HJ

Standard for Environmental Protection of the People's Republic of China

HJ 2536-2014

Replacing HJ/T 313-2006

Technical Requirement for Environmental Labeling Products

Computers and Displays

Issued on March 31, 2014 Putting into effect as of July 1, 2014

Issued by Ministry of Environmental Protection

Content

Foreword

This standard is developed for the purpose of implementing the Law of the People's Republic of China on Environmental Protection, reducing the impact of computers and displays on human health and the environment during the production and usage process.

This standard has raised requirements on eco-design, production, limit volume of restricted substance, energy consumption, noise, packaging and product introduction of computers and displays.

This standard has revised Technical Requirement for Environmental Labeling Products-Computers and Displays (HJ/T 313-2006) by referring to IEEE No. 1680 standard; Japan Eco-Mark No. 119 standard: Personal Computers, Version 2.4; Nordic Ecolabeling of Computer, Version 6.1; Sweden TCO Certified Desktops 3.0; TCO Certified Displays 5.2.

The major changes are as follows:

-add the requirement that degreasant and involucra containing phosphorus cannot be used during production;

-add requirement on PAHs;

-add requirement on energy consumption of product;

-add requirement on noise of product;

-cancel relevant requirements on CRT displays, and add volume limit requirement on mercury in display backlights;

-cancel Annex Statement and List in last standard.

This standard is applicable to the certification of China Environmental Labelling products.

The development of the standard is organized by the Department of Science, Technology and Standards of the Ministry of Environmental Protection.

The organization in charge of the development of this standard is Environmental Development Center of Ministry of Environmental Protection.

This standard was approved by Ministry of Environmental Protection on March 31, 2014.

This standard shall be put into effect as of July 1, 2014.

This standard shall be interpreted by Ministry of Environmental Protection.

The historical versions of the standard replaced by the current one are:

——HJ/T313-2006, HBC 15-2002, HJBZ 26-1998.

Technical Requirement for Environmental Labeling Products

Computers and Displays

1. Application Scope

This standard specifies the terminology, definition, basic requirements, technical contents and testing method for environmental labeling products of computers and displays.

This standard is applicable to desktop microcomputers (including integrative desktop microcomputers) portable computers, tablet microcomputers, internet computers, computer workstation and displays.

2. Standard Quotation Documents

The standard has quoted items from following document. The latest versions of all quotation documents without specific date are applicable to this standard.

GB 20943 Minimum allowable values of energy efficiency and evaluating values of energy conservation for single voltage external AC-DC and AC-AC power supplies

GB 21520 Minimum allowable values of energy efficiency and energy efficiency grades for computer monitors

GB 28380 Minimum allowable values of energy efficiency and energy grades for microcomputers

GB/T 9813 Generic specification for microcomputers

GB/T 18313 Acoustics--Measurement of airborne noise emitted by information technology and telecommunications equipment

GB/T 16288 Marking of plastics products

GB/T 18455 Packaging recycle mark

GB/T 26572 Requirements of concentration limits for certain restricted substances in electrical and electronic products

HJ/T 238 Technical requirement for environmental labelling products- rechargeable battery

HJ/T 239 Technical requirement for environmental labelling products- dry battery

3. Terminology and Definition

As specified in GB/T 9813, the following terminologies and definitions are applicable to this standard.

3.1 Microcomputer

Microcomputer is the entity composed of necessary peripheral equipment and system software on the base of microcomputer hardware system.

3.2 Liquid crystal display device

Liquid crystal display device is called monitors normally. I/O equipment is input/output equipment.

3.3 Thin client

Thin client is a computer which obtains main function by connecting to long-distance calculating resources and has the function of independent power supply. The main calculation, such as process execution, data saving and interaction with other internet resources, is provided by long-distance calculation resources.

4. Basic Requirements

4.1 The product quality, safety and electromagnetic compatibility should comply with relevant requirements.

4.2 The pollution discharge of enterprises must meet the requirements of national or local pollution discharge standards.

4.3 The producer should enhance clean production during the production.

5. Technical Contents

5.1 Eco-design

5.1.1 Design easy for recycling

5.1.1.1 Plastic parts with quality more than 25g should use one-type polymer or block polymer.

5.1.1.2 One-type polymer or block polymer used by plastic parts with quality more than 25g should not exceed 4 types and should be easy to dismantle.

5.1.1.3 Plastic parts with quality more than 25g and surface area more than 200mm^2, excluding optical fiber and optical units of displays, shall be labeled according to GB/T 16288.

5.1.1.4 Disk drive, hard disk and main storage of desktop computers, which exclude integrative desktop microcomputers, should be upgraded, and the products should have expansion slot.

5.1.1.5 Except wireless devices and shell of power adapter, products can be disassembled with common tools. Printed circuit boards, optical drives and other components should be separated from the base, shell and other components.

5. 1.1.6 For portable computers and tablet microcomputer products, recyclability rate should not be less than 80%, and recyclability rate for other products should not be less than 85%.

5.1.2 Requirements on hazardous substances in components

5.1.2.1 Plastic parts with quality more than 25g should not use short-chain chlorinated paraffin (SCCPs), hexbromocyclododecane (HBCCD), medium-chain chlorinated paraffin (MCCP) (requirement on MCCP shall be executed on July 1, 2015).

5.1.2.2 Computer motherboard cannot use hexbromocyclododecane (HBCCD) as the substrate.

5.1.2.3 Plastic parts with quality more than 25g should not use phthalates listed in Annex A as plasticizer.

5.1.2.4 Ben-zo (a) pyrene, BaP in product shell, keyboard, various keys, mouse shell,

touchpad and external power cord shall not exceed 20 mg / kg, and the total amount 16 PAHs in Annex B listed shall not exceed 200 mg / kg.

5.1.2.5 Mercury in display backlight should be less than 3mg.

5.1.2.6 Battery as part of the product should be consistent with HJ/T238 or HJ/T239 standards.

5.2 Requirements for production stage

5.2.1 HCFCs, $C_2H_3CL_3$, C_2HCL_3, CH_3CHCL_2, CH_2CL_2, $CHCL_3$, CCL_4, C_3H_7Br should not used as cleaning solvent.

5.2.2 Pretreatment of metal shell should not use degreasant containing phosphorus and skin pellicle containing phosphorus.

5.3 Requirement on product

5.3.1 Restricted substances in products should accord with GB/T 26572.

5.3.2 Requirement on energy consumption

5.3.2.1 Energy consumption of desktop microcomputers, integrated desktop microcomputers, laptops and tablet computers should meet energy-saving assessment value of national energy efficiency standards.

5.3.2.2 Energy consumption of display products should meet the requirement of energy saving assessment value of GB 21520.

5.3.2.3 Requirements on power efficiency

5.3.2.3.l Power factor of products using the internal power at rated load conditions should be greater than 0.9, and when the internal power supply outputs at 20%, 100% power, the conversion efficiency shall not be less than 82%. When the internal power supply outputs at 50% power, the conversion efficiency shall not be less than 85%.

5.3.2.3.2 For products with an adapter, energy efficiency limit of average efficiency of the adapter should meet requirements on energy saving evaluation value in GB 20943.

5.3.3 Noise of the product should meet requirement in Table 2.

Table 2 Limit value of product noise Unit: dB (A)

Products	Mode	Sound Pressure Level (L_{PA})
Desktop microcomputers, integrated desktop microcomputers	Idle state	40
	Work state Note 1	45
Laptops, tablet microcomputers and internet computers	Idle state	35
	Work state	40
Work station	Idle state	50
	Work state	55
Note 1: Work state refers to the state when products read the disk at the condition of idle state, including hard disk.		

5.4 Packaging requirement

5.4.1 Packaging materials should not use HCFCs as vesicant.

5.4.2 The total volume of Pb, Cd, Hg and Cr6+ should not exceed 100mg/kg.

5.4.3 Package should be marked according to GB/T 18455.

5.5 Product introduction

Product introduction should include the following content:

a) Use and maintenance introduction.

b) Statement that energy consumption is zero only when the product is not connected with external input power supply.

c) Users should be given the proposal for upgrading or replacing the module.

d) An instruction to ensure that replaceable parts shall be provided within 3 years after products was sold.

e) Product recycling tips statements and other information.

6. Testing method

6.1 The requirement in technical content 5.3.2.1 shall be conducted in accordance

with energy efficiency testing method of GB 28380.

6.2 The requirement in technical content 5.3.2.2 shall be conducted in accordance with energy efficiency testing method of GB 21520.

6.3 The requirement in technical content 5.3.3 shall be conducted in accordance with method stipulated in GB/T 9813.

6.4 Other indexes in technical content should be examined by document review and on-site inspection.

Annex A

(**Regulative Annex**)

Forbidden Phthalate in Plastic Component

中文名称	英文名称	缩写
邻苯二甲酸二正辛酯	Di-n-octylphthalate	DNOP
邻苯二甲酸二（2-乙基己基）酯	Di-（2-ethylhexy）-phthalate	DEHP
邻苯二甲酸丁基苄基酯	Butylbenzylphthalate	BBP
邻苯二甲酸二丁酯	Dibutylphthalate	DBP

Annex B

(Regulative Annex)

PAHs for Restricted Use

化合物英文名称	简称	化合物中文名称
Naphthalene	Nap	萘
Acenaphthylene	AcPy	苊烯
Acenaphthene	Acp	苊
Fluorene	Flu	芴
Phenanthrene	PA	菲
Anthracene	Ant	蒽
Fluoranthene	FL	荧蒽
Pyrene	Pyr	芘
Chrysene	CHR	1，2-苯并菲
Benzo[a]anthracen	BaA	苯并（a）蒽
Benzo[b]fluoranthene	BbF	苯并（b）荧蒽
Benzo[k]fluoranthene	BkF	苯并（k）荧蒽
Benzo[a]pyrene	BaP	苯并（a）芘
Dibenzo[a，h]anthrancene	DBA	二苯并（a，h）蒽
Indeno[1，2，3-cd]pyrene	IND	茚并（1，2，3-cd）芘
Benzo[g，h，i]perylene	BghiP	苯并（g，h，i）苝（二萘嵌苯）