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

LY/T 3161-2019

**Comprehensive energy consumption of technical furfural
production**

工业糠醛生产综合能耗

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the Forestry Energy Management Sub-Technical Committee (SAC/TC20/SC7) of the National Energy Foundation and Management Standardization Technical Committee Get out and back.

This standard was drafted. Heilongjiang Forest Engineering and Environment Research Institute, Heilongjiang Wood Science Research Institute, Dalian Huihao Co., Ltd., Harbin Hyundai Blowing Technology Co., Ltd., Daqing Zhongtai Biotechnology Co., Ltd., Huixian City Jinguanyu Materials Agricultural Products Co., Ltd.

1 Scope

This standard defines the terms and definitions of the comprehensive energy consumption of industrial furfural production, and specifies the classification index, calculation method, Measurement of energy consumption.

This standard applies to the calculation and index assessment of comprehensive energy consumption of industrial furfural production enterprises.

2 Normative references

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

GB/T 1926.1 Industrial furfural GB/T 2589 General Calculation Rules for Comprehensive Energy Consumption GB/T 6422 Enterprise energy consumption measurement and testing guidelines GB/T 15316 General principles of energy-saving monitoring technology GB 17167 General Rules for the Provision and Management of Energy Measuring Instruments in Energy-Used Units LY/T 2394 Management specifications of energy measuring instruments for forestry enterprises

3 Terms and definitions

The terms and definitions defined in GB/T 1926.1 and the following apply to this standard.

Comprehensive energy consumption of technical furfural production During the statistical period, the actual physical quantities of various energy consumed by production enterprises in the production of industrial furfural were calculated according to the prescribed calculation methods, respectively Converted to the total of standard coal.

Comprehensive energy consumption for unit yield of technical furfural production During the statistical reporting period, the ratio of the comprehensive energy consumption produced to the output of qualified products.

Direct production system Including crushing, hydrolysis, heating and pressing, cooling, dehydration, decolorization, packaging and storage.

Indirect production system Refers to auxiliary production systems and auxiliary production systems.

3.4.1

Auxiliary production system in order to ensure industrial furfural production, product quality and environmental protection, events directly related to production, including maintenance of production equipment, waste Slag, wastewater and waste gas treatment, analysis and testing, production plant lighting and on-site transportation for production, etc.

3.4.2

Subsidiary production system Events that provide conditions for industrial furfural production, including lighting of materials yards, factories, warehouses and production-related public facilities, power supply, and transformation Loss of facilities, heating (cooling), ventilation and dust removal.

4 Comprehensive energy consumption classification index per unit of output

See Table 1 for comprehensive energy consumption grading indicators per unit of output.

Table 1 Classification index of comprehensive energy consumption per unit output

Units are kilograms of standard coal per ton Industrial Furfural Unit Energy Consumption
Grade First class $q \leq 2\ 670$ Level 2 $2\ 670 < q \leq 2\ 830$ Level 3 $2\ 830 < q \leq 2\ 940$

5.1 Calculation principles

The calculation of comprehensive energy consumption for industrial furfural production should comply with the relevant regulations of GB/T 2589. Standard coal coefficient for conversion of common energy and energy-consuming working medium as specified in Appendix A. For units that produce steam by themselves, the amount of steam must not be doubled with the amount of coal consumed.

5.2 Calculation method of comprehensive energy consumption

The calculation of comprehensive energy consumption is performed according to formula (1) or (2).

$Q_{\text{total}} = \dots$ (1) in the formula.

Q --Comprehensive energy consumption in kilograms of standard coal (kgce);

Q_d --Total power consumption in kilograms of standard coal (kgce);

Q_m --Total coal consumption, unit is kilogram standard coal (kgce);

Q_{zq} --total steam consumption, unit is kilogram standard coal (kgce);

Q_{qt} --Total consumption of other energy sources (gasoline, diesel, water, compressed air, etc.) in kilograms of standard coal (kgce).

Or $Q_{\text{total}} = \dots$ (2)

In the formula.

Q_z --Comprehensive energy consumption for direct production, in kilograms of standard coal (kgce);

Q_j --Comprehensive energy consumption for indirect production, in kilograms of standard coal (kgce).

5.3 Calculation method of comprehensive energy consumption per unit output

The calculation of comprehensive energy consumption per unit output is performed according to formula (3).

In the formula.

q--comprehensive energy consumption per unit of output, in kilograms of standard coal per ton (kgce/t);

M--The output of qualified industrial furfural products in the statistical period, the unit is ton (t).

6.1 Test of energy consumption

6.1.1

The configuration and management of energy measuring instruments shall comply with the requirements of GB 17167 and LY/T 2394.

6.1.2

Test under normal production and stable conditions of production equipment.

6.1.3

The test method shall meet the requirements of GB/T 15316 and GB/T 6422.

6.2.1 Measurement of steam consumption

Install a steam flow meter in the production workshop to measure the amount of steam consumed.

6.2.2 Measurement of power consumption

Install an energy meter in the production workshop to measure the energy consumed.

6.2.3 Measurement of water consumption

Install a water meter in the production workshop to measure the amount of water consumed.

6.2.4 Measurement of compressed air

The energy consumption of compressed air is measured by the actual power consumption of the air compressor.