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

HJ 508-2009

**Technical requirement for environmental labeling products.
Heating radiators**

环境标志产品技术要求 采暖散热器

(English Translation)

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Foreword

In order to implement the "Environmental Protection Law of the People's Republic of China", effectively use and conserve resources to reduce the production and use of heating radiators this standard is formulated for the impact on the environment and human health.

This standard puts forward requirements on the surface of the heating radiator surface to release pollutants in the air, metal heat strength and gasket material.

This standard applies to China Environmental Labeling Product Certification.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. Environmental Development Center of Ministry of Environmental Protection, Science and Technology Development Promotion Center of Ministry of Housing and Urban-Rural Development, China Architecture Decoration and Decoration Materials Association, China Building Metal Structure Association Heating Radiator Committee, National Radiator Product Quality Supervision and Inspection Center, Country Ningbo Ningxing Golden Sea Heating Equipment Co., Ltd., Beijing Sanye Radiator Factory, Beijing Pajie HVAC Environmental Engineering Technology Co., Ltd., Linzhou City Hui Radiator Co., Ltd. and Qingdao Huatai Radiator Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on October 30, 2009.

This standard has been implemented since January 1, 2010.

This standard is explained by the Ministry of Environmental Protection.

Environmental Labeling Products Technical Requirements Heating Radiator

1 Scope of application

This standard specifies the terms and definitions, basic requirements, technical contents and inspection methods of the heating radiator environmental labeling products.

This standard applies to industrial and civil buildings, heating radiators with hot water or steam as heat medium, not suitable for steel closed string radiators.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB.19913 cast iron heating radiator GB/T 13754-2008 Heating radiator heat dissipation method GB/T 18883 indoor air quality standard JG 2 steel plate radiator JG 143 heating radiator aluminum column airfoil radiator JG 220 copper-aluminum composite column airfoil radiator JG 221 copper tube convection radiator JG 232 bathroom radiator JG/T 1 steel column radiator JG/T 148 steel tube radiator JG/T 3012.2 heating radiator steel finned tube convection radiator

3 Terms and definitions

The following terms and definitions apply to this standard.

Heating radiator

A device that uses heat or steam as a heat medium to dissipate heat to a heating room by convection and radiation.

4 Basic requirements

4.1

Product quality should comply with national standard GB.19913 or industry standard JG 2, JG 143, JG 220, JG 221, JG 232, JG/T 1, Requirements for JG/T 148 and JG/T 3012.2.

4.2

Pollutant emissions from product manufacturing enterprises shall comply with national or local standards for pollutant discharge.

5 Technical content

5.1

The amount of pollutants released into the air from the surface of the heating radiator shall comply with the requirements of Table 1.

Table 1 Limits of the release of pollutants from the surface of the heating radiator to the air.
mg/m³

Project limit

Formaldehyde (HCHO) ≤0.03 Benzene (C₆H₆) ≤0.04 Toluene (C₇H₈) ≤0.07 Xylene (C₈H₁₀) ≤0.07 Total Volatile Organic Compound (TVOC) ≤ 0.20

5.2

The metal heat intensity of the heating radiator shall comply with the requirements of Table 2.

Table 2 Requirements for metal heat intensity of heating radiators. W/(kg·°C)

Heating radiator type metal heat strength Cast iron radiator ≥0.36 Steel ≥0.90 Stainless steel quality ≥0.80 bathroom radiator Copper ≥1.20 Thin wall (wall thickness 6 Test methods

6.1 The test in Technical Content 5.1 is carried out in accordance with the method specified in Appendix A.

6.2 Technical content 5.2 The metal heat intensity of the heating radiator is calculated according to formula (1).

$Q = \Delta T \times (1)$

Where. Q --heating metal heat intensity of the radiator, W/(kg · ° C);

Q_S --standard heat dissipation of heating radiator, W;

ΔT_S --standard excess temperature, $\Delta T_S = 64.5$ °C;

G --The quality of the heating radiator when it is not filled with water, kg.

Among them, the detection of the standard heat dissipation of the heating radiator is carried out according to the method specified in GB/T 13754-2008 to detect the convection heat dissipation of the copper tube.

When the standard heat dissipation is used, the outer cover is made of the steel cover specified by JG 221 standard.

6.3 The content of Technical Content 5.3 is verified by means of document review combined with on-site inspection.

Appendix A

(normative appendix) Determination of the amount of pollutants released into the air by the surface coating of the heating radiator A.1 Principle the sample of the heating radiator is placed in a closed chamber, and the quality of the pollutants released into the air of the sealed chamber during the specified time is detected.

degree.

A.2 Test device

Closed chambers with a length and width of 4 000 mm and a height of 2 800 mm (or a similar form with an indoor height of 2 800 mm) He sealed the room).

A.3 sample

A.3.1 Selection of samples Finished heating radiator with a coating on the surface and a standard heat dissipation of $1\,600\text{ W} \pm 100\text{ W}$.

A.3.2 Determination conditions of the sample in the case of a closed chamber without a sample of the measured heating radiator, the change of indoor air pollutants before and after the test is not greater than the table.

10% of the limit of contaminants specified in 1.

A.4 Determination method A.4.1 Installation and operation Install the heating radiator sample in a closed chamber in accordance with A.2 and place it for 2 h under the conditions of A.3.2.

A.4.2 Determination of hazardous substances Small indoor air sampling and pollutant measurement shall be carried out in accordance with the provisions of GB/T 18883.

A.4.3 Calculation formula $X_{HU} = \frac{Q}{V} (A.1)$ where. U_X --the actual amount of pollutants on the surface of the tested heating radiator, mg/m³;

U_H --the amount of pollutants in the small indoor air after the test, mg/m³;

U_Q --The amount of pollutants detected in the small indoor air before the test, mg/m³.