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**NONFERROUS METALS INDUSTRY STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**YS/T 3005-2011**

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**Methods for sampling and sample preparation of flotation gold  
concentrates**

浮选金精矿取样、制样方法

**(English Translation)**

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### Foreword

YS/T 3005-2011 "Methods for sampling and sample preparation of flotation gold concentrates" was drafted in accordance with the rules given in GB/T 1.1-2009.

Appendix A, Appendix B, Appendix C of this standard are normative annexes.

This standard was proposed by the China Gold Association.

This standard shall be under the jurisdiction of the National Gold Standardization Technical Committee (SAC/TC 379).

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Methods for sampling and sample preparation  
of flotation gold concentrates

## 1 Scope

This standard specifies the methods for sampling and sample preparation of flotation gold concentrate, methods for determination of moisture, test methods for the quality fluctuation of gold concentrate assessment, test methods for the precision of calibration sampling.

This standard is applicable to the sampling and preparation of samples for the chemical composition and moisture of bulk and bagged flotation gold concentrates as well as the determination of moisture.

## 2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB/T 7739 Methods for chemical analysis of gold concentrates

YS/T 3004 Gold concentrate

## 3 Terms and definitions

The following terms and definitions apply to this document.

### 3.1

Lot

A lot of gold concentrates to be sampled for testing of quality characteristics.

The mass of the gold concentrate that constitutes a lot is the lot mass.

### 3.2

Sub-lot

If a lot is divided into several parts, each part is a sub-lot. The mass of the gold concentrate that constitutes a sub-lot is the sub-lot mass.

### 3.3

Increment

A sample as taken from a lot or a sub-lot at a time by a sampling device. The mass of each increment is the increment mass.

### 3.4

#### Lot sample

The sample which is mixed by the increment as taken from the lot and represents the lot.

### 3.5

#### Subsample

The sample which is mixed by the increment as taken from the sub-lot and represents the sub-lot.

#### **4.1 The standard deviation ( $\sigma_w$ ) of the mass fraction between the increments in**

a lot indicates the quality fluctuation of the gold concentrate. The quality fluctuations of gold concentrates are divided into three categories. high, medium, low (see Table 1).

**4.3 If the quality fluctuation of the gold concentrate of the lot is  $\sigma_w \geq 5.0$  or** otherwise it is mixed by foreign inclusions, it is negotiated between the supplier and the purchaser or otherwise no sample is taken.

**4.4 The total precision for sampling of gold concentrate of a lot is 2% of the** gold's mass fraction.

**4.5 For the first sampling of gold concentrate and the change of sampling and** sample preparation method, it shall follow the requirements of Appendix C to carry out precision test of calibration sampling.

**4.6 The sampling and sample preparation plan of gold concentrate shall be** confirmed by the relevant parties.

**4.7 Gold concentrates that do not meet the requirements of YS/T 3004 shall not** be sampled or be negotiated between the supplier and the purchaser.

**4.12 The operation of sampling and sample preparation shall comply with the** relevant safety specifications.

**5.1.1 Sampling brazing bar (see Figure 1), the specification size of which shall** meet the requirements for the amount of sample taken.

**5.2.1 Weigh the mass of the delivered gold concentrate. If the gold concentrate** is mixed with rain or snow water or visible water, it shall be dewatered before weighing.

**5.2.4 According to the sampling plan, take sample and make record. Place the** increment taken into a container with lid or plastic sample bag.

### **5.3 Increment mass**

The mass of the increment taken shall be not less than 300 g. The coefficient of mass variation (CV) shall be not more than 20%.

**5.5.1.1 In the course of movement of bulk gold concentrates during handling or** weighing, take increment based on certain mass interval or time interval.

**5.5.1.5 It shall select the sampling device of appropriate size to collect the full-**width, full-thickness gold concentrate stream.

**5.5.2.1 From the motor vehicles, trains, bins which are loaded with gold** concentrates, take the increment.

**5.5.2.2 The material surface of the gold concentrate shall be flat. Based on the** number of increments as specified in Table 1, calculate the uniform distribution points.