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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16553-2017

Replacing GB/T 16553-2010

Gems - Testing

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 16553-2010 "jewelry identification." This standard compared with GB/T 16553-2010, the main changes are as follows:

- Modify the scope of the standard (see Chapter 1).
- Added a reference to terms and definitions in GB/T 16552, deleted "special optical effects" "heat treatment" "proliferation treatment" and so on Duplicate terms and definitions; Removed terms and definitions of "Color" "Immersion Oil" "Baptist wax"; Modified "Fluorescent" "Phosphorescent" technique Language and definition; Added terms and definitions of "inclusions". (See Chapter 3)
- The conventional identification method and special identification method for the identification method; the identification method of "UV fluorescence" to "fluorescence concept Observation "; the " absorption spectrum "in the identification method is incorporated into" UV-Visible spectroscopy "(see 4.1)
- Modify the infrared spectroscopy, laser Raman spectroscopy and other methods of identification methods and the scope of application; the infrared spectroscopy Analysis, UV-visible spectrum analysis, laser Raman spectroscopy and other identification methods in the operating steps, instead of jade jewelry identification Application; Added luminescence spectroscopy. (See 4.1)
- Identification project will be "UV fluorescence" to "fluorescence observation", delete the absorption spectrum, increase the infrared spectrum, UV-visible spectrum, Raman Spectrum and other projects; modified the selection principle of identification items. (See 4.2)
- Increased the identification of the various jade jade varieties infrared spectroscopy. (See Chapter 5)
- Increase blue Fang Shi, sphalerite, Balin Shi, Chang fossil, conch beads, mammoths and other species and subspecies identification characteristics; Turquoise identification characteristics. (See Chapter 5)

--- Increase and modify the diamond, emerald, spinel, turquoise, Su-stone, amber and other major types of jewelry jade optimization processing Type and identification features; standardize the various jade species material properties and dyeing, filling, laminating and other processing methods identified characteristics of the description Description. (See Chapter 5)

--- Reference GB/T 16552 jewelry jade name standards for the revised content of the corresponding additions and deletions revision. This standard proposed by the Ministry of Land and Resources. This standard by the National Gems Standardization Technical Committee (SAC/TC298) centralized. This standard was drafted unit. National jewelry quality supervision and inspection center. The main drafters of this standard Zhang Beili, Li Jingzhi, Shen Meidong, Ke Jie, Zhang Jun, Su Jun, Li Haibo, Zhang Tianyang, Song Zhonghua, Ma Yang Wei, Violence. This standard replaces the standards previously issued as.

--- GB/T 16553-1996, GB/T 16553-2003, GB/T 16553-2010. Jewellery identification

1 Scope

China's national standard for gem identification - the testing behind every gemmological certificate issued in the country. It specifies the terms and definitions for gems, the identification methods and the principles for selecting them, and the identification characteristics of the individual gem materials. It applies to the identification of gems and jades. The document has two halves that work together. The first is method: the full range of gemmological technique, from the refractometer, the polariscope, the dichroscope, the microscope, specific gravity and the ultraviolet lamp through to the instrumental methods - infrared and Raman spectroscopy, ultraviolet-visible absorption, X-ray fluorescence and photoluminescence - together with the principles for choosing among them. That selection guidance is the part a working laboratory uses most, because gem testing is non-destructive by obligation and the order in which tests are applied determines whether an answer is reached at all. The second half is the reference data: species by species, the properties by which each is recognised and, more importantly, the features that distinguish a natural stone from its synthetic counterpart and from its treated form. The list runs from diamond, ruby, sapphire, chrysoberyl and cat's eye through emerald, aquamarine and beryl, tourmaline, spinel, zircon, topaz, peridot, garnet, quartz, feldspar, zoisite and epidote, cordierite and onward through the jades, the organic materials and the imitations. Growth structures, inclusion suites, spectral features and fluorescence behaviour are what separate the natural from the made, and this is where they are recorded. Issued on 14 October 2017 and in force since 1 May 2018, it replaces GB/T 16553-2010.

This standard specifies the terms and definitions of jewelry, identification methods and project selection and identification features. This standard applies to jewelry jade identification.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 16552 name of jewelry jade

3 Terms and definitions

GB/T 16552 as defined by the following terms and definitions apply to this document.

3.1 Crystal With the lattice structure of the solid, the internal particles in the space for a regular periodic repetition.

3.2 Crystalline crystalline A crystalline solid (crystal).

3.3 Crystalline crystalline aggregate A block of numerous crystalline individuals.

Note. The crystalline aggregates include crystalline aggregates and cryptocrystalline aggregates.

3.4 Non-crystalline The internal components of the composition of the material was irregularly arranged in space, not structured lattice material.

3.5 Crystal system The crystal classification that reflects the symmetry of crystal is divided into seven crystal systems according to the degree of symmetry. equiaxed, hexagonal, tetragonal, trigonal Department, orthorhombic system, monoclinic system, triclinic system.

3.6 Crystal habit crystal habit A certain mineral in a certain external conditions, tends to crystallize into a certain form of characteristics.

3.7 Twins crystal twinning Two or more of the same kind of crystal according to a certain rule of symmetry formed students.