

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

Functional Area - Product Manufacturing

Title	Equipment setting, carry out die casting and foundry production, and problems solving
Code	106518L4
Range	This unit of competency is applicable to the production department of the corporation of metal stamping and foundry product manufacturing industry. Practitioners should be capable to understand the knowledge of collating equipment, die casting and foundry, so as to carry out die casting and foundry and solve production problems
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <ol style="list-style-type: none"> <li>1. Understand relevant knowledge of collating equipment, die casting and foundry processing <ul style="list-style-type: none"> <li>• Understand the principles and applications of cold and hot chamber die casting machine, including flow coefficient, foundry pressure, pouring gate speed, pouring gate area, pouring gate flow, filling time and contraction</li> <li>• Understand the process of cold and hot chamber die casting machine, including the installation and replacement of tooling, application procedures of release agent, injection temperature management, temperature management of tooling and nozzle, time management of foundry cycle, pressure charging and cooling management</li> <li>• Recognise the principle and process of different foundry methods, such as vacuum die casting, non-porous die casting, laminar flow casting, local presurize die casting, hot sleeve casting, precision casting, extrusion moulding, sand casting, lost wax casting</li> <li>• Understand relevant collating equipment of die casting and foundry and the processing method and techniques</li> <li>• Understand the types, structures, working principles, specifications, applications and operating methods of the relevant equipment of die casting and foundry</li> <li>• Understand and apply automatic production systems, such as water heaters, automatic piston lubrication device, automatic spraying equipment, automatic extraction device, cutting equipment, automatic handling equipment, automatic finishing equipment</li> <li>• Recognise the properties of new die-casting and foundry metal material, such as magnesium alloys, titanium alloys and rare earths</li> </ul> </li> <li>2. Carry out die casting and foundry <ul style="list-style-type: none"> <li>• Proper identification of the specifications of die casting and foundry materials</li> <li>• Select and operate the correct equipment, carry out all kinds of die casting and foundry for different materials</li> <li>• According to the factors of production volume, product shape, precision, materials, tooling size, select the appropriate equipment of die casting and foundry</li> <li>• Effectively assemble, disassemble and correct the workpiece and tooling of die casting machines and foundry equipment</li> <li>• Set different parameters of die casting and foundry process for different products , such as compound die force, trolley separation and injection pressure</li> <li>• Carry out simple adjustments, maintenance and repair of die casting and foundry machines</li> <li>• Identify and systematically analyse and the common processing quality problems, such as mis-run, gas hole, shrinkage porosity, cold mark and deformation and improve them</li> </ul> </li> <li>3. Professional handling of collating equipment, die casting and foundry processing <ul style="list-style-type: none"> <li>• Follow safety guidelines and related codes of practice, in accordance with the requirements of technologies and techniques, product specifications and production efficiency, carry out die casting and foundry and solve production problems</li> </ul> </li> </ol>

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

Functional Area - Product Manufacturing

Assessment Criteria	The integrated outcome requirements of this unit of competency are: <ul style="list-style-type: none"><li>• Capable to collate equipment, carry out die casting and foundry processing and solve production problems in accordance with the drawings and requirements of technologies and techniques</li><li>• Capable to operate stamping machine and relevant equipment independently and make simple daily maintenance</li></ul>
Remark	