

## BASIC INJECTION MOULDING

Machine Construction NQF 2 (SP0082/06-17; 30 credits) &  
Machine Operations NQF 3 (SP0080/06-17; 18 credits)

<b>Duration:</b>	10 days <ul style="list-style-type: none"> <li>• 5 days on NQF 2 [4 days of theory, 1 day of practical];</li> <li>• 5 days on NQF 3 [2 days of theory, 3 days of practical]</li> </ul>
<b>Target:</b>	Operator level
<b>Prerequisite:</b>	Basic Literacy and Numeracy [ABET 4]
<b>NQF Info:</b>	NQF Levels 2 & 3
<b>Qualification:</b>	Towards the National Certificate in Plastics Manufacturing NQF Level 2 and/or Level 3
<b>Credits:</b>	48
<b>Certification:</b>	merSETA-accredited Plastics SA Certification

### Unit Standards

- Respond to changes in plastics manufacturing processes [119156]
- Prepare manufactured plastics product for the next stage or for storage [119146]
- Use and care for services, tools and equipment [119172]
- Perform routine operations on plastic manufacturing equipment [119162]
- Transport and care for tooling in plastics manufacturing processes [119142]
- Perform routine maintenance tasks on plastic manufacturing equipment [119174]

### Objective of Learning Programme

To perform activities which will maintain production efficiency, quality, safety and health- or environmental standards, including post-production and finishing operations with manufactured product. To be able to perform routine operations, including maintenance on manufacturing equipment in the context of relevant plastic manufacturing processes, e.g., injection moulding, blow moulding, extrusion, thermoforming, rotational moulding, and relevant others.

### Outcomes

*At the end of the learning programme, learners will be able to:*

- Recognise and report changes which affect the manufacturing process.
- Carry out housekeeping and simple maintenance processes, monitor material flow and respond to shortages.
- Record processing conditions, outputs, stoppages and changes and determine output.
- Respond to 'what', 'what if' and 'why' questions relating to activities, changes and incidents in the plastics manufacturing process.
- Determine packing and finishing requirements for manufactured product or components and prepare working area.
- Perform finishing procedures such as marking, labelling, stamping, packing, wrapping, stacking etc.
- Carry out post-production operations including clamping, machining and cleaning.
- Identify, respond to, record and report problems.
- Choose and use the right tools to cut, trim and finish product, adjust and maintain equipment, clean equipment and product; lift, load and unload products, equipment and containers; adjust, clean and store tools and equipment.
- Monitor equipment and material, conduct quality checks and resolve problems. Perform start up and shutdown procedures on the manufacturing equipment. Perform start up and shutdown procedures on the manufacturing equipment.
- Prepare for and perform purging and material or colour changeover procedures.
- Report and record information related to manufacturing equipment and operations.
- Discuss and explain issues related to manufacturing equipment and operations.
- Carry out routine checks on production machines and operations and perform routine maintenance activities. Update maintenance records. Prepare tooling for installation or storage. Determine requirements; select and transport tooling as well as assist with the installation of tooling.

### Contents

- Introduction to relevant manufacturing machine construction.
- Power sources, measuring and hand tools.
- Taking care of the workplace.
- Fault identification.
- Conduct quality checks include monitoring of product mass, dimensions, colour or any other critical part of the product specification, including instruments, measuring equipment and measuring gauges related to the product.
- Start-up includes heat soak time, shutdown and purging (including responding to emergency situations). Checks include fluid levels, wear and tear, sharpness, leaks, damage to cables, pipes and hoses, connections and fittings, tooling, safety devices and switches. Use of tooling preparation includes fitting elements for moving, lifting and lowering tooling; cleaning, lubricating, use of release agents; processed material; polishing surfaces; applying corrosion inhibitors, covers tooling components include deckle bars; stripper plates, slides, cores, spacers, blow pins, mandrels.

### Assessment and Certification

- Workplace Experience Assignments to be submitted within two weeks following training. A Plastics|SA Certificate of Competence is issued to successful candidates. Relevant credits may be awarded to successful learners upon merSETA due-approval process.