

**Specification of Competency Standards**  
**for the Manufacturing Technology Industry**  
**Unit of Competency**

Functional Area - Product Manufacturing

Title	Set parameters, implement traditional plastic injection moulding and resolve production problems
Code	106426L3
Range	This unit of competency is applicable to the production department of the corporation of plastics industry. Practitioners should be capable to set parameters for traditional injection moulding, implement plastic moulding, analyse the defects of products and resolve production problems.
Level	3
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand relevant knowledge of all kinds of traditional injection moulding</p> <ul style="list-style-type: none"> <li>• Understand the technologies and techniques and working principles of traditional injection moulding</li> <li>• Understand the common causes of defects of traditional injection moulding, such as colour difference, stranded gas , injection lines, weld lines, surface peeling, stress cracking, isobestic point near sprue, and the effects of the record grooves</li> <li>• Understand the factors affect the traditional injection moulding, such as materials selection, pre-processing handling of plastics, maintenance of machinery and inspection, post-processing handling of plastics and packaging, construction and maintenance of tooling, using auxiliary equipment and environmental control</li> <li>• Understand the applications of commonly used materials, equipment and auxiliary equipment of traditional injection moulding</li> <li>• Understand parameter setting methods of traditional injection moulding and master the rapid adjustment and control skills with the actual materials, tooling and mechanical conditions</li> <li>• Understand the meaning of the parameters setting of traditional injection moulding, such as mould locking force, ejection force, injection pressure, dwell time, and filling time</li> </ul> <p>2. Carry out traditional injection moulding</p> <ul style="list-style-type: none"> <li>• Identify the causes of defects arising from different traditions injection moulding, clarify the problems of plastic, tooling design and wrong setting of injection moulding parameters etc</li> <li>• Systematically calculate the injection parameters by different injection moulding machines and tooling for product production, so as to shorten the setup times and optimize product quality and stability</li> <li>• Use different formulas to calculate the technologies and techniques, set the injection moulding parameters, such as cycle time, cooling time, the mould locking force setting and injection schedule, so as to achieve production efficiency and quality requirements</li> <li>• Records the relevant injection moulding technologies and techniques parameters and production records</li> <li>• Select and operate commonly used traditional injection moulding equipment and auxiliary equipment for production</li> <li>• Carry out general preventive maintenance for tooling, equipment and auxiliary equipment</li> </ul> <p>3. Professional handling of traditional injection moulding</p> <ul style="list-style-type: none"> <li>• Follow safety guidelines and related codes of practice of traditional injection moulding, in accordance with the design requirements, carry out traditional injection moulding</li> </ul>

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Assessment Criteria	The integrated outcome requirements of this unit of competency are: <ul style="list-style-type: none"><li>• Capable to carry out technological analysis of traditional injection moulding, review the applicable technologies and techniques, the required materials and restrictions, showing the problems of traditional injection moulding technology and make improvements.</li></ul>
Remark	