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

**GB 31335-2024**

Replacing GB 31335-2014

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**Norm of the energy consumption per unit production of iron ore  
mining and dressing**

铁矿开采和选矿单位产品能源消耗限额

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### 1 Scope

GB 31335-2024 is the Chinese national standard on norm of the energy consumption per unit production of iron ore mining and dressing, in the field of energy and heat transfer engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 29 April 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2025. Classification: ICS 27.010, CCS F01. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the levels, technical requirements, statistical scope and calculation methods for the allowance of energy source consumption (hereinafter referred to as "energy consumption") per unit production of iron ore surface mining, underground mining and dressing. This document is applicable to the calculation and assessment of the energy consumption per unit production of iron ore surface mining, underground mining and dressing, as well as the energy consumption control of new construction, reconstruction and expansion projects.

### 2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are

applicable to this document.

GB/T 2589 General rules for calculation of the comprehensive energy consumption

GB/T 12723 General principles for establishing allowance of energy consumption per unit throughput

### 3 Terms and definitions

The terms and definitions defined in GB/T 2589 and GB/T 12723 and the following apply to this document.

3.1 comprehensive energy consumption per unit production of iron ore surface mining

During the statistical period, the total amount of various energy actually consumed for every ton of ore rock mined from iron ore surface mining.

3.2 comparable comprehensive energy consumption per unit production of iron ore surface mining In order to achieve the comparability of energy consumption of the same final product in the same industry, the comprehensive energy consumption per unit production calculated by correcting various factors that affect the comprehensive energy consumption per unit production of iron ore surface mining.

3.3 comprehensive energy consumption per unit production of iron ore underground mining During the statistical period, the total amount of various energy actually consumed for each ton of raw ore mined from iron ore underground mining.

3.4 comparable comprehensive energy consumption per unit production of iron ore underground mining In order to achieve the comparability of energy consumption of the same final product in the same industry, the comprehensive energy consumption per unit production calculated by correcting various factors that affect the comprehensive energy consumption per unit production of iron ore underground mining.

3.5 comprehensive energy consumption per unit ore of iron ore dressing During the statistical period, the total amount of various energy actually consumed for each ton of raw ore processed by iron ore dressing.

3.6 comparable comprehensive energy consumption per unit ore of iron ore dressing In order to achieve the comparability of energy consumption of the same final product in the same industry, the comprehensive energy consumption per unit production calculated by correcting various factors that affect the comprehensive energy consumption per unit production of iron ore dressing.

### 4 Energy consumption allowance levels

The allowance levels of energy consumption per unit production of iron ore mining and dressing are shown in Table 1, among which Level 1 has the lowest energy consumption.

## 5 Technical requirements

5.1 Limit values of energy consumption per unit throughput For existing projects, the limit values of comparable comprehensive energy consumption per unit production of iron ore surface mining, limit values of comparable comprehensive energy consumption per unit production of iron ore underground mining, and limit values of comparable comprehensive energy consumption per unit ore of iron ore dressing shall comply with Level 3 of the energy consumption allowance levels in Table 1.

5.2 Access values of energy consumption per unit throughput For new construction, reconstruction and expansion projects, the access values of comparable comprehensive energy consumption per unit production of iron ore surface mining, the access values of comparable comprehensive energy consumption per unit production of iron ore underground mining and the access values of comparable comprehensive energy consumption per unit ore of iron ore dressing shall comply with Level 2 of the energy consumption allowance levels in Table 1.

### 6.1 Statistical scope

6.1.1 Statistical scope of comprehensive energy consumption of iron ore surface mining It includes the physical quantity of various energy consumed by the main production systems of mining technology (including mining and striping, stope crushing, transportation, soil discharge, water supply and drainage, production scheduling and command systems, excluding waste rock processing), auxiliary production systems (mechanical repair, auto repair, electrical repair, explosives storage, laboratory testing, inspection, measurement, environmental protection, and power supply) and ancillary production systems directly serving mining production (office buildings, canteens, and bathrooms), and converted into standard coal in accordance with the provisions of GB/T 2589.

6.1.2 Statistical scope of comprehensive energy consumption of iron ore underground mining It includes the physical quantity of various energy sources consumed by the main production systems of the mining technology (including mining, underground crushing, transportation, lifting, air compression, ventilation, filling, water supply and drainage, lighting, production scheduling and command systems, excluding the clinker production line built for filling), auxiliary production systems (mechanical repair, auto repair, electrical repair, explosives storage, laboratory testing, inspection, measurement, environmental protection, and power supply) and ancillary production systems directly serving mining production (office buildings, canteens, and bathrooms), and converted into standard coal in accordance with the provisions of GB/T 2589.

6.1.3 Statistical scope of comprehensive energy consumption of iron ore dressing It includes the entire process from the entry of raw ore into the plant to the entry of qualified iron ore concentrate into the warehouse (pond) and the entry of tailings into the storage

(yard); it includes the physical quantity of various energy consumed by the main production systems of mineral dressing (pre-selection, crushing, screening, grinding, grading, separation, dehydration, tailings disposal, production scheduling and command system, excluding super iron ore concentrate processing), auxiliary production systems (mechanical repair, auto repair, electrical repair, power supply, water supply, water treatment, heating, testing, inspection, measurement, environmental protection, power supply, and chemical supply) and the auxiliary production systems directly serving production (office buildings, canteens, and bathrooms), and converted into standard coal in accordance with the provisions of GB/T 2589.

## 6.2 Calculation method

6.2.1 Calculation of comprehensive energy consumption per unit production of iron ore mining and dressing The comprehensive energy consumption per unit production of iron ore surface mining, iron ore underground mining and iron ore dressing is calculated according to formula (1). Where  $e$  -- comprehensive energy consumption per unit production of iron ore surface mining, underground mining or dressing, in kilograms of standard coal per ton (kgce/t);  $E$  -- the total amount of various energy actually consumed in iron ore surface mining, underground mining or dressing during the statistical period, converted into standard coal equivalent, in kilograms of standard coal (kgce);  $P$  -- the amount of ore rock mined from surface mining, the amount of raw ore mined from underground mining, or the amount of raw ore processed by iron ore dressing during the statistical period, in tons (t).

Note 1. 2. \*\*Search (Optional).\*\* Enter the keyword 'GB 31335-2024' in the search bar, if it is not already shown. 3.

Note 2. 9.

Note 3. 10. \*\*Verification (USD

Notes and Explanations

Note 1: [GB 31335-2024](https://

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