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JAPANESE INDUSTRIAL STANDARD

**Method for sampling
of crude bullion**

JIS M 8104—1992

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Method for sampling
of crude bullion

M 8104-1992

1. Scope This Japanese Industrial Standard specifies the method for sampling of crude bullion.

- Remarks 1. The crude bullion means the gold or silver ingot metal of 500 or more parts per thousand parts. However, crude gold and refined silver shall not be included.
2. The following standard is cited in this Standard:
JIS Z 8801 Test sieves

2. General matters The general matters shall be in accordance with the following:

- (1) The time to collect the samples shall generally be immediately after its mass has been weighed at delivery of the bullion. However, when the sampling for delivery is carried out at the supplier's side, the sampling shall be carried out from molten bullion.
- (2) The sampling method shall be such that the collected samples are those representing the average quality of a lot as far as possible.

- Remarks 1. The lot means the crude bullion of a unit mass which has been determined at sampling between the parties concerned with delivery.
2. Generally the crude bullion which has been produced from one crucible or one furnace shall be considered to be one lot. However, if the average quality among crucibles or among furnaces has been known to be about the same technically, amount of several crucibles or amount of several furnaces may also be considered to be one lot.

- (3) The sampling shall be carried out according to the following order.
- (a) Primary sampling Extract the ingot by a prescribed number of sheets from the crude bullion of one lot (hereafter referred to as simply the "ingot").
- (b) Secondary sampling Sample the chips of ingot by the boring method from the primary sample (ingot).
- (c) Preparation of component test sample Collect the secondary samples, and prepare the component test samples for the component analysis through the operations of shot method or rough crushing, screening and reduction.
- (4) When a part of prescriptions of this Standard is not applicable, the method in accordance with the agreement between the parties concerned with delivery may be used instead of this standard.

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3. Sampling method of primary samples

3.1 As to the primary samples, required number of ingots shall generally be extracted in accordance with Table 1 at a definite interval from one lot. Its starting point of extraction may be defined randomly.

Table 1.

Size of lot	Number of primary samples
under 10 sheets	All samples
10 sheets or over to and excl. 20 sheets	10 sheets
20 sheets or over to and excl. 50 sheets	15 sheets
50 sheets or over	25 sheets

Remarks : When the ingots of several crucibles or several furnaces are taken as one lot, a size proportionate stratified sampling shall be conducted.

4. Sampling methods of secondary samples

4.1 As to the secondary samples, chips shall be collected by carrying out 3 points each of borings in general, so that the required quantity of sample can be obtained from each ingot of the primary sample extracted in accordance with the prescription of 3.1.

The required quantity of sample shall be as given in the following:

- (1) 250 g or over when the component test sample is to be prepared by the shot method.
- (2) 100 g or over when the component test sample is to be prepared by the rough crushing and screening method.

Remarks : Where the quantity of the secondary sample does not satisfy the necessary quantity due to the insufficient number of the primary samples, the number of borings may be increased. However, in this case, when the number of primary samples are two sheets or over, the number of borings of each ingot shall be the same.

4.2 Boring method

4.2.1 Main tools to be used in the boring method shall be as given in the following:

- (1) Drilling machine The type of machine may be of an arbitrary one.
- (2) Drill It shall be that of 5 mm to 10 mm in diameter.