

STANDARD TEST METHOD 9

EXAMINATION OF FLUORESCENCE OF FEI CUI (JADEITE JADE)

1.1 SCOPE

This Standard describes the method of examining the fluorescence of Fei Cui (Jadeite Jade).

1.2 APPLICATION

The fluorescence examination applies to items made from Fei Cui (Jadeite Jade) as received by the laboratory for testing.

1.3 DEFINITIONS

Fluorescence: Fluorescence is the general term used to describe the emission of visible light by a substance whilst it is being excited by radiation of shorter wavelengths and higher energy.

1.4 APPARATUS

The following apparatus is required:

Ultraviolet radiation lamp: An ultraviolet radiation lamp with the wavelength of approximately 365nm (Long Wave) and 254nm (Short Wave).

1.5 TEST ITEM

The determination of fluorescence is a single unit test for a whole piece of test item in its entirety. Sampling of a number of test items to represent a batch of Fei Cui (Jadeite Jade) products shall not be permitted.

1.6 PROCEDURES

- 1.The test Fei Cui (Jadeite Jade) shall be cleaned scrupulously with a lint-free cloth.
- 2.The test Fei Cui (Jadeite Jade) shall be placed in a black box with a non-reflective black background.
- 3.The observer shall wait for a few second to let the eyes adopt to the dark environment of the black box before observation.
- 4.The test Fei Cui (Jadeite Jade) shall be placed as close to the ultraviolet radiation source as possible.
- 5.The long-wave ultraviolet radiation shall be

switched on. The strength of fluorescence shall then be observed and recorded.

- 6.If the strength of fluorescence is classified as medium or strong, the colour observed shall also be recorded.
- 7.Step 4 to 6 shall be repeated by using short-wave ultraviolet radiation.

1.7 EXPRESSION OF RESULTS

The strength of fluorescence shall be classified into 4 grades:

1. Strong
2. Medium
3. Faint
4. None/ Inert

1.8 TEST REPORT

The report shall affirm that the test was carried out in accordance with this Standard. The examination of fluorescence should be reported as far as possible with other Fei Cui (Jadeite Jade) test results such as polariscope examination, shape and cut identification, measurement of dimensions and weight, identification of transparency, Chelsea colour filter examination, determination of specific gravity & refractive index, infrared spectrum examination, magnification examination and spectroscopic examination. In general, the test report shall include but not be limited to the following:

- (a) Identification number of the Fei Cui (Jadeite Jade) item.
- (b) Date of test.
- (c) Standard method of examination of fluorescence.
- (d) Name of person carrying out the test.
- (e) Name and signature of person responsible for testing