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

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**Guidance on material efficiency considerations in
environmentally conscious design of electrical and electronic
products**

在电子电气产品环境意识设计中考虑材料效率的导则

(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 uses the translation method identical with IEC TR62824:2016 "Consideration of material efficiency in the design of environmental awareness of electrical and electronic products Guide".

This standard by the National Electrical and Electronic Products and Systems Environmental Standardization Technical Committee (SAC/TC297) and focal point.

This standard was drafted. Machinery Industry Beijing Institute of Electrical Technology and Economy, Shenzhen Heng Green Low Carbon Development Promotion Center, Shanghai Electrical Appliance Branch Institute (Group) Co., Ltd., China Electronics Industry Association, China Quality Certification Center, Ministry of Industry and Information Technology Research Institute of Telecommunications, the Chinese home Electric Appliance Research Institute, Shenzhen Institute of Standards and Technology, Lenovo (Beijing) Co., Ltd., Rockwell Automation (China) Co., Ltd., Philips (China) Investment Co., Ltd., through the standard technical services (Shanghai) Co., Ltd..

Introduction

Due to the rapid industrial development, including the production and use of electrical and electronic products, the earth's natural resources are gradually depleted. material is consumed directly and indirectly, leading to other environmental impacts such as climate change. So many regions or countries are considering or implementing more Policies and regulations to ensure sustainable production while reducing environmental impacts. In response to these challenges, this standard provides such as How to introduce material efficiency into environmental awareness design (ECD).

Material efficiency takes into account the efficient use of materials throughout the product's life cycle, including the manufacture, sale, use, and disposal of the product. In the following material factors are considered in the standard. Type of Material, Quantity of Material, Substitution of Materials, Use of Renewable Materials, Recyclable Material, Material recyclability, as well as durability.

This standard is intended to support ECD, while more concerned about the effective use of materials in the product. The purpose is to promote the use of optimized materials to this ensures the sustainability of natural resources.

Environmental awareness in the design of electrical and electronic products Guideline for material efficiency

1 Scope

This standard gives information on the selection and effective use of electrical and electronic product materials. Environmental awareness design can be considered in the product design stage. Factors such as material type, material quantity, material replaceability, renewable material, reusability, material recyclability, and Product durability.

2 Normative references

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

3 Terms and definitions

The following terms and definitions apply to this document.

Environmental awareness design environmentally conscious design; ECD A systematic approach to environmental considerations in the design and development process is designed to reduce the negative environmental impact of the product.

[IEC 62430:2009, Definition 3.6] 3.2 Material the substance or mixture used in the product or product part.

[IEC 62474:2012, definition 3.4] 3.3 Material efficiency the use of materials in products to provide a comparable indicator of a specific function.

Note 1: Material efficiency can be evaluated by considering, for example, the type of material, the amount of material, the substitutability of the material, the use of renewable materials, the material Recyclability and durability.

Note 2: Material efficiency is an integral part of resource efficiency. Resource efficiency includes all elements of material efficiency, but also includes energy, water, air and land use.

Material recyclability materialrecoverability Product design features that determine the specific materials that can be easily separated from other materials at the end of their lives.

Note 1: Separation methods include mechanical treatment, chemical treatment and heat treatment.

Note 2: This definition applies only to product design.