

### CONTACT DETAILS OF THE AWARDING BODY FOR THE QUALIFICATION

**Name and address of awarding body:** Central Institute of Plastics Engineering and Technology (CIPET), Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India, Head Office, Guindy, Chennai

### Name and contact details of individual dealing with the submission

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### List of documents submitted in support of the Qualifications File:

1. Qualification Document - Machine Operator Assistant-Injection Moulding
2. Curriculum/ Syllabus
3. Training delivery Plan
4. Criteria for Assessment of Trainees
5. Occupational Map
6. Composition of core committee for QP Development order, DCPC, MoCF, GOI
7. Presentation of 2nd core group committee meeting along with Minutes of meeting approved by members
8. Assessment Process flow
9. Documents supporting need of the Qualification:
  - a. Report of the Coordination Committee address the issue related with Human Resources/ Skilled manpower requirement of Industry- Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Govt. Of India
  - b. A Report on Human Resource and Skill requirement for the Chemicals and Pharmaceutical sector (2022) by NSDC.
  - c. Brief report of Chemicals and petrochemicals Industry in India, April 2015, Corporate Catalyst India Pvt Ltd, Page 4
  - d. Report on Indian Plastics Industry 2013-17, edition 2, Nov 2014, PlastIndia Foundation.
  - e. Indian Plastics Industry – Vision 2012, Leverage Plastic, A report by CRISIL
  - f. Potential of Downstream Plastics Industry in North India, 26 June 2012, Knowledge and Strategy paper by Tata Strategic management Group & FICCI
  - g. Potential of plastics industry in Northern India with special focus on Plasticulture and Food Processing- 2014. A report on Plastic Industry by Tata Strategic management Group & FICCI.

## QUALIFICATION FILE

- h. Plastic Industry in India a BPF Overview for PlastIndia International Exhibition 2012, New Delhi
- i. Porters Five force Analysis of the Plastics Industry by Santanu Mandal, International Journal of Multidisciplinary Research, Vol 1, Issue 7, November 2011, ISSN 2231 5780
- j. Industry Engagement certificate in preparation of learning outcomes and Job Role Identification in Petrochemicals sector

## QUALIFICATION FILE

### SUMMARY

**Qualification Title:** Machine Operator Assistant-Injection Moulding

**Nature and Purpose of the qualification:**

A CIPET trade certificate for Machine Operator Assistant-Injection Moulding and main purpose of the Qualification is to get acquainted with the Injection Moulding process and get opportunity to work in Plastics Injection Moulding Industry.

**Body/bodies which will award the qualification:**

The Academic Cell – HO, Central Institute of Plastics Engineering and Technology (CIPET), Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India, Head Office, Guindy, Chennai.

**Body which will accredit providers to offer courses leading to the qualification:**

The Academic Cell – HO, Central Institute of Plastics Engineering and Technology (CIPET), Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India, Head Office, Guindy, Chennai.

**Body/bodies which will be responsible for assessment:**

The assessment is being carried out at individual Centre level. Training Assessment Wing is created in Head Office (HO) of Central Institute of Plastics Engineering and Technology (CIPET), Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India, Guindy, Chennai is responsible for overall assessment.

**Occupation(s) to which the qualification gives access:**

Assistant Injection Moulding occupation in Plastics product manufacturing process.

**Proposed level of the qualification in the NSQF:** Level 3

**Anticipated volume of training/learning required to complete the qualification:**

480 Notional hours.

**Entry requirements / recommendations:**

Minimum qualification – Preferably 8<sup>th</sup> Standard, Minimum age - 18 years completed.

**Progression from the qualification:**

The Machine Operator Assistant-Injection Moulding (Level 3) has a clear pathway to Machine Operator-Injection Moulding (Level 4).

**Planned arrangements for the Recognition of Prior learning (RPL):**

RPL arrangements are being developed and will be informed in due course of time.

## QUALIFICATION FILE

**International comparability where known:** It will be carried out in next phase as comparability is being verified.

**Date of planned review of Qualification:** 04.08.2017

### Format Structure of the Qualification:

Title and Identification code of component	Mandatory/ Optional	Estimated Size (Learning Hours)	Level
CPC/N0214 (Understand basic concepts, job requirements & basics knowhow related to process)	M	80	3
CPC/N0215 ( Assist in performing the Injection moulding related operations, monitor process parameters and troubleshoot the process/product if any under the guidance of Operator)	M	270	3
CPC/N0216 (To conduct basic quality check of finished products with reference to approved product)	M	36	3
CPC/N0217 (To maintain a safe and Healthy work environment at Workplace)	M	40	3
CPC/N0218 ( Maintaining 5S in the work premises)	M	34	3
CPC/N0219 ( Basics of MS OFFICE / OFFICE Open source suite )	M	20	3
<b>Total</b>		<b>480</b>	

Qualifications Document - Machine Operator Assistant - Injection Moulding attached as Annexure.

## QUALIFICATION FILE

### SECTION 1

#### ASSESSMENT

##### **Body/Bodies which will carry out assessment:**

A Separate department/ body -Training Assessment Wing of Central Institute of Plastics Engineering and Technology (CIPET), Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Govt. of India, Head Office, Guindy, Chennai.

##### **Will the assessment body be responsible for RPL assessment?**

RPL arrangements are being developed and will be informed in due course of time.

##### **Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:**

With uniformity and setting of learning outcomes for different Jobs Roles the assessment of candidates will be at learning outcome level. Assessment criterion has been defined for each learning outcome and it includes both theoretical and practical skills on which the candidate will be assessed. The question suite which will be used to check the skills of the trainee would include

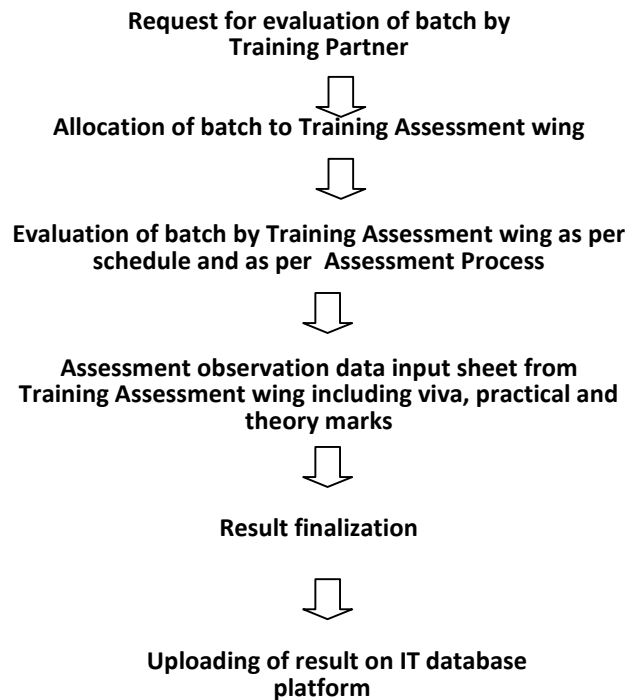
- **Theoretical test suite** – Will include multiple choice questions, audio-video question etc. which will test the trainee on his knowledge of the subject
- **Practical Knowledge suite** – Practical knowledge can be tested through Assessor driven evaluation/test, Situational Judgment Tests etc to test practical core competence. A mix of these would be able to evaluate the trainee on his practical knowledge of the Qualification Document.

##### **Assessment strategy:**

- Assessment criteria for Qualification Document have been developed. Each Learning Outcome have separate marks for Theory and Practical Skills.
- The Training Assessment Wing will have assessors who will not be associated with training activities and will be provided training on the said work. Thus it will ensure that the assessment carried out is fair and consistent.
- Set of question bank developed to assess the theoretical and practical knowledge. To ensure the quality, each trainees get the unique set of question
- Student has to score minimum marks separately for theoretical and practical skill and overall percentage should also be 50% for theory and 70% for practical.
- Empanelment of subject matter expert as assessor to assess trainee specifically on practical skills
- Assessments are preferably conducted by written examination papers in English/regional languages according to the requirement.
- It has been ensure that TP/trainer should not be present during assessment

## QUALIFICATION FILE

### Assessment Process Flow:



### Summative Assessment:

Based on the Total Marks allotted for the specific subject, formal evaluation shall be conducted. Based on secured marks, candidates shall be declared pass or fail.

Steps undertaken for summative assessment:

1. Based on Completion of Batch, Evaluation Schedule shall be prepared
2. Identified Assessor is nominated for Evaluation
3. Setting up of separate Question Paper for Theory & Practical Examination
4. Conduct of examination as per the schedule
5. Evaluation & Certification

**Evidence Collected during Assessment:** Theoretical Answer Sheets, Practical Exam Sheets, Evaluation Sheets, Jobs produced during practical Exams.

### Protocol for Selection of Assessors:

- The Assessors should have the minimum qualification: Degree in Engineering.
- The Assessors should have minimum 5 years of Experience in the relevant field.

## QUALIFICATION FILE

### ASSESSMENT EVIDENCE

1. Criteria for assessment for each Qualification Document will be created by CIPET.
2. Each Assessable outcome (AO) will be assigned marks proportional to its importance in Learning Outcome and few performance criteria may be allotted marks in combine.
3. Each Learning Outcome will be assessed both for theoretical knowledge and practical which is being proportionately demonstrated in the table below.
4. The assessment for the theory part will be based on knowledge bank of questions created by CIPET which will contain multiple choice theory questions and Practical question database with mark allotment criteria.
5. To pass the Qualification Document, every trainee should score a minimum of 50 % in Functional and all Generic Learning Outcome's.
6. In case of successfully passing only certain number of Learning Outcome's, the trainee is eligible to take Subsequent assessment on the balance Learning Outcome's to pass the Qualification Document.

#### Title of the Component: Machine Operator Assistant – Injection Moulding

Assessable outcomes		Assessment criteria for the outcome		
LO	Assessable outcome Description	Theory	Practical	Total
<b>1. CPC/N0214 Understand basic concept, job requirements and basics knowhow related to the process</b>	AO1. To interact with the operator in order to understand the production schedule	1	0.5	1.5
	AO2. To help in planning the day's production activities based on the operator's instructions	1	0.5	1.5
	AO3. To ensure availability of consumables and plastics materials for production in sufficient quantity as per production plan/operators instructions.	0.25	0.5	0.75
	AO4. Clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by operator.	0.25	0.5	0.75
	AO5. Check availability of the personal protective equipments (PPE) like Gloves, Goggles etc.	0.5	0.5	1
	AO6. Understand the molding procedure and process to be adopted for completing the work order from the operator by referring the Work Instruction document/ SOP manual.	0.5	0.5	1
	AO7. Ensure that the required material is procured from the store before starting the process	1	0.5	1.5
	AO8. Understand the Mould required for executing the required operation and ensure that the same is available for operation.	0.5	0.5	1
	AO9. If mould is not available collect the mould from tool room.	1	0.5	1.5
	AO10. Install and bolt the mould in place and slide the safety door shut.	1	0.5	1.5
	AO11. Add the raw material in the machine using material loader or by manual feeding.	1	0.5	1.5
	AO12. Ensure moulds are clean if not clean with soft cotton cloth.	1	0.5	1.5

## QUALIFICATION FILE

	AO13. Ensure cleaning of the other auxiliaries tools, (if any) before the initiation of the moulding and trimming process	1	0.5	1.5
	AO14. Ensure cleaning of the area around the apparatus for any oil, grease, combustible substances etc. so as to prevent any accident	0.5	0.5	1
	AO15. Ensure availability of the coolant and working of valves to circulate the coolant to cool and solidify plastic	0.5	1	1.5
	AO16. Understand the raw material like plastics granules, fillers, bonding additives etc. required for executing the activity	1	1	2
	AO17. Refer the queries to supervisor if they cannot be resolved by the operator	0.5	1	1.5
	AO 18. Confirm self - understanding to the operator once the query is resolved so that all doubts & queries can be resolved before the actual process execution	0.5	2	2.5
	<b>Sub total</b>	<b>13</b>	<b>12</b>	<b>25</b>
<b>LO</b>	<b>Assessable outcome Description</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
<b>2. CPC/N0215 Assist in performing the Injection molding related operations, monitor process parameters and troubleshoot the process/product</b>	AO1. Check for operation of molding apparatus like hopper, heaters etc. as per the checklist provided	5	10	15
	AO2. Fix the desired Mould to the injection moulding machine in order to achieve the desired operation as per the Work Instructions/ SOPs	10	10	20
	AO3. Make modifications in the process parameters (by selecting the right program from the machine control system) if required and ensure alignment with the prescribed standards as guided by Operator.	10	20	30
	AO4. Perform preheating of plastic granules ( In case of Engineering plastics)	10	10	20
	AO5. Ensure that the plastic granules are mixed with additives (if any) before being fed into the hopper			
	AO6. Conduct a test process and produce a sample output as per the required	10	10	20
	AO7. Ensure that the dimensions of the output product are measured as per the process given in the Work Instructions/ SOP under guidance of operator.	15	15	30
	AO8. Start the production process as instructed by Operator.	15	10	25
	AO9. Feed the required operation code in the apparatus for heaters to melt the plastic granules at the predefined temperature	15	20	35
	AO10. Run the machine in Semi-Auto or Automatic mode of operation as guided by the operator.	5	15	20
	AO11. Check-list procedure to ensure quality of final product	5	10	15
	<b>Sub total</b>	<b>100</b>	<b>130</b>	<b>230</b>
<b>LO</b>	<b>Assessable outcome Description</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
<b>3. CPC/N0216 Conduct basic quality checks of the finished</b>	AO1. Compare texture, colour, surface properties, hardness and strength etc. with the given approved product.	2	6	8
	AO2. Rectify minor defects like dimension variation,	6	6	12



## QUALIFICATION FILE

<b>products with reference to the approved product</b>	thickness variation etc. by control process parameters etc and informing operator.			
	AO3. Provide first and last output from each batch to the lab for quality check on its composition, properties etc.	2	6	8
	AO4. Obtain clearance for the entire batch from the lab and submit the operator.	2	6	8
	<b>Sub total</b>	<b>12</b>	<b>24</b>	<b>36</b>
<b>LO</b>	<b>Assessable outcome Description</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
<b>4. CPC/N0217 (Maintain a safe and healthy working environment at the work place)</b>	AO1. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise etc	2	2	4
	AO2. Identify areas in the plant which are potentially hazardous/ unhygienic in nature	2	2	4
	AO3. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine	1	2	3
	AO4. Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc	1	2	3
	AO5. Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/ machine during operations	1	1	2
	AO6. Create awareness amongst other by sharing information on the identified risks	2	1	3
	AO7. Support the Safety team and the supervisor in creating the risk mitigation plan	2	2	4
	AO8. Follow the instructions given on the equipment manual describing the operating process of the equipment	1	1	2
	AO9. Follow the Safety, Health and Environment related practices developed by the organization	1	1	2
	AO10. Ensure relevant safety boards/ signs are placed on the shop floor AO11. Operate the machine using the recommended Personal Protective Equipment (PPE) and ensure team members also use the related PPEs at the workplace	1	1	2
	AO12. Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc.	1	1	2
	AO13. Attend all safety and fire drills to be self-aware of safety hazards and preventive techniques	1	1	2
	AO14. Maintain high standards of personal hygiene at the work place	1	1	2
		<b>Sub total</b>	<b>17</b>	<b>18</b>
<b>LO</b>	<b>Assessable outcome Description</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
<b>5. CPC/N0218 Maintaining 5S in the work premises</b>	AO1. 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	1	2
	AO2. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions	1	1	2

## QUALIFICATION FILE

AO3. Follow the technique of waste disposal and waste storage in the proper bins as per SOP	1	1	2
AO4. Segregate the items which are labelled as red tag items for the process area and keep them in the correct places	1	1	2
AO5. 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	1	2
AO6. Ensure that areas of material storage areas are not overflowing AO7. 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	1	2
AO8. 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	1	2
AO9. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards	1	1	2
AO10. Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists	1	1	2
AO11. Check that the items in the respective areas have been identified as broken or damaged	1	1	2
AO12. Follow the given instructions and check for labeling of fluids, oils. Lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.	1	1	2
AO13. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions	1	1	2
AO14. Check whether safety glasses are clean and in good condition	1	1	2
AO15. Keep all outside surfaces of recycling containers are clean AO16. 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	1	2
AO17. Check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up	1	1	2
AO18. Ensure workbenches and work surfaces are clean and in good condition	1	1	2
AO19. Follow the cleaning schedule for the lighting system to ensure proper illumination	1	1	2
AO20. Store the cleaning material and equipment in the correct location and in good condition	2	1	3
AO21. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene	2	1	3
AO22. Follow the daily cleaning standards and schedules to create a clean working environment	2	1	3
AO23. Attend all training programs for employees on 5 S	2	1	3

## QUALIFICATION FILE

	AO24. Support the team during the audit of 5 S	1	1	2
	AO25. Participate actively in employee work groups on 5S and encourage team members for active participation	1	1	2
	AO26. 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	1	2
	<b>Sub total</b>	<b>28</b>	<b>24</b>	<b>52</b>
<b>LO</b>	<b>Assessable outcome Description</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
<b>6. CPC/N0219 Basics of computer and data entry in MS OFFICE/office Open source suite Software</b>	To be competent, the user/individual on the job must be able to:			
	AO1. Fill and process mandated forms for receiving, processing, or tracking data enter data from source documents (such as trial report, process sheet etc.) into Computer application having MS OFFICE software.	2	1	3
	AO2. Scan source documents in accordance with specific instructions.	2	1	3
	AO3. verify data entered with source documents, checks for compliance and corrects all typographical errors and missing or repeated data.	2	1	3
	AO4. Maintain files of source documents or other information related to data entered.	2	1	3
	AO5. Investigate and confirm data that is unclear before entering, generate reports of data entry, store completed work in designated locations and perform backup operations.	2	1	3
	AO6. update database information to reflect most current source information	1	1	2
	AO7. assist in the filing and storage of security and back up data files	2	1	3
	AO8. respond to requests for information and access relevant files	1	1	2
		<b>Sub total</b>	<b>14</b>	<b>8</b>
	<b>Total</b>	<b>184</b>	<b>216</b>	<b>400</b>
<b>Means of assessment 1:</b>				
The assessment comprise of -				
<ul style="list-style-type: none"> <li>• Theory Assessment</li> <li>• Viva voce</li> <li>• Practical assessment</li> </ul>				
<b>Means of assessment 2:</b>				
<b>Pass/Fail-</b>				
<b>The Pass mark of theory written assessment is 50% and for viva and practical assessment is 70%. The candidate has to pass separately in Theory and Practical.</b>				

## QUALIFICATION FILE

### SECTION 2

#### EVIDENCE OF LEVEL

#### Level of qualification: 3

Title /Name of Qualification/Component: Machine Operator Assistant – Injection Moulding Level: 3			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF Level descriptors	NSQF Level
Process	<p>Machine Operator Assistant – Injection Moulding is expected to ensure housekeeping and safety in the moulding area and select the correct mould, etc he/she has to</p> <ul style="list-style-type: none"> <li>To interact with the operator in order to understand the production schedule</li> <li>To help in planning the day's production activities based on the operator's instructions</li> <li>To ensure availability of consumables and plastics materials for production in sufficient quantity as per production plan/operators instructions.</li> <li>Clearly understanding the does and don'ts of the manufacturing process as defined in SOPs/ Work Instructions or defined by operator.</li> <li>Check availability of the personal protective equipments (PPE) like Gloves, Goggles etc.</li> <li>Understand the molding procedure and process to be adopted for completing the work order from the operator by referring the Work Instruction document/ SOP manual.</li> <li>Ensure that the required material is procured from the store before starting the process</li> <li>Understand the Mould required for executing the required operation and ensure that the same is available for operation.</li> <li>If mould is not available collect the mould from tool room.</li> <li>Install and bolt the mould in place and slide the safety door shut.</li> <li>Add the raw material in the machine using material loader or by manual feeding.</li> <li>Ensure moulds are clean if not clean with soft cotton cloth.</li> <li>Ensure cleaning of the other auxiliaries tools, (if any) before the initiation of the moulding and trimming process</li> <li>Ensure cleaning of the area around the</li> </ul>	<p>Machine Operator Assistant – Injection Moulding job requires limited range of activities which are routine and predictable like availability of consumables, safety PPE, raw material used, basic machine parts and its functions etc.</p> <p>He has to collect the mould from tool room.</p> <p>He has to moulds are clean if not clean with soft cotton cloth.</p> <p>He should understand the raw material like plastics granules, fillers, bonding additives etc. required for executing the activity.</p>	3

## QUALIFICATION FILE

	<p>apparatus for any oil, grease, combustible substances etc. so as to prevent any accident</p> <ul style="list-style-type: none"> <li>• Ensure availability of the coolant and working of valves to circulate the coolant to cool and solidify plastic</li> <li>• Understand the raw material like plastics granules, fillers, bonding additives etc. required for executing the activity</li> <li>• Refer the queries to supervisor if they cannot be resolved by the operator</li> <li>• Confirm self - understanding to the operator once the query is resolved so that all doubts &amp; queries can be resolved before the actual process execution</li> </ul>		
<b>Professional knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>• General Principle of moulding procedure, process knowledge, machine startup &amp; shutdown procedures, moulds loading and unloading procedure.</li> <li>• Types of different thermoplastics materials, additives and grades for different plastics products.</li> <li>• Different types of tools &amp; machinery to process the plastics and trim the output.</li> <li>• Identification of various defects in products produced in the injection moulding machines.</li> </ul>	<p>Machine Operator Assistant – Injection Moulding should understand and know basic facts, process, principle of injection Moulding Technique, operating procedure, raw material identification, colour classifications, identification of product defects and safety awareness.</p>	<b>3</b>
<b>Professional skill</b>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>• General principles of moulding procedure and process knowledge mould loading and unloading procedure.</li> <li>• Types of plastics like thermoplastics and the additives &amp; grades to be used tonnage and capacity of the machine being operated.</li> <li>• Different types of tools and machinery to process the plastic and trim the output</li> <li>• Various types of cooling systems and their properties.</li> <li>• How to perform moulding machine safety check</li> <li>• Hazards and safety aspects involved in tape production and usage of relevant PPEs</li> <li>• Safety procedures to be adopted to complete mould removal process</li> <li>• Detect problems in day to day tasks: Support operator in using specific problem solving techniques and detailing out the problems</li> <li>• Discuss possible solution with the</li> </ul>	<p>Machine Operator Assistant – Injection Moulding should recall general principles of moulding procedure and process knowledge, Types of plastics like thermoplastics and the additives &amp; grades to be used tonnage etc. Thus he should demonstrate practical skill, routine and repetitive in Injection Moulding application/ process.</p>	<b>3</b>

## QUALIFICATION FILE

	<p>operator for problem solving.</p> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>Plan and organize the work order and jobs received from the internal customers/ operator.</li> <li>Organize all process/ equipment manuals so that sorting can be done properly.</li> </ul> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>Follow instructions and work on areas of improvement identified</li> <li>Complete the assigned tasks with minimum supervision</li> <li>Complete the job defined by the operator within the timelines and quality.</li> <li>The user/individual on the job needs to know and understand how to:</li> <li>Use common sense and make judgments during day to day basis</li> <li>Use basic reasoning skills to identify and resolve basic problems</li> <li>Use intuition to detect any potential problems which could arise during operations.</li> </ul>		
<b>Core skill</b>	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>How to be able to read warnings, instructions and other text material on product labels, components etc</li> <li>How to enter into the history card details of the fault identified in the plastic product manufactured read equipment manuals and process documents to understand the equipment and processes better ts</li> <li>Read instructions especially safety instructions especially symbols while using the equipment in the plant area logs.</li> </ul> <p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>Discuss task lists, schedules, and work-loads with co-workers</li> <li>Question internal customers/ Shop floor operator appropriately in order to understand the nature of the problem.</li> <li>Avoid using jargon, slang or acronyms when communicating with operator /fellow subordinates etc. Unless it is required.</li> </ul>	Machine Operator Assistant – Injection Moulding should be able to read warnings, instructions and other text material on product labels, components etc with minimum required clarity, should have skill of basic arithmetic, like raw material weights additions etc.	<b>3</b>
<b>Responsibility</b>	Machine Operator Assistant – Injection Moulding	Machine Operator	

## QUALIFICATION FILE

	is responsible for his own job and self learning. He/she Set up basic machine controls, Collect of Raw Materials, changing the process parameters, removal of scrap from the finished products under the close supervision of Injection Moulding Machine operator.	Assistant – Injection Moulding is responsible for his own job and self learning which justifies the pegging of the QP at Level 3.	<b>3</b>
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## QUALIFICATION FILE

### SECTION 3

#### EVIDENCE OF NEED

##### **What evidence is there that the qualification is needed?**

Qualification document has been developed by suggestion and approval of Chemicals and Petrochemicals Core committee constituted by Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Govt. Of India vide order no. 45012/86/2015-PC-IV Dt. 10.03.2016 which consist of senior leaders and experts from Plastics and Allied Industry, Associations under which more than 1 Lakhs Industrial units and has been further substantiated by various study reports, Annual reports etc. A report on the Coordination Committee addresses the issue related with Human Resources/ Skilled manpower requirement of Industry- Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Govt. Of India (page no. 4, Attached as Annexure 9(a)).

##### **What is the estimated uptake of this qualification and what is the basis of this estimate?**

The Skill gap report states that, there will be 11.6 Lakhs additional manpower is required by 2023-24 is based on the Machinery & Sector growth and Technical Manpower. Refer: Name of the Report **“A report of the coordination committee to address the issues related with human resources/skilled manpower required of the industry”** (page no. 6, Attached as Annexure 9 (a)) (Copy of the Skill Gap Report is enclosed).

##### **What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?**

Mapping of Machine Operator Assistant – Injection Moulding has been done with National Classification of Occupation 2004 to ensure the qualification does not duplicate, the qualification have being checked with qualification pack of other sectors like Rubber, Electronics etc and there is no duplicity observed in terms of contents, module/syllabus covered etc.

The NSDC list of approved and under developed Qualification Packs was checked prior to stating the work to ensure no duplicity.



## QUALIFICATION FILE

**What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?**

Qualification documents shall be revised once in a year and CIPET shall collect the feedback from Industries/ Associations, Alumni and necessary revisions/updating in Qualification document will be carried out. Feedback mechanism has been created by CIPET. Based on the Industry feedback in term of employability, course coverage, placement factors etc will be checked and growth indicators will be identified and reviewed by CIPET.

ANNEXURE:

7. Presentation of 2nd core group committee meeting along with Minutes of meeting approved by members
9. Documents supporting need of the qualification:
  - a. Report of the Coordination Committee address the issue related with Human Resources/ Skilled manpower requirement of Industry- Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Govt. Of India
  - b. A Report on Human Resource and Skill requirement for the Chemicals and Pharmaceutical sector (2022) by NSDC.
  - c. Brief report of Chemicals and petrochemicals Industry in India, April 2015, Corporate Catalyst India Pvt Ltd, Page 4
  - d. Report on Indian Plastics Industry 2013-17, edition 2, Nov 2014, PlastIndia Foundation.
  - e. Indian Plastics Industry – Vision 2012, Leverage Plastic, A report by CRISIL
  - f. Potential of Downstream Plastics Industry in North India, 26 June 2012, Knowledge and Strategy paper by Tata Strategic management Group & FICCI.
  - g. Potential of plastics industry in Northern India with special focus on Plastics and Food Processing- 2014. A report on Plastic Industry by Tata Strategic management Group & FICCI.
  - h. Plastic Industry in India a BPF Overview for PlastIndia International Exhibition 2012, New Delhi
  - i. Porters Five force Analysis of the Plastics Industry by Santanu Mandal, International Journal of Multidisciplinary Research, Vol 1, Issue 7, November 2011, ISSN 2231 5780

## QUALIFICATION FILE

### SECTION 4

#### EVIDENCE OF RECOGNITION AND PROGRESSION

**What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?**

Relevant information was collected from Industries and allied sector working in this area. The Plastics industries are recruiting people based on the qualification acquired. Maximum of the industries accept this as qualification for selection/short listing of the individual ***(Minutes of Meeting of Core committee is attached)***.

The skills acquired at level 3 for a particular duration makes it easy for the Individual to progress to the next level.

ANNEXURE:

7. Presentation of 2nd core group committee meeting along with Minutes of meeting approved by members.

#### **Vertical Pathway:**

The Occupational Map has been created & attached.

The Machine Operator Assistant-Injection Moulding (Level 3) has a vertical pathway to Machine Operator-Injection Moulding (Level 4).

#### **Horizontal Pathway:**

The individual can migrate within the Plastics Processing related industries.

# QUALIFICATION FILE

## Occupation Map – Vertical Pathway

