

**Specification of Competency Standards**  
**for the Jewellery Industry**  
**Unit of Competency**

Functional Area - Testing and Certification

Title	Know about precious metal testing methods and equipment
Code	109006L3
Range	This unit of competency is applicable to practitioners who work in gemmological laboratories and those with related duties in the jewellery industry. This unit of competency is applied in the routine work environment relating to testing and identification. Practitioners should be able to use simple testing equipment properly to carry out preliminary tests under instruction.
Level	3
Credit	6
Competency	<p>Performance Requirements</p> <p>1. Know about precious metal testing methods</p> <ul style="list-style-type: none"> <li>• Know about precious metal testing process <ul style="list-style-type: none"> <li>○ Receive the goods</li> <li>○ Identify and record</li> <li>○ Test</li> <li>○ Enter data and print the report</li> <li>○ Issue the test report</li> <li>○ Ship and record</li> </ul> </li> <li>• Know about the attributes of precious metals and their alloys</li> <li>• Know about the testing methods for the content of precious metals and their alloys, such as: <ul style="list-style-type: none"> <li>○ Touchstone method</li> <li>○ Fire assay</li> <li>○ X-ray fluorescence spectrometry</li> <li>○ Inductively coupled plasma spectrometry</li> </ul> </li> <li>• Know about the advantages and disadvantages of various precious metal testing methods</li> </ul> <p>2. Use precious metal testing equipment to carry out preliminary tests</p> <ul style="list-style-type: none"> <li>• Determine the functions of the testing equipment</li> <li>• Properly use the precious metal testing equipment, such as: <ul style="list-style-type: none"> <li>○ Standard electronic balance</li> <li>○ Touchstone</li> <li>○ X-ray gold detector</li> </ul> </li> <li>• Determine the existing calibration of the testing equipment</li> <li>• Master the testing process of precious metals <ul style="list-style-type: none"> <li>○ Master the testing procedure of precious metals <ul style="list-style-type: none"> <li>▪ Sampling</li> <li>▪ Testing</li> <li>▪ Determining the testing method</li> <li>▪ Reviewing the test results</li> <li>▪ Completing the test</li> </ul> </li> </ul> </li> </ul> <p>3. Professionalism</p> <ul style="list-style-type: none"> <li>• Able to follow the practitioners' company requirements, code of practice and safety guidelines to use suitable equipment to test precious metal products in a professional attitude.</li> </ul>

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Assessment Criteria	The integrated outcome requirements of this unit of competency are: <ul style="list-style-type: none"><li>• Able to clearly identify the characteristics of precious metal materials; and</li><li>• Properly use the testing equipment to carry out preliminary tests for precious metal products under instruction.</li></ul>
Remark	This unit of competency is written with reference to the following materials. Readers can study the relevant information according to their needs:- <ul style="list-style-type: none"><li>• The English-Chinese and Chinese-English Dictionary of Gems and Jewelry published by China University of Geosciences Press Co. Ltd.; and Work guidelines of their relevant gemmological laboratories.</li></ul>