

ICS 39.060
CCS Y 88



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

GB/T 21198.6-2007

**Determination of precious metals in precious metals jewellery
alloys -- Method using ICP spectrometry -- Part 6: Difference
method**

贵金属合金首饰中贵金属含量的测定 ICP光谱法 第6部分：差减法
(English Translation)

Issued on: November 12, 2007

Implemented on: July 1, 2008

Issued by: Standardization Administration of China

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Foreword

GB/T 21198 "precious metal jewelry alloys precious metal content using ICP spectrometry" is divided into six parts.

--- Part 1. Determination of platinum content platinum jewelry alloys using yttrium as internal standard;

--- Part 2. Determination of platinum content platinum alloy jewelry using platinum all trace elements and the intensity ratio method;

--- Part 3. Determination of palladium jewelry alloys using palladium content of yttrium as internal standard;

--- Part 4. Determination of 999 per mille precious metal jewelry alloys precious metal content of subtraction;

Part --- Article 5. 999 per mille silver jewelry alloys - Determination of silver content difference of subtraction;

--- Part 6. Subtraction.

This section GB/T 21198 Part 6.

This part is proposed by the China National Light Industry Council.

This part of the National Standardization Technical Committee jewelry (SAC/TC256) centralized.

This section drafted by. National Gold and Silver Products Quality Supervision and Inspection Center (Nanjing), National Jewelry Quality Supervision and Inspection Center.

1 Scope

GB/T 21198 provisions of this section by the determination of gold, platinum and palladium jewelry alloys impurity elements to determine the precious metal content method.

This section applies to the determination of GB 11887 gold, platinum, palladium jewelry purity range where the gold content of 725 per mille ~ 999 per mille, platinum content 800 per mille ~ 999 per mille, palladium content of 800 per mille ~ 999 per mille.

Note: may contain platinum, gold, palladium, silver, copper, nickel, cobalt, iron, zinc, cadmium, ruthenium, rhodium and iridium and other elements jewelry.

2 Normative references

The following documents contain provisions which, through reference GB/T 21198 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB 11887 jewelry precious metal purity and designation of (GB 11887-2002, ISO 9202:1991, NEQ) GB/T 12806-1991 laboratory glassware single marking flask (eqv ISO 1042. 1983) GB/T 12808-1991 laboratory glassware single marking pipette (eqv ISO 648:1997)

3 PRINCIPLE OF THE METHOD

Sample with aqua regia dissolution in hydrochloric acid medium, as measured by ICP spectrometer content of impurity elements. By subtraction, to obtain precious metals content.

4 Reagent material

Unless otherwise indicated in the analysis using only recognized as analytical reagents and distilled or deionized water or equivalent purity.

4.1

pure platinum, purity of not less than 99.99%.

4.2

gold, purity of not less than 99.99%.

4.3

pure palladium purity of not less than 99.99%.

4.4

silver purity of not less than 99.99%.

4.5

pure copper, the purity of not less than 99.99%.

4.6

pure nickel, purity of not less than 99.99%.

4.7

pure cobalt, purity of not less than 99.99%.

4.8

iron purity of not less than 99.99%.

4.9

pure zinc, the purity of not less than 99.99%.

4.10

pure cadmium, purity of not less than 99.99%.

4.11

hydrochloric acid, mass fraction of 36% ~ 38%, $\rho = 1.19\text{g/mL}$.

4.12

nitric acid, mass fraction of 65% ~ 68%, $\rho = 1.40\text{g/mL}$.