

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

Functional Area - Product Manufacturing

Title	Advanced Electrical Discharge Machining
Code	106591L5
Range	This unit of competency is applicable to production department of corporation of tooling manufacturing industry. Practitioners should be capable to understand the knowledge of advanced electrical discharge machining, and able to carry out advanced electrical discharge machining tasks such as EDM milling.
Level	5
Credit	3 (For Reference Only)
Competency	<p>Performance Requirements</p> <ol style="list-style-type: none"> 1. Understand relevant knowledge of Advanced electrical discharge machining <ul style="list-style-type: none"> • Understand the surface texture generated by using different parameters for EDM • Understand the principles, characteristics and applications of all kinds of advanced electrical discharge machining such as EDM milling • Understand the impact of processing fluid on workpiece and processing quality • Understand the parameter setting and optimization techniques of EDM milling • Understand the impact of different workpiece materials and engineering design on the processing parameters setting for EDM milling • Understand types, specifications, structure, applications, processing principles of CNC EDM milling, and its difference with the traditional electric discharge machines • Understand the usage of CNC EDM milling processing instructions, program structure and methods of EDM milling with CNC EDM milling modules 2. Carry out advanced electrical discharge machining <ul style="list-style-type: none"> • Set up suitable processing parameters in accordance with workpiece materials and engineering design, and compile all kinds of EDM milling programs • Set appropriate processing parameters and compensation in accordance with the requirements of the tolerances, surface texture and roughness of high precision and micro product and components stated on engineering design drawings • Accurately set and turn position of the workpiece and electrode • Evaluate the processing performance of electrode employed in CNC EDM milling • Operate CNC EDM milling machines to carry out EDM milling • Preventatively maintain machines for CNC EDM milling, and form troubleshooting to ensure the processing accuracy and quality, so as to meet the requirement of precision and ultra-precision machining • Select the appropriate electrode and processing conditions as a basis for estimating processing time • Estimate the processing time in advanced EDM in accordance with the drawings, discharge electrode movement and processing conditions 3. Professional handling of advanced electrical discharge machining <ul style="list-style-type: none"> • Follow the advance EDM safety guidelines and related codes of practice, and in accordance with design drawings, specifications and production efficiency requirements to carry out advanced electrical discharge machining
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to operate CNC EDM milling machine to carry out EDM milling. • Capable to handle the unusual circumstances of the CNC EDM milling machine, and carry out preventive maintenance, so as to assure the required processing accuracy and fineness

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Remark	Person who has the above knowledge and capability should also obtain the knowledge and capability of Intermediate electrical discharge machining (MDMDPM450A) at the same time.
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