

**Technical Requirement for Environmental Products**  
**The Certificable Technical Requirement for Environmental Labelling Products**  
**Dry-type power transformers** **HBC 21—2004**

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## **1 Scope**

This technical requirement specifies definition, basic requirements, technical contents and test method for environmental labelling products of dry-type power transformers.

This technical requirement shall apply to dry-type power transformers that voltage class lower than 35kV (including autotransformer). This technical requirement shall not apply to SF6 gas insulation dry-type transformers and the following minitype and exclusive transformers:

Monophase transformer which nominal capacity is less than 1kVA and polyphase transformer which nominal capacity is less than 5kVA;

Transformers used by static converter;

Starting transformer;

Testing transformer;

Vehicle transformer;

Mining flame proof transformer;

Welding transformer;

Regulating transformer;

Exclusive use minitype safe power transformer

## **2 Standards cited**

Provisions in the following standards are cited in this technical requirement, and therefore form the provisions of the standard. When this technical requirement is published, all of the version of these standards are valid. All of these standards would be revised, and parties use this technical requirement should take into consideration the possibility of using the latest edition of the following standards.

GB/T 1094.10-2003 Power transformers--Part10: Determination of sound levels

GB 6450-1986 Dry-type power transformers

GB/T 10228-1997 Specification and technical requirements for dry-type power transformers

JB/T 10088-1999 6—220kV grade Transformer sound level

## **3 Basic requirements**

3.1 Quality of products should meet the requirements of product quality standards in GB/T 10228 - 1997 and GB 6450 - 1986.

3.2 Pollutant emission of the company should conform with requirement of pollutant emission standards nationally or locally.

## **4 Technical contents**

4.1 Requirement for loss:

No-load loss of products should be 20% lower than the given value of group I specified in GB/T10228-1997; load loss should be 15% lower than the given value specified in GB/T10228-1997.

4.2 Requirement for noise:

Noise index of products should be 15% lower than the given value specified in JB/T 10088-1999.

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4.3 Requirement for self discharge:

As for dry-type power transformers that the self discharge should be lower than or equal to 10kV grade in given duration, when tested in given preset voltage and testing voltage of self discharge, it should be less than or equal to 5 pC; As for dry-type power transformers which are lower than or equal to 35kV grade, it should be 10 pC.

4.4 Requirement for product recycling

Products should be easy to detach; metal materials and non-metal materials in products should be liable to separate. Applicants should demonstrate that the separating facility is currently available, and meanwhile, they should establish recovery system for waste products, or they should join in existing established recovery system.

**5 Test**

- 5.1 Verification of 4.1 in the technical requirement should be conducted according to GB/T 10228-1997;
  - 5.2 Verification of 4.2 in the technical requirement should be conducted according to JB/T 10088-1999 and GB/T 1094.10-2003;
  - 5.3 Verification of 4.3 in the technical requirement should be conducted according to the method of GB 6450-1986;
  - 5.4 Verification of 4.4 in the technical requirement should be conducted by the way of documentation review.
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