

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

Functional Area - Process Design and Development

Title	Develop and define automatic processing and testing procedures, methodologies and equipment for metal die casting, extrusion and foundry product
Code	106490L4
Range	This unit of competency is applicable to the engineering or manufacturing development department of the metal die casting, extrusion and foundry product manufacturing corporations. Practitioners should be capable to master the knowledge of automatic processing of the industry
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand the automation method and equipment of metal die casting, extrusion and foundry</p> <ul style="list-style-type: none"> • Understand all kinds of automatic processing of metal die casting, extrusion and foundry products and the types, specifications and applications of auxiliary equipment of handling parts, including conveyor belts, vacuum machines and multi-axis robot • Understand the advantages, disadvantages, equipment upgrades and maintenance ways of all kinds of metal die casting, extrusion and foundry product automatic processing and auxiliary equipment of handling parts in the market • Understand the types, specifications, functions and applications of metal die casting, extrusion and foundry product testing equipment, including projector, micrometer, electron microscopy (SEM), ultrasonic detector, X-ray machines and all kinds of Coordinate Measurement Machine • Understand the advantages, disadvantages, equipment upgrades and maintenance ways of all kinds of metal die casting, extrusion and foundry product automatic testing equipment in the market • Understand the types, specifications and applications of commonly used pneumatic, hydraulic, vibration plate, Programmable Logic Controller (PLC) elements and systems <p>2. Develop and define metal die casting, extrusion and foundry product automatic processing and equipment</p> <ul style="list-style-type: none"> • Meet the design requirements as a precondition, develop and define metal die casting, extrusion and foundry product automatic processing, methodologies and equipment • Ensure that there is no defect of processes and equipment, control and minimise the chances of failure probability • Evaluate the effectiveness of metal die casting, extrusion and foundry product automation and carry out continuously improvement • Ensure after the development and define of metal die casting, extrusion and foundry product automatic processing, testing procedures and equipment, no product defects will be created <p>3. Professional handling of developing and defining metal die casting, extrusion and foundry product automatic processing and equipment</p> <ul style="list-style-type: none"> • Insight the potential safety issues and accident, optimise the development and defination of systems, and enhance the efficiency, stability and security of the automation systems
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to meet the corporate development and product demand, defining metal die casting, extrusion and foundry product automation plan

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	<ul style="list-style-type: none">• Capable to develop and define metal die casting, extrusion and foundry product automatic processing and testing procedures, methodologies and equipment, enhance production efficiency and reduce costs
Remark	