

## EL258. Wood for Floor Decking Treated with Preservative

【EL258-2014/1/2014-53】



### 1. Scope

This criteria shall apply to the preserved wood for deck flooring that is used mainly for deck flooring structures installed in outdoor service environments, including trails.

Note) "Outdoor service environments" encompasses H3 and H4, which are the service environments of treated timber in accordance with the "Act on the Sustainable Use of Timbers."

### 2. Definitions

Note) Except when defined otherwise, the terms used in this criteria conform to the definitions specified in the notification on the preserved wood in accordance with the "Act on the Sustainable Use of Timbers."

#### 2.1

"Wood for floor decking treated with preservative" refers to wood for deck flooring which has been pressure-treated with wood preservatives, and includes deck as well as other subsidiary materials such as supporting posts, underfloor support beams and yokes required to install deck flooring.

Note) Examples of treated timber materials and subsidiary materials for deck flooring

| Materials/<br>Subsidiary materials | Description   |
|------------------------------------|---|
| Deck                               | Upper flooring installed off the ground at a regular height   |
| Supporting post                    | Vertical structure subsidiary material installed on the foundation and used to support yokes  |
| Underfloor<br>support beam         | Horizontal structure subsidiary materials installed at regular intervals  |
| Yoke                               | Bending subsidiary material used to install underfloor support beam in cases where either the underfloor support beam is too long or a supporting post structure is used. |

#### 2.2

"Wood preservative" (preservative) refers to a material appropriate for the purpose of preserving wood in accordance with the "Act on the Sustainable Use of Timbers."

#### 2.3

"Structural material" refers to materials used in places critical to the structural strength of the deck flooring, such as deck, supporting post, underfloor support beam and yoke. Structural

materials are subdivided into "standard structural material," "beam structural material" and "pillar structural material."

### **3. Certification Criteria**

#### **3.1 Environmental Criteria**

##### **3.1.1**

With respect to the use of resources during the production process, the wood for floor decking treated with preservative made mainly of timber should either be certified by the third party in relation to the sustainable use of forest resources, or produced based on the criteria on the sustainable management of forests in accordance with the UNCED forest principles.

##### **3.1.2**

With respect to the use of chemicals in the production process, the preservative used must be a preservative specified as appropriate for preserved timber in H3 or H4 service environments in accordance with the "Act on the Sustainable Use of Timbers." In addition, preservatives that contain the following chemical materials should not be used.

###### **3.1.2.1**

An active substance that is not specified in the EU Regulation No. 528/2012 (product type 8, wood preservatives) in relation to biocide

###### **3.1.2.2**

A substance based on arsenic (As), chromium (Cr), organic tin compounds, or creosote oil

##### **3.1.3**

With respect to the service life of timber affecting the Consumption of resources during the Consumption stage, it should satisfy the following criteria:

###### **3.1.3.1**

Timber types that fail to satisfy the infiltration criteria in the H3 or H4 service environment in accordance with the "Act on the Sustainable Use of Timbers" should not be used.

###### **3.1.3.2**

The Total amount of leached active ingredient should be below the value (%) suggested by the manufacturer.

###### **3.1.3.3**

Materials that do not easily form an effective coat on wood such as oil paint should not be used to treat the surface.

#### **3.1.4**

With respect to the emission of hazardous substances in the use and disposal stage, it is required to use a paint with a certified eco label as a “stain for wood” among the specified paints (EL241) or to satisfy (1) Environmental Criteria in the product's eco label criteria when performing a surface treatment on the wood with a stain for wood.

#### **3.1.5**

With respect to the reduction of wastes in the use and disposal stage, the applicant should keep a manual that contains, at a minimum, the content specified below for on-site installation, and provide the manual to the installer so that the installer may be able to comply with the provided manual.

##### **3.1.5.1**

Issues related with the prohibition of on-site processing

e.g.) No on-site processing including cutting or drilling should be performed. However, if on-site processing is inevitably necessary due to some unexpected situation on the site, the exposed section of the wood should be processed with an oil-soluble wood preservative (organoiodine compounds (IPBC) or organoiodine phosphorus compounds (IPBCP)).

##### **3.1.5.2**

Issues related with the surface treatment of wood

e.g.) When performing a surface treatment on the treated wood, it is necessary to use a paint bearing a certified eco label as a “stain for wood” among the specified paints (EL241), or to use an appropriate product satisfying "(1) Environmental Criteria" of the product's eco label criteria..

##### **3.1.5.3**

Issues related with the use of metal parts

e.g.) Metal parts made of stainless steel should be used in consideration of the corrosiveness of the preservatives.

##### **3.1.5.4**

Issues related with the processing of treated wood that directly contacts the ground

e.g.) Treated wood used in an environment in which the wood contacts the ground or fresh water should be installed with caps or legs in order to minimize eluviations of the active ingredient in the preservatives.

##### **3.1.5.5**

Issues related with repair and maintenance

e.g.) Contents of the on-site inspection and confirmation, as well as the repair, replacement period and maintenance plan should be filed and managed as documents (including electronic documents)

### 3.2 Quality Criteria

The wood for floor decking treated with preservative for deck flooring should satisfy the following criteria in accordance with the "Act on the Sustainable Use of Timbers."

#### 3.2.1

The amount of filtration and absorption should satisfy the quality criteria related with treated wood in an H3 or H4 service environment in accordance with the "Act on the Sustainable Use of Timbers."

#### 3.2.2

The moisture content should be lower than 19 %. However, this requirement is not applied to timber used in an H4 environment in which it contacts earth or fresh water.

#### 3.2.3

The quality of deck flooring before treatment with a preservative should satisfy each of the following criteria in a visual inspection, depending on the structural material used.

|                                    |                         |              | Standard Structural Material               | Beam Structural Material | Pillar Structural Material |
|------------------------------------|-------------------------|--------------|--|--------------------------|----------------------------|
| Diameter ratio of gnarl            | Side of narrow material |              | ≤35 %                                      | ≤30 %                    | 35% ≤                      |
|                                    | Side of wide material   | Edge         | ≤35 %                                      | ≤30 %                    |                            |
|                                    |                         | Central area | ≤45 %                                      | ≤35 %                    |                            |
| Diameter ratio of clustered gnarls |                         |              | ≤ two times bigger than the criteria above |                          |                            |
| Round angle (excluding length)     |                         |              | ≤33 %                                      | ≤20 %                    | ≤20 %                      |
| Splitting check and split          |                         |              | ≤ 1.5 times of width                       | ≤ the width              | ≤ the width                |
| Ring shakes                        |                         |              | ≤ 1/2 of its thickness                     | ≤ 1/6 of its thickness   | ≤ 1/6 of its thickness     |
| Bending                            |                         |              | ≤0.4 %                                     | ≤0.4 %                   | ≤0.4 %                     |
| Average width between annual rings |                         |              | ≤8 mm                                      | ≤8 mm                    | ≤8 mm                      |
| Fiber gradient                     |                         |              | ≤1:8                                       | ≤1:8                     | ≤1:8                       |
| Other defects                      |                         |              | Negligible                                 | Negligible               | Negligible                 |

### 3.3 Consumer Information

#### 3.3.1

Description of environmental quality of the amount of active ingredient leached from preservative

| Labeling of Environmental quality   | Description  |
|---|--|
| Amount of active content leached from preservative (measurement of 14 day period) | Amount of active amount leached from preservative: OO % / 2 week |

### 3.3.2

Labeling of the product's contribution to the reason for certification in the Consumption stage (long service life, reduction of hazards to the human and eco-system)

### 3.3.3

No unverified claims (Not harmful, Non-toxic, Natural, Animal-friendly or other similar expression or phrases should not be included on the label.)

### 3.3.4

Warranty period, information on supply and A/S, contact

## 4. Test Method

| Certification Criteria |             | Test and Verification Method  |  |
|------------------------|-------------|---|--|
| Environmental criteria | 3.1.1~3.1.2 | Check submitted document  |  |
|                        | 3.1.3       | 1   | Check submitted document   |
|                        |             | 2   | Test report by an accredited testing laboratory in accordance with Test Method (1) and (2) |
|                        |             | 3   | Check submitted document   |
|                        | 3.1.4       | Check submitted document or a test report by an accredited testing laboratory in accordance with "(1) Environmental Criteria" in 'Paint (EL241)'  |  |
|                        | 3.1.5       | Check submitted document and the site   |  |
| Quality Criteria       | 3.2.1       | Test report by an accredited testing laboratory in accordance with the criteria specified in the Measurement of Infiltration and Absorption of Timber Treated for Antiseptic and Insect-proof Property or equivalent certificate.   |  |
|                        | 3.2.2       | Test report by an accredited testing laboratory in accordance with the Lumbering Specifications, or equivalent certification.   |  |
|                        | 3.2.3       | Test report by an accredited testing laboratory in accordance with Chapter 8: Measurement of Deficiencies in the Lumbering of Structural Materials specified in the Specifications on the Lumbering of Coniferous Timber Structural Materials, or equivalent certification. |  |
| Consumer Information   |             | Check submitted document  |  |

## **4.1 General Matters**

### **4.1.1**

One test sample for each applied product is required in principle with the exception that more than one test sample is necessary.

### **4.1.2**

Samples for test shall be collected at random by a certification institute from products in market or those in storage at the production site.

### **4.1.3**

To check whether the product was installed in the site appropriately, the applicant should submit related files, including a letter of confirmation on the installation site, no later than one month after the completion of the on-site installation in the post management stage. However, if the applicant fails to submit related files or the files have been modified arbitrarily, the application shall be considered as not having met the criteria regardless of whether other items have been satisfied.

Note) Check of on-site installation shall be performed by inspecting the quality of the product visually.

### **4.1.4**

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

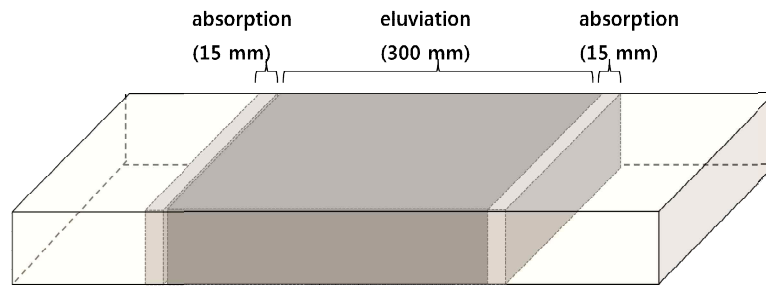
## **4.2 Method of Testing eluviation of active ingredient in preservatives**

Note) This is a test method to evaluate the eluviation of active content from the timber preservatives in a laboratory, and is based on “American Wood Protection Association (AWPA E11-12 (Standard method for accelerated evaluation of preservative leaching))” but has been modified to enable the application of the specifications to this certification criteria.

### **4.2.1**

While maintaining the thickness and width of the sample finished with preservative treatment, take one 300 mm-long test specimen for testing the amount of eluviation and two 15 mm-long specimens for testing the amount of absorption from the approximate center of the test sample.

Note) The size of the acquired specimen should be measured with up to 0.1 mm precision.



[Figure 1] Collection of test specimen

#### 4.2.2

Measure the amount of active content absorbed in the test specimen in accordance with the Measurement of Eluviation and Absorption of Timber Treated for Antiseptic and Insect-proof Property or KS F 2155 (Measurement of Chemical Absorption by Processed Timber). With respect to the test specimen, however, two sets of the specimen used for the absorption test in 4.2.1 shall be finely ground, mixed and pre-dried before the test.

#### 4.2.3 Test method to measure eluviated amount

##### 4.2.3.1

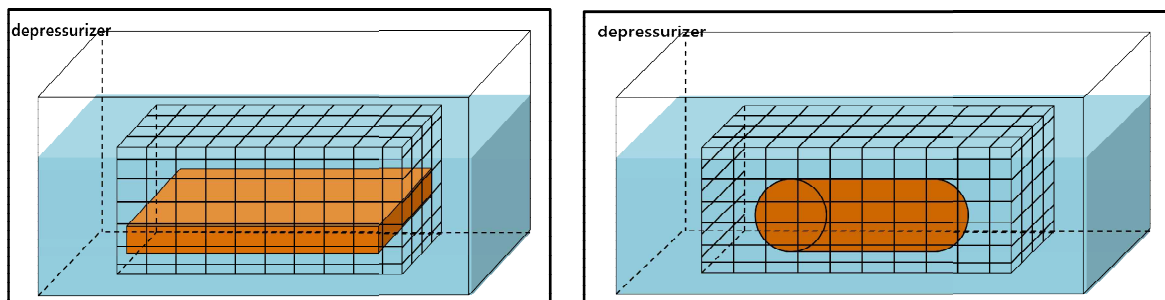
The water tank should be made of materials that are not affected by the eluviated substance, with enough space provided between the test specimen and the water tank.

Note) A glass water tank with internal dimensions of 140×170×400mm is recommended.

##### 4.2.3.2

The test specimen should be completely immersed in the tank filled with about 4 liters of distilled water, but must not touch the bottom.

Note) Make sure the test specimen does not float by putting in a wire mesh frame, as shown in Figure 2.



[Figure 2] Example of Test Device

##### 4.2.3.3

Once the necessary installation is complete, the water tank should be depressurized to 13.3kPa for 20 minutes using a depressurizer, and kept at the pressure point for 14 days at

a temperature range of (25±3) °C.

#### 4.2.3.4

Retrieve the eluviated substance for an analysis of the active ingredient, and calculate the content using the formula shown below. Then, take the average of the respective measurements of the three test specimens.

Percentage of the active content eluviated for 14 days (%) =  $\frac{B}{A} \times 100$

A : Total mass (mg) of the active content in the test specimen as converted to the length of the Total eluviations test specimen.

B : Total mass (mg) of the active eluviated content.

### **5. Reasons for Certification : “Long Service Life, and Reduced Hazard to the Human and Ecosystem”**



## **[Common Criteria]**

1. The candidate products for Korea Eco-Label shall comply with the following regulations with regard to the appropriate processing of environmental contaminants that occur in the process of manufacturing or service operation, including air contaminants, water contaminants, waste and harmful chemical substances.
  - 1.1 A person who violates any environment-related law or agreement applicable in the region where his or her factory or operating establishment is located within one year prior to the date of application may not apply for Korea Eco-Label certification. For violations other than the ones subject to penalties, however, a person may apply for the certification after completion of any action for the violation.
  - 1.2 A person who has obtained Korea Eco-Label certification must comply with the environment-related laws and agreements applicable in the region where the factory or operating establishment is located during the certification period. If any violation against penal provisions is found during the certification period, however, the certification may be canceled, and for violations other than the ones against penal provisions, the certification may be suspended until the relevant action is completed.
2. In principle, the “consumer information” specified in the certification standards by product shall be marked in a way not to be removed easily on the surface of the product. If it is impossible or undesirable to mark it on the surface of a product, the information shall be marked on another appropriate part of a product where consumers will notice it, including product packaging, a guidebook, an instruction or etc. For services, however, the consumer information shall be, in principle, marked on the internal and external areas of a building where the service is provided. If it is impossible or undesirable to mark it on the internal or external area of a building, however, it shall be marked on an appropriate part where consumers can notice it, including a contract, statement of delivery, letter of guarantee or brochure.
3. A person who has applied for, or obtained approval for, use of Korea Eco-Label on a product shall comply with the Fair Labeling and Advertising Act in order to establish fair trade order and protect consumers, and if they violate the law, their application for certification may be rejected or their certification may be canceled.

4. Unless otherwise specified, the various specifications cited in the certification criteria by product shall be the latest ones at the time of application for certification.
  
5. If application of the standards for quality in accordance with the certification criteria by product is deemed as inappropriate, the President of Korea Environmental Industry & Technology Institute (hereinafter referred to as KEITI president) may establish and operate the quality criteria for the product after deliberation committee review or expert consultation.