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

YS/T 587.10-2016

Replacing YS/T 587.10-2006

**Calcined coke for carbon anode--Part 10: Determination of bulk
density**

炭阳极用煅后石油焦检测方法 第10部分：振实密度的测定

(English Translation)

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Foreword

YS/T 587 "Carbon anode with calcined petroleum coke after the test method" a total of 14 parts.

- Part 1. Determination of ash;
- Part 2. Determination of moisture;
- Part 3. determination of volatiles;
- Part 4. Determination of sulfur;
- Part 5. Determination of trace elements;
- Part 6. Determination of powder resistivity;
- Part 7. Determination of CO₂ reactivity - Mass loss method;
- Part 8. Determination of air reactivity - Mass loss method;
- Part 9. Determination of true density;
- Part 10. Determination of tap density;
- Part 11. Determination of particle stability;
- Part 12. Determination of particle size distribution;
- Part 13. Determination of Lc values;

Part 14. Determination of the Hadgrove index.

This section is part 10 of YS/T 587.

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

This section is a revision of YS/T 587.10-2006, compared with YS/T 587.10-2006, the main technical changes are as follows.

- the vibration method (method 2) is added on the basis of the tapping method (method 1);

--- In the case of editorial changes to the tap method, refer to ISO 10236.:1995 to modify the repeatability limit from $\leq 0.02\text{g/cm}^3$ to $\leq 0.01\text{g/cm}^3$, and the reproducibility limit is changed from $\leq 0.05\text{g/cm}^3$ to $\leq 0.02\text{g/cm}^3$.

This part of the National Nonferrous Metals Standardization Technical Committee (SAC/TC243) proposed and centralized.

This part of the main drafting unit. China Aluminum Zhengzhou Nonferrous Metal Research Institute Co., Ltd., nonferrous metals Technology and Economic Research Institute.

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This part of the previous version of the standard to replace the release of the situation.

YS/T 587.10-2006.

Determination of Petroleum Coke in Carbon Anode by Calcined Part 10. Determination of tap density

1 Scope

This part of YS/T 587 specifies the method for determining the true density of petroleum coke after calcination.

This part is suitable for the determination of the real density of petroleum coke after calcination. The method 1 is suitable for the determination of particle size in the range of $0.25\text{mm} \sim (\text{TBD})$; Method 2 is suitable for the use of vibration particle size range of $0.212\text{mm} \sim 7.00\text{mm}$ (VBD) of the 2 kg calcined petroleum coke sample, and the maximum particle size of the particles in the sample was measured within the above particle size range Degree and minimum particle size ratio should be less than 2 2, should be less than 2.

2.1 Principle of the method

The tap density depends on the size, shape and porosity of the particles. Samples of similar particle size and shape can be obtained by comparing the tap density and true density to estimate the porosity. Porosity is an important parameter that affects the quality and performance of the prebaked anode.

The volume of the material is determined to be determined after a certain amount of material is determined, and the tap density is calculated from the known mass divided by the measured volume.

2.2 Instruments and devices

2.2.1

Tap method The measuring device of the tap density is shown in Figure 1, which includes.

--- Measuring tube. the quality of $190\text{g} \pm 5\text{g}$, scale $0\text{mL} \sim 250\text{mL}$, the accuracy of 1mL .

--- cylinder holder. the quality of $450\text{g} \pm 5\text{g}$ guide piston.

--- Pincer device. every minute to enhance and drop the guide piston 250 ± 15 times, the height of $3\text{mm} \pm 0.1\text{mm}$, with the number of beat Recorder.

2.2.2

Test sieve. Screen diameter 8.0mm , 4.0mm , 2.0mm , 1.0mm , 0.5mm , 0.25mm .

2.2.3

Oven. temperature can be controlled at $110\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

2.2.4

Feeder. Feed to the measuring tube in a controlled manner.

2.2.5

balance. range of not less than 1000g , accuracy is better than 0.1g .