

## EL255. Lining Paper

[EL255-2008/1/2008-137]



### 1. Scope

These criteria generally shall apply to lining paper pasted on the grounding surface prior to covering a wall or a ceiling with wallpaper, thereby helping to ensure the wallpaper adheres, and to enhance all functions and adhesive force of the wallpaper.

### 2. Definitions

#### 2.1

“Volatile Organic Compounds (VOCs)” refer to the liquid or solid organic compounds that are consecutively volatilized by certain temperature and pressure levels in the air.

#### 2.2

“Volatile organic compounds emissions (VOCs emissions)” refers to the quantity of the VOC (Volatile Organic Compounds) per unit hour that is discharged to the outside while the product is running under the defined conditions.

Note: This standard tentatively defines them as VOCs from n-hexane to n-hexadecane on the chromatogram, which is created by the gas chromatograph equipped with the mass spectrometer

### 3. Certification Criteria

#### 3.1 Environmental Criteria

##### 3.1.1

At the time of use, the following criteria shall be fulfilled with respect to the product's emission of pollutants.

##### 3.1.1.1

Where starched material adhesives are used, the adhesive strength between a ground surface and lining paper shall be equal to  $0.7 \text{ N/mm}^2$  or above  $0.7 \text{ N/mm}^2$ .

Note) The objective of this criteria is to encourage the use of starched material adhesives with a relatively

small environmental load.

### 3.1.1.2

With respect to the emission of containment in consideration of the effects on indoor air quality, the emissions of VOCs, toluene, and formaldehyde after seven days shall be fulfilled according to the following requirements.

Section	VOCs	Toluene	Formaldehyde
Criteria [mg/m <sup>3</sup> /h]	≤ 0.40	≤ 0.080	≤ 0.05

### 3.1.1.3.

The harmful elements of a product shall satisfy the following requirements:

Harmful elements	Lead (Pb)	Arsenic (As)	Cadmium (Cd)	Antimony (Sb)	Barium (Ba)	Chrome (Cr)	Mercury (Hg)	Selenium (Se)
Criteria [mg/kg]	≤90	≤8	≤25	≤20 <sup>note)</sup>	≤500	≤60	≤20	≤165

Note) Products for which polyester is primarily used as the raw material shall be considered as having satisfied the requirements where its antimony content is 260 mg/kg or below 260 mg/kg.

## 3.2 Quality Criteria

3.2.1 The tensile strength and tearing strength of the product shall satisfy the following requirements:

Section	Tensile Strength [N]		Wet Tensile Strength [N/1.5 cm]		Tearing Strength [N]	
	Length	Width	Length	Width	Length	Width
Criteria	≥50		≥1.96	≥1.96	≥2.0	

### 3.2.2

If Korean Industrial Standards are available as a national standard of the product in question, it should satisfy the quality or performance criteria of the standard in question. However, items related to “3.1 Environmental Criteria” are excluded.

### 3.2.3

If no Korean Industrial Standards are available as a national standard of the product in question, it should satisfy the quality and performance criteria according to the following sequence. However, the items related to “3.1 Environmental Criteria” are excluded. Also, if the E-Mark Certification Criteria Setting Committee determines that the applying criteria are not reasonable

considering the characteristic of the product, it should satisfy the standards that were modified by the committee (test item, test method, standards, etc.).

3.2.3.1 National standards other than Korean Industrial Standards.

3.2.3.2 Overseas national standards or international standards regarding the product quality in question.

3.2.2.3 Standards of the organizations at home and abroad that are referred by the current E-mark target product and certification standard.

3.2.2.4 A private standard that is recognized as higher than the national standard in the industry of the product in question.

### 3.3 Consumer information

#### 3.3.1

Labeling of matters in which a product contributes to the certification reasons, (less indoor air pollution and harmful substances).

#### 3.3.2

Mark any information necessary to reduce environmental stress due to the use of adhesives during the use stage of the product, e.g., mark a standard adhesive use method, (e.g., standard usage of starched material adhesives and recommendable water dilution ratio), on the packaging materials.

## 4. Test Methods

Certification criteria		Test method and verification method
Environmenta	3.1.1	3.1.1.1 Test reports of authorized institutions pursuant to KS F 4936 (coating materials for the protection of concrete) <small>note1), note2)</small>
		3.1.1.2 Test reports of authorized institutions pursuant to the following test methods or certificates for the same or higher criteria: <ul style="list-style-type: none"> <li>▪ Indoor air quality process test criteria (Test method for pollutant-emission construction materials)</li> <li>▪ or KS M ISO 16000-9 (Indoor air - Part 9:</li> </ul>

I Criteria		Measurement for the emission of VOCs – Emission test chamber); KS M ISO 16000-6 (Indoor air – Part 6: Extraction of active samples from adsorbent TENAX TA, and VOC measurement in indoor and chamber air according to gas chromatography using a thermal desorber and MSD/FID; KS M ISO 16000-3 (Indoor air – Part 3: Determination of formaldehyde and other carbonyl compounds – active sampling method); and KS M ISO 16000-11 (Indoor air - Part 11: Determination of emission of volatile organic compounds – Sampling, storage of samples, and preparation of test specimens)
	3.1.1.3	<ul style="list-style-type: none"> <li>▪ Test reports of authorized institutions pursuant to KS M 0016 (General rules for the atomic absorption spectrometric method), and KS M 0032 (General rules for spectroscopic analysis of high frequency inductive coupling plasma emission)</li> </ul>
Quality Criteria	3.2.1	<ul style="list-style-type: none"> <li>▪ Test reports of authorized institutions pursuant to KS K 0520 (Test method for tensile strength and breaking strength of textiles: Grab method)</li> <li>▪ Wet tensile strength: Test reports of authorized institutions pursuant to KS M 7305 (wallpaper)</li> <li>▪ Tearing strength: Test reports of authorized institutions pursuant to KS K 0536 (Test method for tearing strength of textiles: Tongue method)</li> </ul>
	3.2.2~3.2.3	Test reports of authorized institutions pursuant to the standards involved or certificates for the same or higher criteria
Consumer Information		Verification of submitted documents

Note1) For adhesives in which starched material adhesives and water are mixed at the weight ratio of 6:4, and which are used for sticking lining paper on a grounding surface, the compressive strength is measured by adhering between a steel-made jig for upper portion tensile strength and lining paper in the use of epoxy resin adhesives with high viscosity.

Note2) The starched material adhesives shall not have other adhesive materials, including synthetic resin emulsion, (except for starch and adhesive strength), and ash content shall comply with KS F 3217 (Adhesives for wallpaper and wall coverings for decorative finishing - 4.7).

## **4.1 General Matters**

### 4.1.1

Make it a principle to take one test sample per product under application. However, where more than one test is required, additional products shall be provided for testing.

### 4.1.2

Environmental labeling certification institutions shall conduct random sampling of test samples among the products commercially available or kept in production locations.

### 4.1.3

Test result shall be numerically set according to KS Q 5002 (Statistical interpretation method of the data – Part 1: Statistical description of the data).

## **5. Reasons for Certification:**

“Less indoor air pollution, Harmful substances”

## **Common Criteria, Notice No. 2012-36, the Ministry of Environment**

1. Eco-label products must follow the following provisions with regard to the proper treatment of environmental pollution substances, such as air and water wastes and noxious chemical substances emitted in the process of manufacturing or service operation.

A. When first applying for certification, the product manufacturer should observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located for a period of one year prior to the date of application. Any case of violation of the penalty clause will be verified by confirming documents involved during a period of one year to the date of application. Regarding any violation not related to the penalty clause, confirmation will be made on the completion of appropriate measures.

B. A person who has received a certification of eco-labeling shall observe the environment related laws and agreements pertaining to the region where the production factory or the place of service operation is located during the period of certification. However, regarding any violation besides a penalty, confirmation will be made on the completion of appropriate measures.

2. As a general rule, information for consumers shall be indicated on the surface of the product in such a way not to be easily erased. However, in case that indication on the surface of the product is impossible or undesirable, it can be indicated on the appropriate part such as product packaging, product guidebook and user's manual that consumers can recognize. However, the service information should be indicated inside and outside of the place of service operation. In case that indication inside and outside of the place of service operation is impossible or undesirable, it can be indicated on the appropriate part such as an agreement, letter of delivery, letter of guarantee, and PR materials that consumers can recognize.

3. In order to establish fair trade and to protect consumer, the applicant for eco-label and the holder of eco-label license shall observe the Act on the Fairness of

Indication and Advertisement with respect to the environmental aspects of the product.

4. For Various standards referred in the certification criteria by target product, the latest revised edition applies at the date of application, if not specified otherwise.

5. In applying the quality related criteria for each target product, if no standard is available that can be applied as the quality criteria, the president of Korea Environmental Industry & Technology Institute (KEITI) (hereafter referred to as "president of KEITI") may establish and operate the quality criteria for the product involved after review by a competent committee.