

Specification of Competency Standards
for the Jewellery Industry
Unit of Competency

Functional Area - Testing and Certification

Title	Identify and grade all kinds of pearls
Code	109018L5
Range	This unit of competency is applicable to gemmologists working in gemmological laboratories in the jewellery industry. Practitioners should be capable of conducting analysis, judgment and assessment. They should have a wide range of knowledge of pearls and expertise in pearl identification, and be able to use precision identification equipment to obtain and master detailed and accurate data and information so as to effectively perform pearl identification work to identify and grade pearls after careful analysis.
Level	5
Credit	6
Competency	<p>Performance Requirements</p> <p>1. Analyze the categories and characteristics of pearls</p> <ul style="list-style-type: none"> • Analyze the categories and characteristics of pearls, including: <ul style="list-style-type: none"> ○ The origin and formation of pearls ○ Basic properties of pearls <ul style="list-style-type: none"> ▪ Chemical composition ▪ Internal structure ▪ Features of the surface ▪ Colour ▪ Lustre ▪ Cleavage ▪ Mohs hardness ▪ Density ▪ Other properties <ul style="list-style-type: none"> ▪ Low resistance to acid/heat ▪ Poor radiation resistance ○ Classification and variety of pearls <ul style="list-style-type: none"> ▪ Natural pearl ▪ Cultured pearl <ul style="list-style-type: none"> ▪ Cultured pearls without insertion of nucleus ▪ Cultured pearls with insertion of nucleus ▪ Saltwater cultured pearls ▪ Freshwater cultured pearl <ul style="list-style-type: none"> ▪ Biwa pearls ▪ Cultured pearls with shells <ul style="list-style-type: none"> ▪ Blister pearl ▪ Mabe pearls ▪ Combined pearls ▪ Imitation pearls <ul style="list-style-type: none"> ▪ Plastic pearls ▪ Glass pearls ▪ Shell pearls ○ Major species of cultured pearls <ul style="list-style-type: none"> ▪ Akoya pearls ▪ Freshwater pearls ▪ Tahitian pearls ▪ South Sea pearls ○ Methods of treating pearls and their characteristics

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	<ul style="list-style-type: none"> ▪ Dyeing ▪ Irradiation treatment ▪ Lustre enhancement ○ Methods of imitating pearls and their characteristics • Master the history and prevailing trends of various types of pearls • Know about the national and international grading standards on the quality of natural/cultured pearls • Master the trend of the pearl market and prices <p>2. Identify and grade all kinds of pearls</p> <ul style="list-style-type: none"> • Operate precision gemstone/pearl identification equipment to effectively perform various types of pearl identification duties • Use pearl identification methods to distinguish between natural and cultured pearls, and between enhanced pearls and imitation pearls <ul style="list-style-type: none"> ○ Transmission method (illumination transmission) ○ 10x magnifying glass to observe the drill holes ○ Other methods, such as: <ul style="list-style-type: none"> ▪ Endoscopy ▪ X-ray photography ▪ X-ray diffraction ▪ X-ray fluorescence • Effectively and accurately assess and grade pearls based on the national grading standards on the quality of natural/saltwater cultured /freshwater cultured pearls <ul style="list-style-type: none"> ○ Grade <ul style="list-style-type: none"> ▪ Jewellery grade ▪ Craft grade ○ Colour ○ Lustre ○ Shape ○ Diameter ○ Blemish ○ Surface perfection ○ Nacre thickness <p>3. Professionalism</p> <ul style="list-style-type: none"> • Following the relevant ISO/HOKLAS codes, use equipment to identify all kinds of pearls effectively and accurately, record the data clearly, and assess and grade all kinds of pearls • Comply with the code of conduct of the gemmological laboratories to ensure the integrity and confidentiality of the test data and information • Keep up to date with and constantly learn the latest knowledge of pearls and the use of relevant identification equipment
Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> • Able to have an in-depth understanding/analysis of all kinds of pearls, such as natural pearls, cultured pearls and imitation pearls; and • Operate precision identification equipment to obtain detailed and accurate data and information so as to effectively carry out pearl identification duties to assess and grade pearls after careful analysis.

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Remark	<p>This unit of competency is written with reference to the following materials. Readers can study the relevant information according to their needs:-</p> <ul style="list-style-type: none">• Guobiao standards GB/T18781-2008 (Cultured pearl grading); and• Courses of The Gemmological Association of Great Britain (Gem-A), courses of The Gemological Institute of America (GIA), courses of The Swiss Gemmological Institute, courses of the Belgium International Gemological Institute, information from the China National Gemstone Testing Center, etc.
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