

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

Functional Area - Product Manufacturing

Title	Adjust equipment, carry out ion electroplating surface treatment
Code	106422L3
Range	This unit of competency is applicable to the production department of the corporation of metal electroplating industry. Practitioners should be capable understand the vacuum ion electroplating surface treatment technology and carry out ion electroplating surface treatment.
Level	3
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand all kinds of ion electroplating surface treatment</p> <ul style="list-style-type: none"> • Recognise the technology principles, application and final effectiveness of various ion electroplating surface treatment, such as physical vapour deposition (PVD) and chemical vapour deposition (CVD) • Recognise the operation of vacuum system • Understand the using properties, application methods and control methods of ion electroplating surface treatment • Recognise all kinds of metal substrate materials and processing methods • Understand the structures, operation techniques and functions of equipment of ion electroplating surface treatment • Understand the operation and structure of the vacuum pump • Understand the principles and applications of plasma generation • Understand the various methods and techniques of ion electroplating surface treatment, such as low temperature evaporation electroplating techniques, sputtering technology, electron gun evaporation plating technology and arc evaporation technology • Understand the safety application methods of high voltage • Understand the operations of the precision gas flow instrument • Understand the operation of mechanical and electrical circuits • Understand the application functions and safety application methods of chemicals, chemical specialty gases and target materials <p>2. Carry out ion electroplating surface treatment</p> <ul style="list-style-type: none"> • Determine suitable electroplating surface treatment for products • With different target materials, apply different technologies and techniques such as sputtering current and reactive gas • Determine whether the metal materials are suitable for ion electroplating surface treatment • Operate the machinery of ion electroplating surface treatment • Self-adjust the parameters of technologies and techniques, so as to make the metal workpieces up to the desired effect • Determine the quality problems of the ion electroplating products and carry out immediate corrections <p>3. Professional handling of vacuum ion electroplating surface treatment</p> <ul style="list-style-type: none"> • Follow safety guidelines and related codes of practice, in accordance with the requirements of technologies and techniques, product specifications and production efficiency, carry out vacuum ion electroplating surface treatment
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to adjust equipment and independently operate the relevant technologies and techniques of ion electroplating surface treatment

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	<ul style="list-style-type: none">• Capable to fine-tuning the relevant technologies and techniques with the requirements of workpiece materials and product requirements• Capable to solve the general operation problems of equipment of ion electroplating surface treatment and carry out maintenance and continuous improvements
Remark	