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

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Sampling of refined nickel

精炼镍取样方法

(English Translation)

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Foreword

This Standard was drafted in accordance with the rules provided in GB/T 1.1-2009.

This Standard modifies and adopts ISO 7156:1991 Refined Nickel - Sampling. In comparison

with the international standard, this Standard has the following main changes:

---The contents of arbitration sampling and production batch sampling are added to "Scope";

---The expressions of terms, definitions and clauses are modified in accordance with the habits of Chinese language, for example, using "%" instead of "g/t" to express standard deviations;

---The product form provided, "a thickness of 6 mm ~ 12 mm" and "a weight of about 50 kg", is modified into "a thickness of 3 mm ~ 15 mm" and "a weight of about 50 kg ~

70 kg" in accordance with the current situation of domestic product production;

---For the sample selection in the units of 50 kg, 250 kg and 1,000 kg, the corresponding batch weight, total number of units, number of initial increments, number of secondary increments in each initial increment and total number of secondary increments are

accordingly adjusted in accordance with the same principle. See the corresponding relations in Appendix C for details;

---For the "sampling of barrels that do not require machining", it is required to "take a secondary increment from each barrel using a sample shovel or a suitable tube-type sampler within the entire barrel";

---The variation range of S1 and S2 within 0.0002% is added to Appendix A "Examples of Se Values".

This Standard shall be under the jurisdiction of National Technical Committee 243 on Nonferrous Metals of Standardization Administration of China (SAC/TC 243).

The drafting organizations of this Standard: Jinchuan Group Co., Ltd.; China Nonferrous Metals Industry Standards, Metrology and Quality Research Institute.

1 Scope

This Standard specifies the sampling procedures for refined nickel less than 25 t, with the same

composition, specifications and shape and manufactured under the same production conditions.

This Standard applies to arbitration sampling of refined nickel and can also be used for production batch sampling.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only

versions with a specified date are applicable to this document. In terms of references without a

specified date, the latest version (including all the modifications) is applicable to this document.

ISO 7156:1991 Sampling of Refined Nickel

ISO 4957 Tool Steel

3 Products Provided

Refined nickel is usually delivered in the following forms:

---Most of them are whole cathode plates with a thickness of 3 mm ~ 15 mm and a weight of about 50 kg ~ 70 kg;

---Metal in barrels. The metal can be in the form of cathode plate slices (usually blocks with sides of 25 mm, 50 mm and 100 mm), cakes, pellets, beads, small particles or powder. Packaging specifications: 50 kg, 250 kg and 1,000 kg.

4.1 Symbols

This standard uses the following symbols:

U---the total number of units in the batch. The units can be a whole cathode plate or a barrel.

N---the number of units that constitute the initial sample. N units are the initial increments.

n---the number of increments taken from each initial increment.

When $\alpha = 1$, the unit is 50 kg;

When $\alpha = 2.24$, the unit is 250 kg;

When $\alpha = 4.47$, the unit is 1,000 kg.

Therefore, the value of N depends on the tonnage and the coefficient k associated with the selected level of Se. In fact, for a batch of 25 t, when the k value is selected as 2.24, $N = 50$.

NOTE: for a batch of 25 t, N is allowed to select an integer (50), the combination of which is k =

2.24 and $\alpha = 1$ or $\alpha = 2.24$ or $\alpha = 4.47$.

If the nickel is packaged in a 1 t packaging barrel, for a batch of 25 t, then, $U = 25$; then, N cannot be greater than 25. Hence, the value of n is selected to be 2, so that $N \times n = 50$. Empty

each barrel in the batch and take paired samples at random from the lowest part at two different points.

A.6 Selection of Lower Tonnage Samples

For very low tonnages with a small number of units, N cannot be greater than U, and when

$n =$

1, the use of Formula (A.4) will result in a very low total number of initial increments. In the case of a 1 t packaging barrel, only one is given in accordance with the above degree.

Conversely, for a 50 kg packaging barrel of the same mass, then, $N = 10$, that is, one is selected

from each barrel, and not less than 10.

Example:

For a 1t batch, take 12 for $N \times n$. This is right whether the mass of the barrel is 50 kg, 250 kg

or 1,000 kg.

For a batch consisting of a single 50 kg packaging barrel, N is taken to be 1 and n is taken to be

5.

For a batch consisting of 5 barrels of 50 kg, N is taken as 5 and $N \times n$ is taken as 8.

For each tonnage (or number of barrels), Table 1, Table 2 and Table 3 give approximate values

of N and n . When n consists of two values, the sampling barrel is randomly selected in sequence

from the N barrels to be sampled.

The case where the n value is greater than 1 must be selected:

---When the batch weight is less than 2.9 t and consists of the unit of 50 kg (i.e. $U = 58$);

---When the batch weight is less than 6.3 t and consists of the unit of 250 kg (i.e. $U = 20$);

---For any batch consisting of the unit of 1 t.

A.7 Selection of Whole Cathode Plate Samples

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