

JIS

JAPANESE INDUSTRIAL STANDARD

Iron ore pellets— Determination of volume

JIS M 8719—1990

Translated and Published

by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

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Iron Ore Pellets - Determination of Volume

M 8719-1990

1. Scope

This Japanese Industrial Standard specifies the determination of volume of iron ore pellets, hereinafter referred to as "pellets".

Remarks: Applicable Standards to this Standards are shown in the following:

JIS K 2203-Kerosine

JIS K 8219-Sodium Oleate

JIS M 8715-Iron Ore Pellets - Determination of Swelling Index

JIS Z 8401-Rules for Rounding off of Numerical Values

2. General Matters

Rounding-off method of numerical values shall be in accordance with JIS Z 8401.

3. Classification of Methods

The determination of volume of pellets shall be in accordance with any one of the following.

- (1) Sodium Oleate • Kerosene Method The determination of pellets utilizing the buoyancy of pellets in water.
- (2) Mercury Method The determination of pellets utilizing the buoyancy of pellets in mercury.

4. Sodium Oleate • Kerosene Method

4.1 Summary After immersing the pellets into sodium oleate aqueous solution, immerse in kerosene, make on its surface coating film of sodium oleate aqueous solution, obtain the mass of the sample in air and the apparent mass on water, and divide their difference by density of water to obtain the volume.

4.2 Apparatus and Appliances The apparatus and appliances shall be as follows:

- (1) Oven An oven capable of adjusting the temperature at $105 \pm 5^{\circ}\text{C}$.
- (2) Sample Cage for Immersing into Reagent The cage for immersing the sample into sodium oleate aqueous solution or kerosene. Materials not varied in quality by sodium oleate aqueous solution and kerosene are to be used, and respective cages for sodium oleate aqueous solution and for kerosene are prepared [Refer to Attached Fig. 1 (1)].

Reference Standard: JIS M 8716-Iron Ore Pellets - Determination of Apparent Density and Porosity

Remarks: The sample cage, for promoting the removal of air bubbles with shaking, in order to make the sample not to be broken and to adsorb uniformly the objective solution on the surface of sample, shall be used.

- (3) Sample Cage for Measurement In order to make air bubbles difficult in adhering on the contact part of sample with the cage, the cage of which the contact area made as small as possible, and in which air bubbles are difficult to adhere on the cage itself, is to be used [Refer to Attached Fig. 1 (1)].

- (4) Container for Immersing in Reagent Let the container be made of glass, and prepare respective containers for sodium oleate aqueous solution and for kerosene.

- (5) Water Container for Measurement The container of such size that when measuring the apparent masses of sample and cage in water, the height of water level does not vary in large amount.

- (6) Pack Container The pack container constituted with sponge and gauze for the purpose to wipe off excess bubbles of reagent adhered on the sample surface after immersing in sodium oleate aqueous solution or in kerosene by using gauze surface. The gauze is to be laminated with four sheets (Refer to Attached Fig. 1 (2)).

Prepare pack containers respectively for sodium oleate aqueous solution and for kerosene.

- (7) Suspending Appliance The suspending appliance is to suspend the sample cage for measurement to the balance and the suspending yarn (approximately 0.3 mm in diameter) is used. In order to stabilize the cage, the appliance attached with a weight larger in mass than that of balance dish should preferably be used [Refer to Attached Fig. 1 (4)].

- (8) Placing Stand for Water Container The stand made of wood or steel.

Remark: In order to avoid the influence of static electricity, the stand made of plastics such as acrylic resin should preferably not be used.

- (9) Scale (balance) The scale not more than 0.001 g in reciprocal sensibility.

- (10) Thermometer The thermometer not more than 0.5°C in one scale interval.

4.3 Water and Reagents The water and reagents to be used for measurement shall be as follows.

- (1) Water Distilled water or ion-exchanged water is to be used. For the use, taking 12 pieces of sample as the limit, exchange with new water.