

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

Functional Area - Product Manufacturing

Title	Wire electrical discharge machining
Code	106512L4
Range	This unit of competency is applicable to the production department of the corporation of tooling manufacturing industry. Practitioners should be capable to understand the knowledge of Wire Electrical Discharge Machining (Wire EDM) and carry out Wire EDM
Level	4
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand the techniques and technologies of wire electrical discharge cutting</p> <ul style="list-style-type: none"> • Understand the principles, characteristics and applications of wire electrical discharge cutting • Understand the workpiece gripping methods on wire cutting machines • Understand types, specifications and applications of standard fixtures • Understand the impact of processing fluid, such as deionized water and oil)on workpiece and processing quality • Learn the material, type, diameter, properties and selection conditions of copper • Understand the interrelation between processing precision, processing and ratio of processing time • Understand the impact of different workpiece materials and engineering design on the processing parameters setting • Understand the types, structure, size, processing principles, processing fluid circulation systems and processing parameters of wire cutting machines • Understand the usage of wire cutting instructions, program structure and programming methods of wire cutting machines • Understand the design application of Automatic Programmed Tool (APT) <p>2. Carry out wire electrical discharge cutting</p> <ul style="list-style-type: none"> • Set up suitable processing parameters in accordance with workpiece materials and engineering design, and compile processing programs • Set appropriate processing parameters and compensation in accordance with the marked engineering drawing tolerances specifications • Install and calibrate the workpiece and cutting wire • Operate wire cutting machines and carry out wire electrical discharge cutting • Preventatively maintain wire cutting machines, and carry out troubleshooting, such as wire disconnection <p>3. Professional handling of wire electrical discharge cutting</p> <ul style="list-style-type: none"> • Follow safety guidelines and related codes of practice of all kinds of wire electrical discharge cutting, in accordance with the requirements of design drawings, specifications and production efficiency, carry out wire electrical discharge cutting
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to operate wire cutting machines and carry out wire electrical discharge cutting, and meet the requirements of production quality and efficiency • Capable to handle the unusual circumstances of the wire cutting machine and carry out preventive maintenance
Remark	