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

YS/T 441.2-2014

Replacing YS/T 441.2-2001

**Management rules of nonferrous metals balance. Part 2: Lead
enrichment and metallurgy
(English Translation)**

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Foreword

YS/T 441-2014 "Non-Ferrous Metal Balance Management Specification" is divided into five parts.

- Part 1. Copper beneficiation and smelting;
- Part 2. Lead ore smelting;
- Part 3. Zinc beneficiation smelting;
- Part 4. Tin beneficiation and smelting;
- Part 5. Gold and silver smelting.

This part is the second part of YS/T 441.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces YS/T 441.2-2001 "Non-ferrous metal balance management specification lead ore dressing smelting part", this part and YS/T 441.2-2001 in comparison, the main changes are as follows.

- The terminology and definition of the beneficiation part increased the definition of raw ore, concentrate, tailings, medium ore, metal loss and metal balance;

The division adds five definitions of process recovery, metal recovery, total lead smelting recovery, metal loss and metal balance;

- The definitions of the terms "return", "metal recovery rate", "counting", and "drying amount" have been modified;
- Simplified the content of "management responsibilities";
- Modified the "Selected Minerals Flow Chart (see Figure 1)";
- Modified some of the words in the "5.2.2 sampling and sample preparation methods";

- Deleted the specific device in the "5.3.1 Count Range";
- Modified the contents of "5.3.2 inventory time";
- Modified the relevant content of "5.3.3.3 Field Measurement Method";
- The contents of the "5.4.1 Metal Balance Requirements" have been revised;
- In the "5.4.2 calculation method", add the calculation formula of "processing raw ore grade", "concentrate grade", "tailing grade" and other indicators;
- Modified the "smelting material flow chart (see Figure 3)";
- In the "6.2.1 product" to increase the quality of sub-zinc oxide products should be implemented;
- In the "6.2.2 sampling preparation method" to increase the crude lead and anode mud should be implemented standards;
- Adding anode slime in "6.2.3 Analytical Method" should implement the standard;
- Appropriate modification of "6.3.3.1 Weighing Method";
- Appropriate modification of "6.3.3.3 Field Measurement Method";
- Add by-products in "6.4.2.2";
- Modified "6.4.2.3";
- Added "Report period of 6.4.2.7 inventory is consistent with the statistical period of metal balance";
- Added "6.4.3 Metal Balance and Calculation Method";
- Modified the original "6.4.3";
- Added "6.4.3.1 Metal Balance Requirements";
- According to the actual production, the format and content of the metal balance sheet of Appendix A smelting enterprises have been increased.

This part is under the jurisdiction of the National Nonferrous Metals Standardization Technical Committee (SAC/TC243).

This section is responsible for drafting the unit. China Nonferrous Metals Industry Standard Measurement Quality Institute.

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1 Scope

This part of YS/T 441 specifies the terminology, management responsibilities, metal balance calculation formula, and metal balance calculation formula for lead metallurgy smelting.

The preparation method and format of the metal balance meter.

This section applies to lead and its subsidiary products of mineral processing and smelting production enterprises.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 469 lead ingot

GB/T 4103 (all parts) Chemical analysis methods for lead and lead alloys GB/T 8152 (all parts) Chemical analysis method for lead concentrate GB/T 14260 bulk heavy non-ferrous metal flotation concentrate sampling, sample preparation rules GB/T 14262 bulk flotation lead concentrate sampling, sample preparation method YS/T 53 (all parts) Copper, lead, zinc ore and tailings chemical analysis methods YS/T 71 rough lead YS/T 73 by-product zinc oxide YS/T 87 copper and lead electrolytic anode mud sample preparation method YS/T 248 (all parts) crude lead chemical analysis method YS/T 319 lead concentrate

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Beneficiation part

3.1.1

Raw ore rawminerals

The ore that is sent from the stop to the concentrator also includes other materials that enter the beneficiation process.

3.1.2

Concentrate concentrates After the ore or raw materials are selected, the useful ingredients are obtained.

3.1.3

Tailings

After the ore or raw material has been selected, the product with little or no further processing value is called tailings.