

Specification of Competency Standards
for the Jewellery Industry
Unit of Competency

Functional Area - Production

Title	Master casting techniques
Code	108924L2
Range	This unit of competency is applicable to practitioners working in the jewellery casting department of jewellery manufacturing organizations. Practitioners should be capable of mastering the workflow of lost wax casting and operating relevant equipment to duplicate various kinds of precious metal castings from wax prototypes to meet the production workflow.
Level	2
Credit	9
Competency	<p>Performance Requirements</p> <p>1. Know about the procedure of lost wax casting</p> <ul style="list-style-type: none"> • Mould packing, vulcanizing and rubber mould cutting <ul style="list-style-type: none"> ○ Know about the characteristics and application of various kinds of rubber vulcanizing methods, and distinguish these methods ○ Know about the application/safe use of various tools, equipment and machines required for vulcanizing/rubber mould cutting ○ Know about the various processes, techniques and tricks for vulcanizing/rubber mould cutting • Wax injection, wax mould trimming and treeing <ul style="list-style-type: none"> ○ Know about the characteristics and application of various kinds of wax injection methods, and distinguish these methods ○ Know about the application/safe use of various tools, equipment and machines required for wax injection/wax mould trimming/treeing ○ Know about the arrangements of workpieces for treeing ○ Know about the various processes, techniques and tricks for wax injection/wax mould trimming/treeing • Investment production <ul style="list-style-type: none"> ○ Know about the characteristics and application of various kinds of invested materials, and distinguish them ○ Know about the principle of vacuum treatment for investing ○ Know about the application/safe use of various tools, equipment and machines required for investment production ○ Know about the various processes, techniques and tricks for investing/injection moulding • De-waxing and burnout processes <ul style="list-style-type: none"> ○ Know about the procedures of the de-waxing and burnout processes ○ Know about the application/safe use of various tools, equipment and machines required for the de-waxing/burnout processes ○ Know about the various processes, techniques and tricks for the de-waxing/burnout processes • Casting <ul style="list-style-type: none"> ○ Know about the melting points and specific gravity of precious metals ○ Know about the application/safe use of various tools, equipment and machines required for casting ○ Know about the various processes, techniques and tricks for casting ○ Know about the causes and solutions of porosity/flaws found on the casting products <p>2. Master mould duplication and casting techniques</p>

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	<ul style="list-style-type: none"> • Master the mould packing technique • Master the vulcanizing technique • Master the rubber mould cutting technique • Master the wax injection technique • Master the wax mould trimming technique • Master the treeing technique • Master the investing technique • Master the de-waxing and burnout process technique • Master the casting technique • Master the technique for removal of casting powder and sprue, and the pickling technique • Master the technique for handling porosity/blemishes on the casting products <p>3. Professionalism</p> <ul style="list-style-type: none"> • Following the requirements of the organization, code of practice and safety guidelines, carry out casting for jewellery products with a professional attitude
Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> • Able to use various wax carving tools and equipment safely, and employ carving techniques to carve different kinds of wax models to cope with the casting workflow according to the design sketch under instruction.
Remark	