on the job must be able to:

- PC14.** check whether safety glasses are clean and in good condition
- PC15.** keep all outside surfaces of recycling containers are clean
- PC16..** ensure that the area has floors swept, machinery clean and generally clean. in case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards

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- PC17..** check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up
- PC18..** ensure workbenches and work surfaces are clean and in good condition
- PC19.** follow the cleaning schedule for the lighting system to ensure proper illumination
- PC20.** store the cleaning material and equipment in the correct location and in good condition
- PC21.** ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene

### *Ensure sustenance*

To be competent, the user/individual on the job must be able to:

- PC22.** follow the daily cleaning standards and schedules to create a clean working environment
- PC23.** attend all training programs for employees on 5 s
- PC24.** support the team during the audit of 5 s
- PC25.** participate actively in employee work groups on 5s and encourage team members for active participation
- PC26.** follow the guidelines for what to do and what not to do to build sustainability in 5s as mentioned in the 5s check lists/ work instructions

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** relevant standards, procedures and policies related to 5S followed in the company
- KU2.** have basic knowledge of 5S procedures
- KU3.** know various types 5s practices followed in various areas
- KU4.** understand the 5S checklists provided in the department/ team
- KU5.** have skills to identify useful & non useful items
- KU6.** have knowledge of labels , signs & colours used as indicators
- KU7.** knowledge on how to sort and store various types of tools, equipment, material etc.
- KU8.** know , how to identify various types of waste products
- KU9.** understand the impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human body
- KU10.** have knowledge of best ways of cleaning & waste disposal
- KU11.** understand the importance of standardization in processes
- KU12.** understand the importance of sustainability in 5S
- KU13.** have knowledge of TQM process
- KU14.** have knowledge of various materials and storage norms
- KU15.** understand visual controls, symbols, graphs etc.

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write basic level notes and observations

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- GS2.** note down observations (if any) related to the process
- GS3.** read 5S instructions put up across the plant premises
- GS4.** effectively communicate information to team members inform employees in the plant and concerned functions about 5S
- GS5.** question the process head in order to understand the 5S related issues
- GS6.** attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
- GS7.** use common sense and make judgments during day to day basis
- GS8.** use reasoning skills to identify and resolve basic problems using 5S
- GS9.** persuade co team members to follow 5 S
- GS10.** ensure that the co team members understand the importance of using 5 S tool
- GS11.** use innovative skills to perform and manage 5 S activities at the work desk and the shop floor
- GS12.** exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work
- GS13.** do what is right, not what is a popular practices
- GS14.** follow shop floor rules& regulations and avoid deviations; make 5S an integral way of life
- GS15.** ensure self-cleanliness on a daily basis
- GS16.** demonstrate the will to keep the work area in a clean and orderly manner

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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure sorting</i>	<b>10</b>	<b>30</b>	-	-
<b>PC1..</b> follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches or work surfaces.	1	3	-	-
<b>PC2..</b> ensure segregation of waste in hazardous/ non hazardous waste as per the sorting work instructions	1	3	-	-
<b>PC3..</b> follow the technique of waste disposal and waste storage in the proper bins as per sop	1	3	-	-
<b>PC4..</b> segregate the items which are labelled as red tag items for the process area and keep them in the correct places	1	3	-	-
<b>PC5.</b> sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5s guidelines/ work instructions	1	3	-	-
<b>PC6. .</b> ensure that areas of material storage areas are not overflowing	1	3	-	-
<b>PC7.</b> 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	3	-	-
<b>PC8.</b> 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	3	-	-
<b>PC9.</b> follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards	1	3	-	-
<b>PC10.</b> follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure proper documentation and storage (organizing , streamlining)</i>	<b>3</b>	<b>9</b>	-	-
<b>PC11.</b> check that the items in the respective areas have been identified as broken or damaged	1	3	-	-
<b>PC12.</b> 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	1	3	-	-
<b>PC13.</b> make sure that all material and tools are stored in the designated places and in the manner indicated in the 5s instructions	1	3	-	-
<i>Ensure cleaning of self and the work place</i>	<b>8</b>	<b>24</b>	-	-
<b>PC14.</b> check whether safety glasses are clean and in good condition	1	3	-	-
<b>PC15.</b> keep all outside surfaces of recycling containers are clean	1	3	-	-
<b>PC16..</b> ensure that the area has floors swept, machinery clean and generally clean. in case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards	1	3	-	-
<b>PC17..</b> check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up	1	3	-	-
<b>PC18..</b> ensure workbenches and work surfaces are clean and in good condition	1	3	-	-
<b>PC19.</b> follow the cleaning schedule for the lighting system to ensure proper illumination	1	3	-	-
<b>PC20.</b> store the cleaning material and equipment in the correct location and in good condition	1	3	-	-
<b>PC21.</b> ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene	1	3	-	-
<i>Ensure sustenance</i>	<b>4</b>	<b>12</b>	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC22.</b> follow the daily cleaning standards and schedules to create a clean working environment	1	3	-	-
<b>PC23.</b> attend all training programs for employees on 5 s	0.5	2	-	-
<b>PC24.</b> support the team during the audit of 5 s	1	3	-	-
<b>PC25.</b> participate actively in employee work groups on 5s and encourage team members for active participation	0.5	2	-	-
<b>PC26.</b> follow the guidelines for what to do and what not to do to build sustainability in 5s as mentioned in the 5s check lists/ work instructions	1	2	-	-
<b>NOS Total</b>	<b>25</b>	<b>75</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N0021
<b>NOS Name</b>	Maintain 5S at the work premises
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Generic
<b>Occupation</b>	Generic
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	15/03/2014
<b>Next Review Date</b>	15/03/2016
<b>NSQC Clearance Date</b>	

## Qualification Pack

# ASC/N4401: Understand plastic moulding job requirements and related processes

## Description

This NOS unit is about understanding the job requirement, what processes need to be executed, what equipment will be used and what is the required output considering the standards specified

## Scope

The Moulding Operator will be responsible for

- understanding the work order and the process requirement
- arranging the required raw material and tools for the moulding process
- cleaning the equipment and the moulding die
- escalations of any queries regarding the job The role holder will interact with maintenance team and material management team

## Elements and Performance Criteria

### *Understand the work order and the process requirements*

To be competent, the user/individual on the job must be able to:

- PC1..** understand the work order ( work output) required from the process and discuss the same with the supervisor
- PC2..** refer all sketches/ work orders/ process related documents to understand dimensions and properties of the required work output
- PC3..** understand the process requirements in terms of temperature of the heater, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw pressure, regulating current, injection time, refilling time etc. as mentioned in the work instruction/ sop/ control diagrams
- PC4..** clearly understanding the does and donts of the manufacturing process as defined in SOPs/ work instructions or defined by supervisors

### *Arrange for the material to be moulded and apparatus required for the same*

To be competent, the user/individual on the job must be able to:

- PC5..** understand the moulding procedure and process to be adopted for completing the work order from the supervisor by referring the work instruction document/ SOP manual
- PC6..** set the various moulding parameters like temperature of the heaters, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw, screw pressure, regulating current, flow of coolant/ water etc. before starting the process. moulding parameters are mentioned in the work instructions/ SOP manual
- PC7..** understand the raw material like plastics granules, bonding additives etc. required for executing the activity
- PC8..** ensure that the required material is procured from the store before starting the process
- PC9..** understand the type of die required for executing the required moulding operation and ensure that the same is available for moulding operations

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**PC10..** understand the number of heaters required for the moulding operations, heater temperature and current required for the heating operations as mentioned in the work instructions/ sop manual

*Clean the apparatus and the components before executing the process*

To be competent, the user/individual on the job must be able to:

**PC11..** ensure cleaning of dies and machine runners by spraying or brushing surfaces with parting agents to ensure smoothness and prevent clogging of plastic in the machine parts/ dies

**PC12..** ensure cleaning of the other moulding machine tools, auxiliaries(if any) before the initiation of the moulding and trimming process

**PC13..** ensure cleaning of the area around the apparatus for any oil, grease, combustible substances etc. so as to prevent any accident

*Check materials and apparatus for Operations*

To be competent, the user/individual on the job must be able to:

**PC14..** use weighing machines to measure the quantity of granules and ensure that the correct quantity of granules are put in the hopper

**PC15..** check the parameters temperature, pressure, current, screw speed etc. in line with the work instructions/ sops

**PC16..** setup the moulding apparatus as per the selected moulding process and the moulding standards used in the automobile industry

**PC17..** adjust the temperature and other parameters of the moulding apparatus as per the values given in work instructions/ sops

**PC18..** ensure availability of the coolant and working of valves to circulate the coolant to cool and solidify plastic

*Escalations of queries on the given job*

To be competent, the user/individual on the job must be able to:

**PC19..** refer the queries to supervisor if they cannot be resolved by the operator

**PC20..** confirm self - understanding to the supervisor once the query is resolved so that all doubts & queries can be resolved before the actual process execution

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** relevant standards and procedures followed in the company

**KU2.** different types of products manufactured by the company

**KU3.** functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution

**KU4.** different parameters pertinent to moulding process like heater temperature, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw, operating current and voltage, injection time, refilling time etc. and the impact of these parameters on the process output

**KU5.** various types of plastics like thermoplastics/ thermosetting plastics and the additives to be used

**KU6.** different types of tools and machinery to mould the plastic and trim the output

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- KU7.** various types of coolants and their properties
- KU8.** geometry and dimension measurement of the product output
- KU9.** sketches and engineering drawings
- KU10.** how to visualize final product output and hence decide on the key steps to be followed
- KU11.** different types of cleaning techniques, moulding processes and associated equipments
- KU12.** measuring instruments like vernier callipers, micrometres
- KU13.** hazards and safety aspects involved in moulding activities and usage of relevant PPEs

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** document information from the sketches and engineering drawings
- GS2.** prepare draft drawings for the final output product
- GS3.** write information documents to internal departments/ internal teams or enter the information in online ERP systems under guidance of the supervisor
- GS4.** read and interpret engineering drawing and sketches
- GS5.** read equipment manuals and process documents to understand the equipment and processes better
- GS6.** read instructions especially safety instructions especially symbols while using the equipment in the plant area
- GS7.** read internal drawings send by internal customers ( other functions within the organization)
- GS8.** discuss task lists, schedules, and work-loads with co-workers
- GS9.** question internal customers/ Moulding shop supervisor appropriately in order to understand the nature of the problem and make a diagnosis
- GS10.** avoid using jargon, slang or acronyms when communicating with a customer, unless it is required
- GS11.** plan and organize the work order and jobs received from the internal customers
- GS12.** plan and organize the design documents received from internal customers
- GS13.** organize all process/ equipment manuals so that sorting out information is fast
- GS14.** use common sense and make judgments during day to day basis
- GS15.** use reasoning skills to identify and resolve basic problems
- GS16.** use intuition to detect any potential problems which could arise during operations
- GS17.** follow instructions and work on areas of improvement identified
- GS18.** complete the assigned tasks with minimum supervision
- GS19.** complete the job defined by the supervisor within the timelines and quality norms
- GS20.** detect problems in day to day tasks
- GS21.** support supervisor in using specific problem solving techniques and detailing out the problems
- GS22.** discuss possible solution with the supervisor for problem solving
- GS23.** make decisions in emergency conditions in case the supervisor is not available( as per the authority matrix defined by the organization)

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Understand the work order and the process requirements</i>	<b>8</b>	<b>12</b>	-	-
<b>PC1..</b> understand the work order ( work output) required from the process and discuss the same with the supervisor	2	3	-	-
<b>PC2..</b> refer all sketches/ work orders/ process related documents to understand dimensions and properties of the required work output	2	3	-	-
<b>PC3..</b> understand the process requirements in terms of temperature of the heater, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw pressure, regulating current, injection time, refilling time etc. as mentioned in the work instruction/ sop/ control diagrams	2	3	-	-
<b>PC4..</b> clearly understanding the does and donts of the manufacturing process as defined in SOPs/ work instructions or defined by supervisors	2	3	-	-
<i>Arrange for the material to be moulded and apparatus required for the same</i>	<b>11</b>	<b>21</b>	-	-
<b>PC5..</b> understand the moulding procedure and process to be adopted for completing the work order from the supervisor by referring the work instruction document/ SOP manual	2	3	-	-
<b>PC6..</b> set the various moulding parameters like temperature of the heaters, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw, screw pressure, regulating current, flow of coolant/ water etc. before starting the process. moulding parameters are mentioned in the work instructions/ SOP manual	2	6	-	-
<b>PC7..</b> understand the raw material like plastics granules, bonding additives etc. required for executing the activity	2	3	-	-
<b>PC8..</b> ensure that the required material is procured from the store before starting the process	1	3	-	-

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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC9..</b> understand the type of die required for executing the required moulding operation and ensure that the same is available for moulding operations	2	3	-	-
<b>PC10..</b> understand the number of heaters required for the moulding operations, heater temperature and current required for the heating operations as mentioned in the work instructions/ sop manual	2	3	-	-
<i>Clean the apparatus and the components before executing the process</i>	<b>3</b>	<b>10</b>	-	-
<b>PC11..</b> ensure cleaning of dies and machine runners by spraying or brushing surfaces with parting agents to ensure smoothness and prevent clogging of plastic in the machine parts/ dies	1	4	-	-
<b>PC12..</b> ensure cleaning of the other moulding machine tools, auxiliaries(if any) before the initiation of the moulding and trimming process	1	3	-	-
<b>PC13..</b> ensure cleaning of the area around the apparatus for any oil, grease, combustible substances etc. so as to prevent any accident	1	3	-	-
<i>Check materials and apparatus for Operations</i>	<b>6</b>	<b>23</b>	-	-
<b>PC14..</b> use weighing machines to measure the quantity of granules and ensure that the correct quantity of granules are put in the hopper	1	5	-	-
<b>PC15..</b> check the parameters temperature, pressure, current, screw speed etc. in line with the work instructions/ sops	1	5	-	-
<b>PC16..</b> setup the moulding apparatus as per the selected moulding process and the moulding standards used in the automobile industry	2	6	-	-
<b>PC17..</b> adjust the temperature and other parameters of the moulding apparatus as per the values given in work instructions/ sops	1	4	-	-
<b>PC18..</b> ensure availability of the coolant and working of valves to circulate the coolant to cool and solidify plastic	1	3	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Escalations of queries on the given job</i>	2	4	-	-
<b>PC19..</b> refer the queries to supervisor if they cannot be resolved by the operator	1	2	-	-
<b>PC20..</b> confirm self - understanding to the supervisor once the query is resolved so that all doubts & queries can be resolved before the actual process execution	1	2	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N4401
<b>NOS Name</b>	Understand plastic moulding job requirements and related processes
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing and R&D
<b>Occupation</b>	moulding
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	20/08/2013
<b>Next Review Date</b>	31/12/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

# ASC/N4402: Perform the moulding related operations and monitor process parameters

## Description

This NOS unit is about moulding the plastic into the desired shape and ensure finishing of the output in line with the required specifications and industry standards

## Scope

The moulding operator will be responsible for checking the operations of the equipment feeding the granules as per requirement operating the moulding machine to produce the required output products perform visual inspection of the output products The role holder will interact with maintenance team and material management team

- checking the operations of the equipment
- feeding the granules as per requirement
- operating the moulding machine to produce the required output products
- perform visual inspection of the output products

## Elements and Performance Criteria

### *Check the operations of the equipment used in the moulding process*

To be competent, the user/individual on the job must be able to:

- PC1..** check for operation of molding apparatus like hopper, pouring nozzles, heaters, reciprocating screws, plungers etc. as per the checklist provided
- PC2..** fix the desired die to the extrusion apparatus in order to achieve the desired shape as per the work instructions/ sops
- PC3..** make modifications in the molding parameters ( by selecting the right program from the machine control system) if required and ensure alignment with the prescribed standards

### *Feed the plastic granules in the hopper and conduct a test process*

To be competent, the user/individual on the job must be able to:

- PC4..** perform preheating of plastic granules to improve their tensile strength
- PC5..** ensure that the plastic granules are mixed with additives (if any) before being fed into the hopper
- PC6..** turn valves of machines to regulate speed and quantity of the plastic coming out of the hopper
- PC7..** ensure pouring in line with the defined standards and specifications
- PC8..** record the feeding observations like parting leak, interrupted pouring or any abnormality
- PC9..** conduct a test process and produce a sample output as per the sketches/ engineering drawing shared with the operator
- PC10..** check the first piece for geometry, material & dimensional parameters as per the control plan before starting the production
- PC11..** ensure that the dimensions of the output product are measured as per the process given in the work instructions/ SOP

## Qualification Pack

**PC12..** in case the test product matches the dimensions and quality of the final output, start the production process

### *Conduct the actual moulding process*

To be competent, the user/individual on the job must be able to:

**PC13..** feed the required operation code in the apparatus for heaters to melt the plastic granules at the predefined temperature

**PC14..** adjust the screw speed and the screw pressure to force the molten plastic into the die to create the desired output shape

**PC15..** turn valves of machines to regulate speed and quantity of the plastic coming out of the hopper

**PC16..** ensure feeding in line with the defined standards and specifications

**PC17..** record the feeding observations like parting leak, interrupted pouring or any abnormality

**PC18..** ensure the proper functioning of screen pack for uniform melting of plastic and removal of the contaminants (if any)

**PC19..** monitor the molding process (parameters like temperature, pressure etc.) by observing and analyzing the readings on various panels/ meters to prevent machine breakdown and deviations of the output from desired specifications

**PC20..** observe and analyze any irregularity in the process and take preventive steps

**PC21..** remove the output from the machine once the cycle is complete using proper clamps and other handling tools to carefully pick the product from the machine area

**PC22..** in case the output has to be separately cooled, ensure that the helper cools it using the cooling process as mentioned in the work instructions/ sops

**PC23..** clean the plastic molding to remove runners/ gates or extra materials through de-gating and de-flashing processes

**PC24..** ensure stamping of the molding with the identifying information (wherever required) and send the same for further processing

**PC25..** instruct the helper to cut the output molding as per the desired geometric specifications (removal of runners)

### *Perform the visual inspection of the output to further finish the moulding*

To be competent, the user/individual on the job must be able to:

**PC26..** measure the final plastic product and compare the dimensions as prescribed in the work order/ engineering drawing

**PC27..** in case the parts are not as per the given measurements, send the same for further processing in terms of cutting, finishing etc.

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

**KU1.** relevant standards and procedures followed in the company

**KU2.** different types of products manufactured by the company

**KU3.** functional processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution

**KU4.** quality norms prescribed by the organization for moulding jobs

## Qualification Pack

- KU5.** how to read panels, meters, indicators etc. to monitor the process
- KU6.** different types of moulding processes, associated equipment like dies, screw/ reciprocating screw/ plunger, heaters etc. and their working
- KU7.** number of heaters required to generate the given temperature/ current requirements
- KU8.** different parameters pertinent to moulding process like heater temperature, hydraulic pressure/ air pressure/ vacuum pressure, rotating speed of the screw, operating current and voltage, injection time, refilling time etc. and the impact of these parameters on the process
- KU9.** various types of plastics like thermoplastics/ thermosetting plastics and their properties
- KU10.** various types of coolants. and their properties
- KU11.** moulding defects and how they are generated, how they can be prevented, different consumables used in the melt shop
- KU12.** extruder operation, melting process, and safety process of handling hot molten plastic and control mechanisms for the extrusion machine
- KU13.** measuring instruments like vernier callipers, micrometers and other tools
- KU14.** impact of operators work on moulding quality at in house and at customers, how to improve customers satisfaction
- KU15.** geometry and dimension measurement
- KU16.** sketches and engineering drawings
- KU17.** how to visualize final product output and hence decide on the key steps to be followed
- KU18.** safety precautions to be taken for all types of moulding activities

## Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** document information from the sketches and engineering drawings
- GS2.** write log book in terms of output quantity, set up parameters, machine setting parameters and loss details etc.
- GS3.** prepare draft drawings for the final output product
- GS4.** write drawings to internal customers on the requirement of moulding plastic, moulding apparatus etc.
- GS5.** note measurements, equipment panel readings for various process parameters in the required reporting formats
- GS6.** read and interpret engineering drawing and sketches
- GS7.** read equipment manuals and process documents to understand the equipment and processes better
- GS8.** read instructions especially safety instructions especially symbols while using the equipment in the plant area
- GS9.** read internal drawings send by internal customers ( other functions within the organization)
- GS10.** discuss task lists, schedules, and work-loads with co-workers
- GS11.** question internal customers/ Moulding shop supervisor appropriately in order to understand the nature of the problem and make a diagnosis
- GS12.** plan and organize the work order and jobs received from the internal customers

## Qualification Pack

- GS13.** plan and organize the design documents received from internal customers
- GS14.** organize all process/ equipment manuals so that sorting out information is fast
- GS15.** organize apparatus etc. in an orderly manner at proper designated areas
- GS16.** visualize the final job product after understanding the given drawing/ sketches
- GS17.** carefully measure the moulding so in terms of the geometrical dimensions so that the final output is as pre the given drawing
- GS18.** finalize the optimum levels of physical parameters so that the job output meets the prescribed job standards
- GS19.** detect problems in day to day tasks
- GS20.** support supervisor in using specific problem solving techniques and detailing out the problems
- GS21.** discuss possible solution with the supervisor for problem solving
- GS22.** make decisions in emergency conditions in case the supervisor is not available( as per the authority matrix defined by the organization)
- GS23.** follow instructions and work on areas of improvement identified
- GS24.** complete the assigned tasks with minimum supervision
- GS25.** complete the job defined by the supervisor within timelines and quality norms

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Check the operations of the equipment used in the moulding process</i>	<b>3</b>	<b>10</b>	-	-
<b>PC1..</b> check for operation of molding apparatus like hopper, pouring nozzles, heaters, reciprocating screws, plungers etc. as per the checklist provided	1	3	-	-
<b>PC2..</b> fix the desired die to the extrusion apparatus in order to achieve the desired shape as per the work instructions/ sops	1	3	-	-
<b>PC3..</b> make modifications in the molding parameters ( by selecting the right program from the machine control system) if required and ensure alignment with the prescribed standards	1	4	-	-
<i>Feed the plastic granules in the hopper and conduct a test process</i>	<b>9</b>	<b>27</b>	-	-
<b>PC4..</b> perform preheating of plastic granules to improve their tensile strength	1	3	-	-
<b>PC5..</b> ensure that the plastic granules are mixed with additives (if any) before being fed into the hopper	1	3	-	-
<b>PC6..</b> turn valves of machines to regulate speed and quantity of the plastic coming out of the hopper	1	3	-	-
<b>PC7..</b> ensure pouring in line with the defined standards and specifications	1	3	-	-
<b>PC8..</b> record the feeding observations like parting leak, interrupted pouring or any abnormality	1	3	-	-
<b>PC9..</b> conduct a test process and produce a sample output as per the sketches/ engineering drawing shared with the operator	1	3	-	-
<b>PC10..</b> check the first piece for geometry, material & dimensional parameters as per the control plan before starting the production	1	3	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC11..</b> ensure that the dimensions of the output product are measured as per the process given in the work instructions/ SOP	1	3	-	-
<b>PC12..</b> in case the test product matches the dimensions and quality of the final output, start the production process	1	3	-	-
<i>Conduct the actual moulding process</i>	<b>11</b>	<b>33</b>	-	-
<b>PC13..</b> feed the required operation code in the apparatus for heaters to melt the plastic granules at the predefined temperature	1	3	-	-
<b>PC14..</b> adjust the screw speed and the screw pressure to force the molten plastic into the die to create the desired output shape	1	3	-	-
<b>PC15..</b> turn valves of machines to regulate speed and quantity of the plastic coming out of the hopper	1	3	-	-
<b>PC16..</b> ensure feeding in line with the defined standards and specifications	0.5	2	-	-
<b>PC17..</b> record the feeding observations like parting leak, interrupted pouring or any abnormality	0.5	2	-	-
<b>PC18..</b> ensure the proper functioning of screen pack for uniform melting of plastic and removal of the contaminants (if any)	0.5	2	-	-
<b>PC19..</b> monitor the molding process (parameters like temperature, pressure etc.) by observing and analyzing the readings on various panels/ meters to prevent machine breakdown and deviations of the output from desired specifications	1	3	-	-
<b>PC20..</b> observe and analyze any irregularity in the process and take preventive steps	1	3	-	-
<b>PC21..</b> remove the output from the machine once the cycle is complete using proper clamps and other handling tools to carefully pick the product from the machine area	1	3	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC22..</b> in case the output has to be separately cooled, ensure that the helper cools it using the cooling process as mentioned in the work instructions/ sops	1	3	-	-
<b>PC23..</b> clean the plastic molding to remove runners/ gates or extra materials through de-gating and de -flashing processes	1	2	-	-
<b>PC24..</b> ensure stamping of the molding with the identifying information (wherever required) and send the same for further processing	0.5	2	-	-
<b>PC25..</b> instruct the helper to cut the output molding as per the desired geometric specifications ( removal of runners)	1	2	-	-
<i>Perform the visual inspection of the output to further finish the moulding</i>	<b>2</b>	<b>5</b>	-	-
<b>PC26..</b> measure the final plastic product and compare the dimensions as prescribed in the work order/ engineering drawing	1	3	-	-
<b>PC27..</b> in case the parts are not as per the given measurements, send the same for further processing in terms of cutting, finishing etc.	1	2	-	-
<b>NOS Total</b>	<b>25</b>	<b>75</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N4402
<b>NOS Name</b>	Perform the moulding related operations and monitor process parameters
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing and R&D
<b>Occupation</b>	Moulding
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	20/08/2013
<b>Next Review Date</b>	31/12/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

# ASC/N4403: Conduct quality checks and inspection of the finished plastic mould products

## Description

This NOS unit is about inspecting the finished goods produced for any damages, deformities and further repairing the parts produced so that the damaged/ defective pieces can be corrected and right quality components are supplied to 1. The customer/ end user 2. Internal manufacturing team

## Scope

The moulding operator will be responsible for inspecting the finished goods keeping records of production and defects conducting minor repair on output parts which can be reworked The role holder will interact with maintenance team and material management team

- inspecting the finished goods
- keeping records of production and defects
- conducting minor repair on output parts which can be reworked

## Elements and Performance Criteria

### *Inspection of finished goods to detect any deviations from the product design*

To be competent, the user/individual on the job must be able to:

- PC1..** measure the specifications of the finished product using devices like micrometers, vernier calipers, gauges, rulers, weighing scales and any other inspection equipment and compare with the parameters given in the work order
- PC2..** compare texture, surface properties, hardness and strength with the given product specifications

### *Record log of defective products and discard defective pieces*

To be competent, the user/individual on the job must be able to:

- PC3..** note down the observations of the basic inspection process and identify pieces which are ok and also not meeting the specified standards
- PC4..** separate the defective pieces into two categories pieces which can be repaired/ modified and pieces which are beyond repair
- PC5..** discard the pieces which are beyond repair and repair the ones which need minor modifications/ rework
- PC6..** maintain records of each category of work outputs as per the batch/ cavity etc. so that correction can be organized.
- PC7..** establish linkage between rejection of output and the pertinent causes for the same (process/ material etc.); recommend the means for rejection control

### *Repair the pieces with minor defects*

To be competent, the user/individual on the job must be able to:

- PC8..** rectify minor defects like shape deformation, grooves, holes etc. by cutting, finishing etc.
- PC9..** escalate all issues related to change in surface properties, hardness etc. so that the manufacturing equipment can be reset to achieve the specified output

## Qualification Pack

### *Perform Batch Quality Procedure*

To be competent, the user/individual on the job must be able to:

- PC10.** provide first and last moulding from each batch to the lab for quality check on its composition, properties etc.
- PC11.** obtain clearance for the entire batch from the lab

### **Knowledge and Understanding (KU)**

The individual on the job needs to know and understand:

- KU1.** relevant standards specified for the manufacturing process
- KU2.** basic process followed for inspection of the pieces
- KU3.** quality Management policy of the organization
- KU4.** processes and procedures followed for manufacturing the components/ prices/ products
- KU5.** techniques of using measurement instruments like rulers, Vernier calipers, micrometers, weighing scales etc.
- KU6.** methods to identify quality defects in work pieces
- KU7.** impact of defects on the overall working of the component
- KU8.** methods used for cutting, finishing which can repair pieces with minor defects
- KU9.** various quality standards in India (ISO) used by the organization

### **Generic Skills (GS)**

User/individual on the job needs to know how to:

- GS1.** note the number of pieces with defects which can be repaired to number of pieces which will be discarded
- GS2.** read process and equipment manuals to understand the working of the equipment
- GS3.** read measuring instruments reading to identify any deviations from the dimensions given in the product engineering drawing
- GS4.** inform supervisor of any quality related defects arising out of the manufacturing process
- GS5.** question internal customers/ supervisor appropriately in order to understand the nature of the problem and make a diagnosis
- GS6.** plan and organize the work order and jobs received from the supervisor
- GS7.** organize all process/ equipment manuals so that sorting/ accessing information is easy
- GS8.** keep fixtures, tools, drawings, Work Instructions, SOP manuals as per the part number, colour codes etc as defined under the 5S systems
- GS9.** use common sense and make judgments during day to day basis use reasoning skills to identify and resolve basic problems
- GS10.** carefully analyse the body part for various assembling defects at every station
- GS11.** carefully analyse each defect observed during inspection and try to find solution for the defect along with the assembly line operator
- GS12.** identify defective parts in the manufacturing line by comparing manufactured pieces with the work standard

## Qualification Pack

**GS13.** link the defect observed with the overall impact on the performance of the component

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Inspection of finished goods to detect any deviations from the product design</i>	<b>7</b>	<b>18</b>	-	-
<b>PC1..</b> measure the specifications of the finished product using devices like micrometers, vernier calipers, gauges, rulers, weighing scales and any other inspection equipment and compare with the parameters given in the work order	3	9	-	-
<b>PC2..</b> compare texture, surface properties, hardness and strength with the given product specifications	4	9	-	-
<i>Record log of defective products and discard defective pieces</i>	<b>8</b>	<b>38</b>	-	-
<b>PC3..</b> note down the observations of the basic inspection process and identify pieces which are ok and also not meeting the specified standards	2	6	-	-
<b>PC4..</b> separate the defective pieces into two categories pieces which can be repaired/ modified and pieces which are beyond repair	1	9	-	-
<b>PC5..</b> discard the pieces which are beyond repair and repair the ones which need minor modifications/ rework	1	8	-	-
<b>PC6..</b> maintain records of each category of work outputs as per the batch/ cavity etc. so that correction can be organized.	2	6	-	-
<b>PC7..</b> establish linkage between rejection of output and the pertinent causes for the same (process/ material etc.); recommend the means for rejection control	2	9	-	-
<i>Repair the pieces with minor defects</i>	<b>3</b>	<b>14</b>	-	-
<b>PC8..</b> rectify minor defects like shape deformation, grooves, holes etc. by cutting, finishing etc.	2	9	-	-
<b>PC9..</b> escalate all issues related to change in surface properties, hardness etc. so that the manufacturing equipment can be reset to achieve the specified output	1	5	-	-

### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform Batch Quality Procedure</i>	2	10	-	-
<b>PC10..</b> provide first and last moulding from each batch to the lab for quality check on its composition, properties etc.	1	5	-	-
<b>PC11..</b> obtain clearance for the entire batch from the lab	1	5	-	-
<b>NOS Total</b>	<b>20</b>	<b>80</b>	-	-

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	ASC/N4403
<b>NOS Name</b>	Conduct quality checks and inspection of the finished plastic mould products
<b>Sector</b>	Automotive
<b>Sub-Sector</b>	Manufacturing and R&D
<b>Occupation</b>	Moulding
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	20/08/2013
<b>Next Review Date</b>	31/12/2015
<b>NSQC Clearance Date</b>	

## Qualification Pack

### Assessment Guidelines and Assessment Weightage

#### Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

**Recommended Pass % aggregate for QP : 70**

#### Assessment Weightage

##### Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N0006.Maintain a safe and healthy working environment	25	75	-	-	100	20
ASC/N0021.Maintain 5S at the work premises	25	75	-	-	100	15
ASC/N4401.Understand plastic moulding job requirements and related processes	30	70	-	-	100	20

### Qualification Pack

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ASC/N4402.Perform the moulding related operations and monitor process parameters	25	75	-	-	100	25
ASC/N4403.Conduct quality checks and inspection of the finished plastic mould products	20	80	-	-	100	20
<b>Total</b>	<b>125</b>	<b>375</b>	<b>-</b>	<b>-</b>	<b>500</b>	<b>100</b>

## Acronyms

<b>NOS</b>	National Occupational Standard(s)
<b>NSQF</b>	National Skills Qualifications Framework
<b>QP</b>	Qualifications Pack
<b>TVET</b>	Technical and Vocational Education and Training

## Qualification Pack

### Glossary

<b>Sector</b>	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

## Qualification Pack

<b>Knowledge and Understanding (KU)</b>	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
<b>Organisational Context</b>	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment 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.
<b>Electives</b>	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
<b>Options</b>	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.