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NATIONAL STANDARD OF THE
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ICS 27.010

F 01

GB/T 39803-2021

**Technical regulation of energy consumption
evaluation for flat glass manufacturing**

平板玻璃制造能耗评价技术要求

Issued on: March 09, 2021

Implemented on: October 01, 2021

**Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of
China.**

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Technical regulation of energy consumption evaluation for flat glass manufacturing

1 Scope

This Standard specifies the terms and definitions, evaluation scope and testing, evaluation index system and requirements, calculation methods and evaluation reports of energy consumption evaluation in the flat glass manufacturing process.

This Standard applies to the energy consumption evaluation in the flat glass manufacturing process of enterprises that produce flat glass products that comply with GB 11614.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this Standard. For undated references, the latest edition (including all amendments) applies to this document.

GB 11614, Flat glass

GB/T 12497, Three-phase induction motors economic operation

GB/T 16664, Monitoring and testing method for energy saving of power supply distribution system of industrial enterprise

GB 17167, General principle for equipping and managing of the measuring instrument of energy in organization of energy using

GB/T 23331, Energy management systems - Requirements

GB/T 24851, Specification for equipping and managing of measuring instrument of energy in building material industry

GB/T 39773, Energy consumption test technical regulation for flat glass manufacturing

JC/T 488, Determination and calculation method of thermal balance for glass furnace

3 Terms and definitions

The following terms and definitions are applicable to this document.

3.1 Cogeneration energy consumption ratio

During the statistical period, the ratio of the flat glass-generated energy per ton in the cogeneration system to the melting fuel consumption, which is expressed by η_{fd} .

4 Evaluation scope and testing

4.1 Evaluation scope

The evaluation scope shall be implemented in accordance with the test scope that is specified in GB/T 39773.

4.2 Evaluation testing

Complete the energy consumption testing according to GB/T 39773.

5 Evaluation index system and requirements

5.1 Evaluation index system

See Figure 1 for the evaluation index system.

6.2.3 Enterprise's grade-2 index score calculation

The comprehensive score of the grade-2 index evaluation in the evaluation indexes of flat glass manufacturing enterprises is based on the actual value of the grade-2 index during the evaluation period of the enterprise. The calculation is shown in Formula (2):

$$P_i = \alpha_i \cdot S_{ij} / 100 \quad \dots\dots\dots (2)$$

Where:

P_i -- evaluation score of the i^{th} grade-2 evaluation index;

α_i -- weighted value of the i^{th} grade-2 evaluation index;

S_{ij} -- score corresponding to different grades in the i^{th} grade-2 evaluation index (j corresponds to different grades of A, B, C).

6.3 Energy consumption comprehensive evaluation and calculation

The calculation of the comprehensive evaluation index is shown in Formula (3):

$$P = \sum_{i=1}^n P_i \quad \dots\dots\dots (3)$$

Where:

P -- comprehensive evaluation index of enterprise energy consumption, whose value is in 0 ~ 100;

P_i -- evaluation score of the i^{th} grade-2 index;

n -- total number of grade-2 indexes that are involved in the assessment.

7 Evaluation report

The evaluation report mainly includes:

- a) The overall situation of the flat glass production line, including production scale, product variety, specifications, production time and/or modification (if any) date, system host configuration, and operating status description;
- b) Evaluation task and purpose requirements;
- c) Evaluation basis and standards;
- d) Evaluation method description;

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