

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

Functional Area - Product Manufacturing

Title	Carry out chemical formula surface treatment
Code	106433L3
Range	This unit of competency is applicable to the production department of the plastic electroplating corporation. Practitioners should be capable to recognise all kinds of plastic electroplating technologies and carry out electroplating for plastic parts
Level	3
Credit	6 (For Reference Only)
Competency	<p>Performance Requirements</p> <p>1. Understand relevant knowledge of all kinds of electroplating technologies of plastic parts</p> <ul style="list-style-type: none"> • Understand the technology principle, application and end-effects of all kinds of electroplating, such as the technologies and techniques of plastic acidification, plastic surface activation, the plastic chemical leaching of palladium process crude, plastic surface of the copper and plastic replacement and plastic direct electroplating process • Understand the general method of electroplating, including hanging plating technology and barrel plating technology • Understand the limitations of all kinds of plastic electroplating technologies • Recognise the characteristics and process of technologies and techniques of plastic electroplating technology • Recognise the processing methods of blowdown of chemical plastic electroplating solution, such as chemical toxic electroplating solution treatment, chemical gases disposal treatment and chemical waste treatment • Understand the device structure, operation skills and functions of electroplating • Understand the safety practices of electroplating and knowledge of using methods of relevant chemicals • Understand the methods and techniques of de-plating • Understand the design methods of handing fixture • Understand the characteristics and applications of electroplating chemicals • Understand the addition and control methods of electroplating chemicals • Understand the equipment coordination of electroplating chemicals, such as adding warmers or filters • Understand the causes, phenomena and characteristics of all kinds of defective products • Understand the inspection methods of film thickness • Understand all kinds of product inspection methods of plastic electroplating, including chemical testing methods, such as manual sweat test and salt spray test and mechanical testing methods, such as abrasion resistance test, adhesion test and aging test • Understand the environmental production methods of plastic electroplating <p>2. Apply electroplating technologies on plastic parts and carry out evaluations and improvements</p> <ul style="list-style-type: none"> • Determine whether the material model is suitable for electroplating • Determine appropriate electroplating methods for products • Determine specific technologies and techniques procedures of electroplating in accordance with the material • Add supplements and supplemental materials • Control and manage the conditions of electroplating chemicals • Analyse the quality problems of plastic electroplating and carry out improvement

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	<ul style="list-style-type: none"> • Compile relevant production guidelines and detailed arrangements of all kinds of technologies and techniques processes of electroplating • Bring benefits through changing material properties by using plastic electroplating technology <p>3. Professional handling of carrying out electroplating for plastic parts</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 electroplating for plastic parts
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Capable to operate relevant technologies and techniques of electroplating independently of plastic parts • Capable to fine-tune the relevant technologies and techniques in accordance with the workpiece material and product requirements • Capable to solve the problems of plastic electroplating and carry out continuously improvement
Remark	