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THE CERTIFICATION STANDARDS OF SEK MARK TEXTILE PRODUCTS

Japan Textile Evaluation Technology Council

Product Certification Department

Table of Contents

THE CERTIFICATION STANDARDS OF SEK MARK TEXTILE PRODUCTS (JEC301)

CHAPTER ONE: General Provisions

1. Scope of Application

1.1 Application of Mark

The criterion for certification is applied to certify textile products with functional finishings as indicated in Table 1-1.

Table 1-1 Applicable functional finishings

Antibacterial finishing	Antimicrobial finishing	Photocatalyst antibacterial finishing	Antifungal finishing	Deodorant finishing
Photocatalyst deodorant finishing	Soil-resistant finishing	Antiviral finishing	UV Ray-Shield finishing	—

1.2 Sales

SEK Mark textile products can be sold only in Japan and countries and regions indicated in Table 1-2-1 where the SEK Mark is registered.

However, SEK Mark textile products that can be sold outside Japan are only those indicated in Table 1-2-2.

Table 1-2 -1 Countries and regions where SEK Mark textile products can be sold

China (24 kinds, 25 kinds, 42kinds)	Taiwan (24kinds, 25 kinds)	Hong Kong (24kinds, 25 kinds)	Indonesia (24kinds, 25 kinds)
Singapore (24kinds, 25 kinds)	Malaysia (24kinds, 25 kinds)	Thailand (24kinds, 25 kinds)	Vietnam (24kinds, 25 kinds)
Turkey (24kinds, 25 kinds)	India (24kinds, 25kinds)	Russia (24kinds, 25kinds)	Korea (24kinds, 25kinds, 42kinds)

*You must solve the trouble in the SEK Mark occurs by a self-responsibility when you sell products in Korea because SEK Mark registration in Korea is some registration of 24 kinnds and 25 kinds.

Table 1-2 -2 SEK Mark textile products that can be sold

Antibacterial finishing	Antimicrobial finishing (general applications)	Antimicrobial finishing (specific applications)	Photocatalyst antibacterial finishing	Antifungal finishing
Antiviral finishing	Soil-resistant finishing	Deodorant finishing	UV Ray-Shield finishing	—

For sales outside Japan, obey the laws of each country and refer to Guideline for Overseas Sales of SEK Mark Textile Products. And for Overseas Sales of Soil-resistant finishing and Deodorant finishing, Cross Mark can be use. Antimicrobial finishing (specific applications) shall be limited to textile products for use at medical institutions and care facilities, the products cannot be sold on the market.

It should be noted that SEK Mark textile products are allowed to be produced inside and outside Japan (including OEM production).

1.3 Qualification of Applicants

The Applicants shall be business operators that manufactures and/or sells textile products, and has the following qualifications.

☐ The corporation with corporate status in Japan.

☐ The foreign corporation to apply thorough a member company of JTETC (Japanese corporation or foreign corporation) as an agent.

☐ The foreign corporation which the secretariat has a direct interview etc. and judged not to need through the

application agent.

The foreign corporation that can become applicant shall be in the countries indicated in Table 1-2-1, and SEK mark which can be applied shall be those indicated in Table 1-2-2.

In addition, the applicant shall comply with the current certification system, such as the certification standards.

2. Objectives of Certification System

The objectives of the certification system are to provide appropriate labeling, evaluation criteria and SEK Mark textile products based on other certification standards for improving the living environment of consumers.

3. Terms & Definition

The terms used in the certification standards are defined as follows:

- ☐ SEK Mark textile products: SEK labeled products that have a functional finishing and have been certified by JTETC.
- ☐ Functional finishings: Generic names for antibacterial finishing, antimicrobial finishing, photocatalytic antibacterial finishing, antifungal finishing, antiviral finishing, deodorant finishing, photocatalyst deodorant finishing, soil-resistant finishing and UV Ray-Shielded finishing.
- ☐ Functionality: Generic names for antibacterial property (antibacterial finishing, antimicrobial finishing), photocatalytic antibacterial property, antifungal property, antivital property, deodorant property, photocatalyst deodorant property, soil resistance and UV Ray-Shielding.
- ☐ Antibacterial finishing: Among antibacterial finishings that inhibit the growth of specific types of bacteria on textiles and exhibit deodorizing effects, those that pass certification standards
- ☐ Antimicrobial finishing: Among antimicrobial finishings that inhibit the growth of bacteria on textiles, those that pass certification standards
- ☐ Photocatalyst antibacterial finishing: Among photocatalyst antibacterial finishings that inhibit the growth of bacteria on textiles by photocatalytic effects, those that pass certification standards
- ☐ Antifungal finishing: Among antifungal finishings that inhibit the growth of specific types of fungi on textiles, those that pass certification standards
- ☐ Deodorant finishing: Among deodorant finishings that reduce unpleasant odor after the fibers have come into contact with odorous components, those that pass certification standards
- ☐ Photocatalyst deodorant finishing: Among photocatalyst deodorant finishings that reduce unpleasant odor with photocatalyst effects as the fibers come into contact with odorous components, those that pass certification standards
- ☐ Soil-resistant finishing: Among soil-resistance finishings for difficult soil adherence to textiles and/or easy soil release, those that pass certification standards
- ☐ Antiviral finishing: Among antiviral finishings that reduce the number of specific viruses on textiles, those that pass certification standards
- ☐ UV Rey Shield finishing: Among the processing of textile products that are UV Ray-shielding, those that pass the certification standards.
- ☐ Main components & subcomponents: Among processing agents, components that express functional effects are called “main components” and the components (solvents, dispersing agents, etc.) that are auxiliarily used for processing textiles with main components are “subcomponents”
- ☐ Composite components: Multiple main components that exist in the processing agent
- ☐ Appendix terms: Terms that express complementing functional processing
- ☐ Products partially using functional materials: Products partially using functional materials refer to products on which functional effects are observed as functional finished materials which are used on parts of the product. The parts that have a functional finishing are called functional parts.

- ☐ Processing concentration: Processing concentration refers to the weight ratio of the processing agent deposit to the weight of the processed product, and is expressed in “% owf”. In the same application (certification number), the case in which the processing concentration is the highest is called “highest finishing concentration”, and the lowest concentration is called “lowest finishing concentration”. However for convenience, here it refers to a state after it has been picked up before drying, and is expressed by the following equation.
- ☐ Processing concentration (% owf) = processing agent prepared concentration (% ows)×pickup rate (%)/100
- ☐ Certification conditions: Certification conditions refer to the certified number of washings, whether or not skin patch tests are conducted, highest processing concentration and lowest processing concentration. In addition, the certified range of antifungal activity value for antifungal finishing, the classification of odorous components in deodorant and photocatalyst deodorant finishings, the soil-resistant test items conducted for soil-resistant finishing, optional fungi tested for antimicrobial finishing and viruses tested for antiviral finishing. In case the processing agent has to be changed, the certification conditions can be changed by submitting the Application Form for Changes in Certification Conditions, Etc. provided in Section 14.3.

4. Enactment & Revision

The enactment and revision of certification standards are undertaken by the Director of Product Certification, confirmed by the Committee for Certification Standards and Test Methods, and approved by the JTETC Managing Director.

5. SEK Mark Labeling Procedure

5.1 Display Items & Order

The SEK Mark will display the following items in the indicated order; all the items are enclosed with an outer frame. (Nothing else may be described in the outer frame.)

If the Mark has a warning display, it should be as large as possible so that consumers can easily read it.

Due to unavoidable circumstances such as display space, the order may be changed upon approval from the JTETC Secretariat. If the applicant displays Soil-resistant finished product mark and the UV Rey-shielded finished product mark certified under the certification conditions that do not require the Skin Patch Test on the same product as other marks that require the Skin Patch Test, it is necessary to make a Multi-application.

- ☐ SEK Mark: In principle, the SEK Mark provided by JTETC must be used.
  The SEK Mark and colors indicated in Figure 5-1 are used. {Due to unavoidable circumstances, monochrome may be used. In the case of antimicrobial finishing, the label must state: Antimicrobial Finishing (General Applications) or Antimicrobial Finishing (Specific Applications)}.
- ☐ Name of Functional Finishing: As a general rule, an appropriate logo is integrated into the SEK Mark provided by JTETC.
- ☐ Appendix terms: Described as in Table 5-1.
- ☐ Finished Parts: In the case of products partially using functional materials, the finished parts are described following the appendix terms. (If the label size is limited, it may be described in a proximal section.)
- ☐ The number of washings for tests: In accordance with the provisions of Section 16.1, if the test is carried out beyond the maximum number of washings of laundry specified in Appended Table 1 and use the obtained certification number, the number of washings can be stated under the attached term, if there is a processed portion, it can be listed below it.
- ☐ Odor Category & Odorous Components: Deodorant finishing has the odor category described, and the photocatalyst deodorant finishing has odorous components described.
- ☐ Certification Number: As described on the certificate.
- ☐ Certifier: Japan Textile Evaluation Technology Council (JTETC)
- ☐ Company Name and/or Trademark: The trademark is the house brand of the certification applying company. And if necessary, the certification applying company may display the management number of the SEK mark beside the Company Name and/or Trademark. (The number should be alphanumeric, etc., and should be written in small letters with ( ) beside the Company Name and Trademark. The certification applying company must obtain the approval from the secretariat before displaying the number.)

When the certification applying company displays the SEK mark in the catalog and pamphlet, website, or the like, it may display only the SEK mark and the Name of Functional Finishing. However, when the certification applying company displayed the SEK mark is displayed on catalogs and pamphlets, websites, and the like, it is necessary to display the SEK mark on textile products in order to aroid conflict with Act provisions Unjustifiable Premiums and Misleading Representation (prohibition of misieading advertising display).

DIC66 (Blue)	DIC121 (Orange)	DIC156 (Red)	DIC189 (Purple)	DIC126 (Yellow)	DIC172 (Green)
Antibacterial Finished Product	Antimicrobial Finished Product	Antimicrobial Finished Product	Photocatalyst antibacterial Finished Product	Antiviral Finished Product	Antifungal Finished Product
DIC641p (Navy) DIC65p (Green)	DIC189 (Purple) DIC65p (Green)	[For overseas & Japan] DIC27(Pink)	DIC179 (Blue)	[For overseas & Japan] DIC221(Navy blue)	DIC189 (Purple) DIC126 (Yellow)
Photocatalyst Deodorant Finished Product	Deodorant Finished Product	Deodorant Finished Product	Soil-Resistant Finished Product	Soil-Resistant Finished Product	UV Ray Shield Finished Product

Figure 5-1 SEK Mark & color description

Table 5-1 Appendix terms

Type of Mark	Appendix Term
Antibacterial finishing	(Inhibits the growth of specific types of bacteria on textiles.)
Antimicrobial finishing (general applications)	(Inhibits the growth of bacteria on textiles.)
Antimicrobial finishing (specific applications)	(Inhibits the growth of bacteria on textiles.)
Photocatalyst antibacterial finishing	(Inhibits the growth of bacteria on textiles by photocatalyst effects.)
Antifungal finishing	(Inhibits the growth of specific types of fungi on textiles.)
Deodorant finishing	(Reduces unpleasant odor after the fibers have come into contact with odorous components.)
Photocatalyst deodorant finishing	(Reduces unpleasant odor with photocatalyst effects after the fibers come into contact with odorous components.)
Soil-resistant finishing	(For difficult soil adherence to textiles and easy soil release.) (Details separately provided in Section 23.2.)
Antiviral finishing	(Reduces the number of specific viruses on textiles.)
UV Ray Shield finishing	(Textile products have an ultraviolet shielding effect (shielding rate of 98% or more).) (Details are specified separately in Section 25.4.)

5.2 Caution Description for Antifungal Finishing

The Antifungal Finishing Mark has the following caution note near the Mark in order to avoid conflicts with misleading interpretation of the Law for Ensuring the Quality, Efficacy and Safety of Drugs and Medical Devices (Pharmaceutical and Medical Device Act) and Act Against Unjustifiable Premiums and Misleading Representations (Premiums and Representations Act), as well as to avoid misleading consumers. ●: Required and ○: Recommended.

- ⚠ Caution

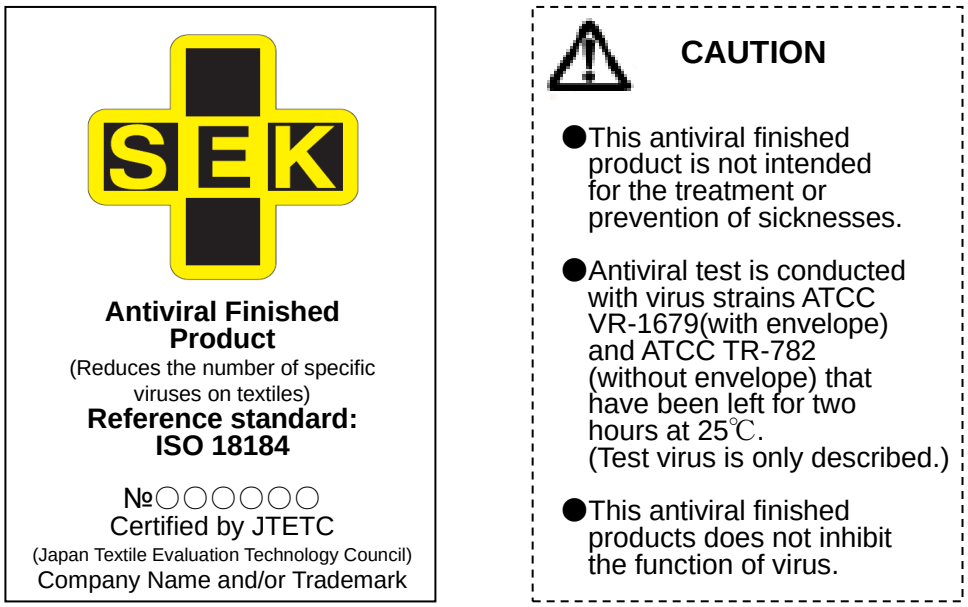
● This product has no effect in the treatment or prevention of sicknesses.
● Antifungal test is conducted with ○ fungus and △ fungus.
● Antifungal finishing does not kill fungus.
● Fungus can also grow on antifungal finished products if left in a state of high temperature and high humidity.
○ The antifungal property was not confirmed for fungi other than those tested.
○ Because sweat, soil, soap scum, etc. can cause fungus, washing and rinsing should be carried out thoroughly.
○ Avoid using chlorine bleach for maintaining performance.

5.3 Caution Display for Soil-Resistant Finishing & Antiviral Finishing & UV Ray-Shield Finishing

Provided in Section 23.4, Section 24.4 and Section25.6 respectively.

5.4 Example of SEK Mark Labeling

Figure 5-3 Labeling Example of Antiviral Finishing and Caution Display



5.5 SEK Mark Management Regulations

For details on the SEK Mark and additional display terms, etc., check the “SEK Mark Manegement Regulations”.

6. SEK Mark Applicable Products

6.1 Certification Conditions & Applicable Products

Among the products indicated in Table 1 List of SEK Mark Applicable Textile Products at the end of this publication, certification can be made for products under the certification conditions (certified number of washings, whether or not skin patch test has to be conducted, etc. In antifungal finishing, the range of certified fungus activity value, etc.). In the case the product is not included in the list, inquire the JTETC Secretariat. However, if the material or product differs from the functional finishing sample submittted at the time of certification application, the effects of the functional finishing shall be confirmed and managed on a daily basis under the responsibility of the manufacturer.

6.2 Exclusion of products for infants and products that are feared to have an effect on the respiratory system and eyes

Products for infants less than 24 months after birth and masks/eye masks etc. of which the function-finished portion or the finishing agent comes into direct contact with the lips or nostrils or eyes are excluded. Therefore, in principle, single-sheet masks/eye masks etc. are not included.

6.3 Exclusion of products coming under the Pharmaceutical and Medical Device Act

Medical equipment coming under the Pharmaceutical and Medical Device Act are excluded.

6.4 Partial Usage

In case the product can be observed to have effects with the functional finishing used on a portion of the product, partial usage is approved. However, this shall be limited to cases in which the function-finished portion covers half or more of the entire product and used where the functional portion is required, and the SEK Mark shall clearly indicate the function-finished portion (function-finished part). (Refer to Section 5.1.)

However, in deodorant finishing and photocatalytic deodorant finishing, even if it is used on function-finished portions, it shall be at least roughly half or greater on the entire product. Partial usage is not allowed for Antimicrobial Finishing (Specific Applications).

Applicable products are indicated in Table 2 List of Partial Usage Products at the end of this publication. For products not listed in the table, contact the JTETC Secretariat.

6.5 Application Limitation for Antimicrobial Finishing (Specific Applications)

Antimicrobial finishing (specific applications) shall be limited to textile products for use at medical institutions and care facilities, as well as to businesses that administrative agencies acknowledge as necessary. However, the products cannot be sold on the market.

6.6 Exclusion of packaging materials and cooking utensils that come into direct contact with food

Packaging materials and cooking utensils that come into direct contact with food are not included in the applicable products.

7. Description Procedure for Bacterial Strain (Fungus Species) and Virus Name

The bacterial strain (fungus species) or virus name cannot be indicated on the SEK Mark. (Refer to Section 5.1)

The bacterial strain (fungus species) may be described in pamphlets, manuals, etc., but only the test bacterial strain (fungus) at the time of certification application is applied, and the style of description is based on “Inhibiting the growth (development) of bacteria (fungus) on textiles. Test bacteria strain: ○○○ bacteria (fungus)”.

However, the virus name cannot be described whatsoever in pamphlets and instructions.

8. Rules to Comply With for Labeling and Explanation

8.1 Labeling of the Pharmaceutical and Medical Device Act such as healing effects and avoidance of misleading representation of Premiums and Representations Act

Since SEK Mark textile products appeal only the functional effects on textiles, misleading expressions are strictly prohibited, such as manifestation or implication of use for the healing or prevention of human diseases or influence on the structural functions of the body, or secondary inhibitory effects on allergies to such as viruses and pollen.

8.2 Submission of Samples for Antifungal & Antiviral Finishing Marks

When the SEK Mark, antifungal effects or antiviral effects are labeled on the package, tags or pamphlets of products having the antifungal or antiviral finishing mark, a sample shall be submitted to the JTETC Secretariat before it is approved for marketing.

9. Banned Chemical Substances

9.1 Regulations by Chemical Substances Control Act

The processing agents used for functional finishing shall not use Class I and II Specified Chemical Substances and Chemical Substances Subject to Monitoring noted in the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, Etc. (Chemical Substances Control Act).

Moreover, chemical substances that are not registered in the Chemical Substances Control Act shall not be used. However, Elements, Natural products, and Existing Chemical Substances specified in the notification of the enforcement of the Chemical Substances Control Act are excluded. (In the case of existing chemical substances in the operational notification, submission proof of receipt of confirmation or judgment notification is required.)

9.2 Handling of Priority Assessment Chemical Substances

Among the priority assessment chemical substances of the Chemical Substances Control Act, those that were changed from former Class II and III Specified Chemical Substances for Monitoring (serial numbers 1 to 87) as of April 1 2011 shall not be continuously used until the country's risk assessment is completed. In addition, it shall be noted that priority assessment chemical substances are banned for use from the time it has been designated as Class I and II Specified Chemical Substances or Chemical Substance for Monitoring. After being designated, production and shipment of SEK Mark textile products containing those substances must be discontinued, and necessary measures must be takuen in accordance with JTETC instructions.

If the processing agents used in the application contains a Priority Assessment Chemical Substance, the applicant must clearly indicate the serial number of the Priority Assessment Chemical Substance in the main component and subcomponent chemical names in the application document "JEC442 Processing Agent Analysis Table".

9.3 Banned Chemical Substances Designated by JTETC

In addition to the chemical substances listed above, banned chemical substances may be included taking into consideration examples in reports on the influence on health, such as endocrine disrupting chemicals (environmental hormone), dioxins, allergic contact dermatitis, reproductive toxicity, immunotoxicity and neurological toxicity.

10. Compliance of Laws

In the production and processing of SEK Mark textile products, the following laws must be complied with, taking into consideration product safety, occupational safety and environmental impact.

- ☐ Poisonous and Deleterious Substances Control Act
- ☐ Atomic Energy Basic Act
- ☐ Act on Control of Household Products Containing Harmful Substances
- ☐ Industrial Safety and Health Act
- ☐ The Act on Confirmation, Etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act)

11. Safety Tests for Finishing Agents

11.1 Submission of Safety Data

Safety data on the processing agents used for functional finishing or principal components for all items listed in Table 11-1 shall be submitted by applicants for certification.

However, when submitting the safety data of the processing agent containing the biocide such as preservervatives and fungicides as the main component, the safety data of biocide of the sub-ingredient must also be submitted. Safety data may be in English, but a Japanese translation (it is possible even with a translation of selected passages) must be attached.

However, dyes, pigments, and titanium oxide without photocatalytic effect are not considered as processing agents in the UV Ray-shield finishing. Therefore, it is not necessary to submit safety data.

And, in regard to polymer compounds that meet any of the following requirements, among the test items

listed in Table 11-1, the submission of safety data can be omitted for skin irritation tests and skin sensitization tests.

- ☐ Data confirming polymers of low concern based on the Chemical Substances Control Law (Submission of confirmed evidence required)
- ☐ "Substances Not Requiring Notification" based on the Joint Notification No. 3 of three ministries (Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry, and Ministry of the Environment)
- ☐ Substances that have an average molecular weight of 10,000 or more; contain less than 1% of components having a molecular weight of less than 1,000; include no metals other than sodium, magnesium, potassium, and calcium; and do not contain arsenic or selenium.

11.2 Determination of Safety by Certification Judgment Committee

There might be cases in which the judgement shall be made with reference to test results different from those disclosed for the same item, official compendium, literature, etc.

11.3 Registered Finishing Agents

Finishing agents approved by the Certification Judgment Committee and used for SEK Mark textile products that were certified in and after 2010 are referred to as "existent finishing agents", and as a general rule, the submission of safety data is not required. However, if the "existent finishing agents" are not certified finishing agents, and if the needs arise due to the revision of laws, etc., the Certification Judgment Committee shall deliberate again on safety.

In case that subcomponents of the existent finishing agents become difficult to obtain due to earthquakes or the like, their equivalents can be changed as substitutes. However, justifiable reasons and certificates shall be submitted to the JTETC Secretariat, and the Certification Judgment Committee shall determine the validity.

However, even if it is the "existent finishing agents", the applicant for certification must confirm to the finishing agent manufactuer all of compornents of the finishing agents and their safety.

11.4 Safety Tests of Finishing Agents Consisting of Multiple Main Component (Multiple Components)

As a general rule, safety tests shall be conducted for multiple components. If the Skin Patch Test of textile products processed at the same or greater than the highest finishing concentration of the multiple components have passed the evaluation criteria, or if it is judged that the possibility is low for chemicl changes to occur or the toxicity to rise when the main components are mixed together, safety tests for each main component can also be conducted. In this case, the evidence of judgment shall be submitted. The judgment procedure is based on the results of studies such as literature on chemical structure, biological tests and cases on humans.

11.5 Handling of Dilution Tests

The tests can be conducted with a concentration that is 2 times or greater than the highest finishing concentration by diluting the finishing agent or main component to a substance that does not affect safety. In the case the main component is diluted, the concentration of the main component shall be 2 times or greater than the highest finishing concentration. At this time, if a diluent other than water is used, the gtounds for judging that it does not affect safety must be submitted.

In addition, if Acute Oral Toxicity Test result is LD^{50} of 300mg/kg or more, or Category 4 in the specified test method, obtain the dilution concentration at which LD^{50} is 2,000mg/kg by the following formula, and half or less of that is the highest finishing concentration can be used.

Dilution concentration at which LD^{50} is 2,000mg/kg (%) = 100 × (LD^{50} of test results)/2,000

At this tme, if the quoted test result is "Category 4", calculate LD^{50} as 300mg/kg.

11.6 Safety Testa of Chemical Modifed Fibers

In case chemical changes are made by methods such as imparting a functional group directly to the textile product, the textile product is consider as the finishing agent, and the test shall be conducted either in a form in which the test is conductable by methods such as freezing and crushing, or by extracting a suitable solvent.

11.7 Citation of Safety Data of Official Compendium & Literature

Safety data on main components of the finishing agent may be cited from an official compendium, literature in specialized magazines and data equivalent to the safety tests listed in Table 11-1. However, it shall

be clear that a test is conducted at least according to each test item listed in Table 11-1 and by one of the listed test methods, and passes the criterion for certification.

11.8 Safety Testing Agencies

Safety testing agencies are Good Laboratory Practice (GLP) accredited bodies or institutions that correspond to them (Refer to Appendix 1), but the tests may not be a GLP test.

12. Safety Tests for Products (Skin Patch Tests)

12.1 Submission of Skin Patch Test Results

In regard to products that require a skin patch test in Table 1 SEK Mark Applicable Textile Products attached at the end of this publication, skin patch tests have to be conducted with the finished product, fabric or material. However, the test is not required for soil-resistant finishing (Provisions in Section 23.3) and UV Ray-shield finishing (Provisions in Section 25.5) that uses no finishing agents.

~~In a case that after certification has been obtained and additional application for another category is made for a product, fabric or material that is exactly the same at the time of application, the skin patch test report that was used for the previous application can be substituted, if it is within 5 years from the previous application.~~

12.2 Concentration for Skin Patch Tests

Product, fabric or material with which the skin patch test is to be conducted are those that have been finished with a concentration this is the same or greater than the highest finishing concentration.

12.3 Test Methods & Evaluation Criterion of Skin Patch Tests

The methods of skin patch tests and evaluation criterion are shown in Table 12-3, and testing agencies are given in Appendix Table 2. Confirmation by JTETC is required when testing at testing agencies other than those listed in Appendix Table 2.

Table 11-1 Safety test methods for finishing agents and evaluation criterion

Test Item	Test Method	Evaluation Criterion
Acute oral toxicity test	□Revised drug toxicity test method □OECD/TG401 (Only data before Dec. 2012 is effective) □OECD/TG420（Fixed dose method） □OECD/TG423（Toxicity grade method） □OECD/TG425（Up-and-down method）	$LD_{50} \geqq 2{,}000 mg/kg$
Mutagenicity test [Reverse mutation test] (Ames test)	□Method according to notice under the provisions of the Occupational Safety and Health Act □Test method according to new chemical substances, etc. of Chemical Substances Control Law □OECD/TG471 （Pre-incubation method, or plate method）	Negative
Skin irritation test	□ASTM F719-81 □OECD/TG404 □OECD/TG439（Reproduced human skin RhE test）	PII value*1＜2.0 In vitro⇒non irritant
Skin sensitization test	□Test method for biological safety test method's Guidance of medical devices (GPMT method, A&P method, LLNA method) □OECD/TG406 （Maximization method or Buehler method, non-adjuvant）	Negative （Negative rate = 0）
	□OECD/TG429（LLNA/RI method） □OECD/TG442A（LLNA/DA method） □OECD/TG442B（LLNA/Brdu-ELISA method）	Negative
	□OECD/TG442C（DPRA, etc.） □OECD/TG442D（ARE-Nrf2 KeratinoSensTM test methid, etc.） □OECD/TG442E（H-CLAT, ets.）	All 3 tests on the left are negative

*1: Other official test methods may be used as long as they are equivalent to or more sensitive than the test methods in Table 11-1. However, it is necessary to submit a copy of the test method used and a comparison table of the test contents of the test method in Table 11-1.

*2: PII value: Calculated in correspondence with ISO 10993-10, Section 6.3 Animal irritation test

Table 12-3 Testing procedure and evaluation criterion for skin patch test

Testing Procedure	Evaluation Criterion
Occlusion method (20 or more people, patched for 48 hours)	Safe product of Japanese standard (Refer to Appendix Tables 3 & 4.)
Semi-open method (replica method, 20 people, patched for 24 hours)	Negative or quasi-negative

Appendix Table 1 (Reference) Testing agencies having a normative level complying with Chemical Substances Control Act and corresponding to Good Laboratory Practice (GPL)

Testing Agency	Address	Tel	Fax
Life Science Laboratories, Ltd. Chihayaakasaka Research Lab.	1082 Chihaya, Chihaya-akasaka-mura, Minamikawachi-gun, Osaka 585-0051, Japan	0721-74-0200	0721-74-0202
Japan Food Research Laboratories	52-1 Motoyoyogi-cho, Shibuya-ku, Tokyo 151-0062, Japan	03-3469-7131	03-3469-7009
Nihon Bioresearch Inc.	104 Fukujyu-cho Majima 6-chome, Hashima, Gifu 501-6251, Japan	058-392-6222	058-392-2431
Chemical Evaluation & Research Institute, Japan	1-4-25 Kouraku,Bunkyo-ku,Tokyo 112-0004, Japan	03-5804-6134	03-5804-6140
Drug Safety Testing Center Co., Ltd.	25-1 Kuroiwa, Yoshimi-machi, Hiki-gun, Saitama 355-0166, Japan	0493-54-3239	0493-54-5274
BML, Inc.	1361-1 Matoba, Kawagoe-shi, Saitama 350-1101, Japan	049-232-3434	049-232-8445
Shin Nippon Biomedical Laboratories, Ltd.	2438 Miyanoura, Yoshida-cho, Kagoshima 891-1394, Japan	099-294-2600	099-294-3619
BoZo Research Center Inc.	36-7 Oyama-cho, Shibuya-ku, Tokyo 151-0065, Japan	03-5453-8101	03-5453-8109
BioSafety Research Center Inc.	582-2 Shioshinden, Iwata-shi, Shizuoka 437-1213, Japan	0538-58-1266	0538-58-2961

Appendix Table 2 (Reference) Testing agencies conducting skin patch tests

	Testing Agency	Address	Tel	Fax
Occlusion method	Life Science Research Corporation	1-1 Nishi Hommachi 3-chome. Nishi-ku, Osaka 550-0005, Japan	06-6531-1881	06-6533-1776
	Face Survey Corporation	4-32 Minami-Morimachi 1-chome, Kita-ku, Osaka 530-0054, Japan	06-6362-6813	06-6364-8180
	Maruishi Labo Corporation	11-6 Nakatsu 1-chome, Kita-ku, Osaka 530-0071, Japan	06-6372-0014	06-6372-0024
Semi-open method	Japanese Society for Cutaneous Health	60 Nishi-Sichijyo Minami-Nishi-No-cho, Shimogyo-ku, Kyoto 600-8877, Japan	075-312-5575	075-314-7735

Appendix Table 3 Judgment criterion for patch test (Occlusion method)

Japanese Standard	Mark	Reaction
－	0.0	No reaction
±	0.5	Slight erythema
＋	1.0	Obvious erythema
＋＋	2.0	Erythema + edema, papules
＋＋＋	3.0	Erythema + edema, papules + vesicles
＋＋＋＋	4.0	Large blisters

Appendix Table 4 Classification by skin irritation index of cosmetics (Occlusion method)

Skin Irritation Index	Classification in 1995
5.0 or lower	Safe
5.0～15.0	Allowable
15.0～30.0	Improvement needed
30.0～60.0	30.0 or higher dangerous
60.0 or higher	

CHAPTER 4: Day-to-Day Quality Control

13. Day-to-Day Quality Control

13.1 Procedure

The applicant shall apply and maintain the procedure of day-to-day quality control.

13.2 Quality Control Items

Day-to-day quality control shall implement the following:

- ☐ Management of extraction standard lot (Mandatory)
- ☐ Management of processing agent input (Mandatory, record required) (Highest finishing concentration/lowest finishing concentration, management cycle and test site)
- ☐ Management of deposited amount of finishing agent's components (Optional) (Highest finishing concentration/lowest finishing concentration, management cycle and test site)
- ☐ Functionality tests (Optional) (For qualitative or quantitative test, management cycle and test site)
- ☐ Surveillance functionality tests (Mandatory) (The tests shall be conducted using specific methods at designated testing agencies during every designated period, and the results shall be submitted. The functionality test items are separately specified by the JTETC Secretariat.)
- ☐ Management of the input blend ratio of fibers and yarns (Mandatory for the functionality finishing of fibers and yarns) (highest finishing blend ratio and lowest finishing blend ratio)
- ☐ Management of rejects (Mandatory) (The SEK Mark is not granted to rejects.)
- ☐ Traceability (Mandatory) (Product number, finishing date, finishing plant, finishing lot number, finishing amount, finishing agents, finishing methods, recipe, shipment history, etc. are recorded, so that it can be traced back from the SEK Mark textile product.)

13.3 Sampling Procedure for Functionality Tests

- ☐ Finished products with the lowest finishing concentration shall be selected from the range of finishing concentrations that have been applied.
- ☐ The samples shall be taken randomly from finished products representing products that have been applied.
- ☐ In order for the sample to be randomly taken for reporting the state of day-to-day quality control (Surveillance), the samples taken from all lots at least for the past one year shall always be stored.

13.4 Overseas Production

In case of overseas production, a production management flow chart shall be submitted.

13.5 Storage of Quality Control Records

Records on quality control shall be stored for at least three years.

13.6 Report on Day-to-Day Quality Control (Surveillance)

The state of day-to-day quality control shall be reported to the JTETC Secretariat at least once a year with the Quality Control Status Report.

The same sample as the one on which the functionality test was conducted (5 cm by 5 cm) shall be attached to the report.

CHAPTER 5: Certification Procedure

14. Certification Procedure

14.1 Certification Unit

The certification of products is undertaken by receiving an application for each processing agent, and a certification number is given for each processing agent.

14.2 Certification Application Documents

The applicant shall submit the application documents shown in Table 14-2 for each processing agent in Japanese. The details of certification procedure are provided in JEC302 Product Certification Procedure Provisions. If the appicant applies for multiple SEK marks for the same product, the applicant can apply in the same application form except for the functional test data. (Multi-application)

Table 14-2 Application documents

Identification	Application Form	Attachment of Sample
JEC441 Form No. 1	Certification application	
JEC442 Appendix No. 1	Finishing agent analysis table*1	SDS (latest version)
JEC443 Appendix No. 2	Safety test data*2	Safety test data report
JEC443-2 Appendix No. 2②	Product safety test data	Skin patch test report (In principle, within five ~~one~~ years from the date of issue.)
JEC444(x) Appendix No. 3	Functionality*3 test data	Test certificate (In principle, within one year from the date of issue. Test certificate of antibacterial and antimicrobial have JNLA Mark*4)
JEC445 Appendix No. 4	Day-to-day quality control procedure	Overseas production quality control flow chart (Overseas production is attached.)
JEC422	Consent form for certification application, etc.	(Unnecessary in case Certification Agreement (JEC421) is already concluded.)

*1, 2: Submission of existent finishing agents is not required for finishing agent analysis table and safety test data.

*3: Functionality = antibacterial property/JEC444 (S), antibacterial property [photocatalyst]/JEC444 (V), antifungal property/JEC444 (F), Deodorant property/JEC444 (D) 1/2, photocatalyst deodorant property/JEC444 (VD), soil resistance property/JEC444 (B), antiviral property/JEC444 (U), UV Ray-shielding property/JEC444 (UV)

*4: The test certificates of overseas testing agencies are also acceptable if they have the MRA Mark. Certificate.

14.3 Application documents for changes in certification conditions

In case the certification conditions change for existing certifications, the necessary documents shall be submitted in accordance with Table 14-3.

Table 14-3 Application documents for changes in certification conditions, etc. (The necessary documents to be attached are the same as Table 14-1.)

Documents to be submitted / Change contents	Changes in Certification Conditions Application Form	Finishing Agent Analysis Table	Safety Test Data	Product Safety Test Data	Functionality Test Data	Day-to-Day Quality Control Procedure
Changes in no. of washings (increase)	○				○	
Addition of skin patch test	○			○		
Changes in lowest finishing concentration (↓)	○				○	○
Changes in highest finishing concentratio (↑)	○			○		○
Change of antifungal evaluation criteria	○				○	
Change of UV Ray-shielding evaluation criteria	○				○	
Odor classification	○				○	
Soil resistance test items	○				○	
Addition of optional bacteria for antimicrobial tests	○				○	
Addition of test viruses	○				○	
Changes in day-to-day management methods	○					○
Revision of safety data	○	○	○			
Changes in finishing agents	⇒New application					

15. Testing Agencies

Functionality tests for SEK Mark textile products shall be conducted at the designated testing agencies indicated in Table 15-1.

Table 15-1 Designated testing agencies for functionality tests

Designated Testing Agency	Designated Testing Location	Antibacterial	Photocatalyst Antibacterial	Antifungal	Deodorant	Photocatalyst Deodorant	Soil Resistance	Antiviral	UV Ray-shielding
Kaken Test Center	Osaka Laboratories (Osaka, Japan)	○	○	○	—	—	○	○	—
	Osaka Laboratories Environmental Analysis Lab. (Kobe, Japan)	—	—	—	○	○	—	—	○
	Tokyo Laboratories Biological Test Laboratory (Kawaguchi, Japan)	○	—	—	—	—	—	○	—
	Shanghai Kakon Inspection & Testing Services Co., Ltd	○	—	—	—	—	—	—	—
Boken Quality Evaluation Institute	Osaka Functional Textile Testing Center	○	○	○	○	○	○	○	○
	Tokyo Functional Textile Testing Center	○	—	—	—	—	—	—	—
	Shanghai Puxi Office & Laboratory Name in China: Shanghai Aili Boken Quality Evaluation Co., Ltd.	○	—	—	○	—	○	—	○
Japan Textile Products Quality & Technology Center	Kobe Testing Center	○	○	○	○	○	—	○	—
	Fukui Testing Center	—	—	—	—	—	○	—	○
	Osaka Testing Center	—	—	—	—	—	—	—	○
	Shanghai Multifunctional Testing Center	○	—	—	○	—	—	—	○
Nissenken Quality Evaluation Center	Life and Health Business HQ Biochemical Laboratory	○	—	○	○	○	—	○	—
	~~Tokyo Laboratory (Kuramae Lab.)~~	—	—	—	—	—	—	—	~~○~~
	Westen Japan Laboratory (Osaka Lab.)	—	—	—	○	○	○	—	—
	Westen Japan Laboratory (Kyoto Lab.)	—	—	—	—	—	—	—	○
	Shanghai Laboratory	○	—	—	—	—	—	—	○
The Japan Cotton & Staple Fiber Fabric Inspecting Institute Foundation	Tokyo Testing Center	○	—	○	—	—	—	—	○
	Osaka Testing Center	—	—	—	○	—	○	—	—
Unitika Garments Technology & Research Laboratories Ltd.	Research Laboratory	○	—	—	○	○	—	—	○
Daiwa Chemical Industries Co., Ltd. Evaluation Technical Center	Osaka Laboratory	○	—	—	—	—	—	—	—
	Tokyo Laboratory	—	—	—	—	—	—	○	—
KE'KEN Textile Testing & Certification Center	Kansai Inspection Office	○	—	—	—	—	○	—	—
	Chubu Inspection Office	○	—	—	○	○	—	—	○
Japan Foundation of Textile Testing	Osaka Testing Center	—	—	—	—	—	○	—	—

16. Test Samples

16.1 Number of Washings and Finishing Concentration

The test sample shall be washed more than the highest number of washings in the range of certification conditions to be applied for, and a sample of the lowest finishing concentration or not more than the lowest finising concentration shall be prepared.

However, the test sample subjected to high temperature accelerated washing with Antimicrobial funishing (specific application) can be used as a test sample having the same number of washing times or less for standard washing of other SEK Marks.

Refer to the number of washings in Table 1 List of SEK Mark applicable textile products at the end of this publication. However, if the tests shall be conducted beyond the highest number of washings in Table 1 List and passed the application for change of certification application or certification condition etc., another certification number will be given in addition to the normal certification number. When using the certification number obtained by testing beyond the maximum number of washings for the SEK Mark, it can be displayed in the SEK Mark as specitied in Section 5.1. In this case, even in the surveillance, the test must be conducted with the largest number of washings with a production record and the test results must be submitted.

(Tests shall be conducted on both an unwashed sample and a sample with the highest number of washings. In case the number of washings is changed when changes in certification conditions are applied, or in the case of comprehensive surveillance or regular surveillance, tests may be conducted only on a sample with the highest number of washings.)

16.2 Random Sampling

The test sample shall be a representative in the range of certification conditions to be applied for, and shall be randomly selected from a portion near the center of the finishing part of the lot of which reproducibility of actual finishing is ensured. (In the case of fabrics, avoid fabric edge and selvedges.)

16.3 Traceability & Submission of Test Samples

The test sample shall be managed and recorded with identification so that traceability is ensured. (Refer to Section 13.2.) The same test sample (5 cm by 5 cm) as the one on which the functionality test was conducted shall be attached to the application documents (functionality test data).

17. Washing Methods

The washing methods shall be in accordance with JEC326 Washing Methods for SEK Mark Textile Products. The detergent to be used shall be JAFET standard formulated detergent.

18. Antibacterial Tests

18.1 Test Methods

The tests shall be conducted in accordance with Table 18-1 Antibacterial test methods.

Table 18-1 Antibacterial test methods (Test reports shall have the JNLA Mark*1.)

Functional Finishing Name	Test Method	Quantitative measurement
Antibacterial finishing: Blue	JIS L 1902*2（Absorption method）	Plate count method (colony method) or Luminescence method (ATP method)
Antimicrobial finishing (General applications: orange)	JIS L 1902*2（Absorption method）	
Antimicrobial finishing (Specific applications: red)	JIS L 1902*2（Absorption method）	

*1: The test certificates of overseas testing agencies are also acceptable if they have the MRA mark.

*2: JIS L 1902: Testing for Antibacterial Activity and Efficacy on Textile Products

18.2 Tested Bacterial Species

The tested bacterial species shall be in accordance with those indicated in Table 18-2 Tested bacterial species.

Table 18.2 Tested Bacterial Species

Bacterial Species / Functional Finishing Name	*Staphylococcus aureus*	*Klebsiella pneumoniae*	*Escherichia coli*	*Pseudomonas aeruginosa*	*MRSA*	*Moraxella osloensis*
	NBRC 12732 / ATCC 6538P*	NBRC 13277 / ATCC 4352*	NBRC 3301	NBRC 3080	IID 1677 / ATCC 43300*	ATCC 19976
Antibacterial finishing: Blue	●	—	—	—	—	—
Antimicrobial finishing (General application: orange)	●	●	○	○	—	○
Antimicrobial finishing (Specific application: red)	●	●	○	○	●	○

●: Required bacteria (Species that require the submission of test data at the time of certification application)

○: Optional bacteria (Species that can be described in brochures, etc. by submitting test data)

* ATCC6538P, ATCC4352 and ATCC43300 can be used only when it is difficult for overseas testing agencies to obtain NBRC strains.

18.3 Evaluation criterion for bacterial liquid absorption methods

The evaluation criterion for bacterial liquid absorption methods are indicated in Table 18-3.

Table 18-3 Evaluation criterion for bacterial liquid absorption methods

Function Finishing Name	Evaluation Criterion	Test Validity Conditions
	A : Antibacterial activity value $A = (\log C_t - \log C_o) - (\log T_t - \log T_o) \geqq 2.2$ （in case of $\log C_o > \log T_o$） $A = \log C_t - \log T_t \geqq 2.2$	F（growth value）$= \log C_t - \log C_o$ $\geqq$ 1.0 (Plate count method) $\geqq$0.5（Luminescence method）
Antibacterial finishing: Blue	$A \geqq 2.2$	
Antimicrobial finishing (General application: orange)	$A \geqq F$	
Antimicrobial finishing (Specificl application: red)	$A > F$	

$\log C_o$: The common logarithm of arithmetic average of the numbers of bacteria, or the amount of ATP, obtained from three control speciments immediately after incubation

$\log C_t$: The common logarithm of arithmetic average of the numbers of bacteria, or the amount of ATP, obtained from three control speciments after an 18 h to 24 h incubation

$\log T_o$: The common logarithm of arithmetic average of the numbers of bacteria, or the amount of ATP, obtained from three antibacterial testing speciments immediately after incubation

$\log T_t$: The common logarithm of arithmetic average of the numbers of bacteria, or the amount of ATP, obtained from three antibacterial testing speciments after an 18 h to 24 h incubation

* The control speciments is a cloth sold by JTETC as a standard cloth for antibacterial test (cotton),which is treated by water-washing the attached white cloth (JIS L 0803, cotton 3-1) that described in the proviso of JIS L 1902 3.1.

18.4 Treatment when the test bacterial solution is difficult penetrate

In the case of a test piece in which the test bacterial solution is difficult to penetrate, a test bacterial solution containing 0.05% of nonionic surfactgant (Tween 80) may be used in accordance with JIS L 1902 Explanation 4.10 c).

18.5 (Reference) Relation between antibacterial and deodorant effects in antibacterial finishing

Appearing in "Senshoku", Issue No. 61, August 1988; Japan Textile Machinery Society, Dyeing and Finishing Research Group; Japanese Association for the Functional Evaluation of Textiles (currently Japan Textile Evaluation Technology Council), Antibacterial Finishing Committee (February, 1998)

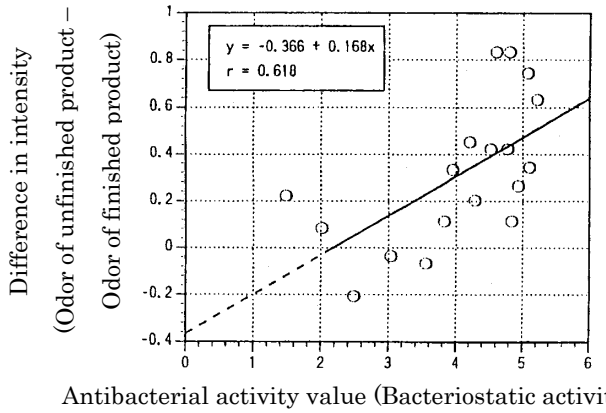


Figure 18-5 Relation between antibacterial and deodorant effects

(Commentary on Figure 18-5)

In order to determine the relation between antibacterial and deodorization effects, five kinds of antibacterial agents are used, and test samples are respectively made with 2-5 different finishing levels (antibacterial performance). Antibacterial tests and odor sensory tests (six-step method) were conducted using the quantitative test method (Absorption method) of standardized test methods (Currently JIS L 1902: Testing for Antibacterial Activity and Efficacy on Textile Products).

The results of odor sensory tests based on the antibacterial activity value, which is used to measure antibacterial property, and wear test are summarized in Figure 18-5. If the difference in odor intensity between unfinished and antibacterial finished products (odor of unfinished product – odor of finished product) is greater than 0, the antibacterial finished product has a deodorant effect. When the x value or antibacterial activity value is calculated substituting the y value of the regression equation with 0, it becomes 2.18. As an indication of the evaluation criterion of antibacterial textile products, it was noted that the antibacterial activity value in the unified test methods shall be larger than 2.18. In conclusion, when valid figures are taken into consideration, it would be appropriate that the evaluation criterion of antibacterial odor-preventing effects should have an antibacterial activity value of 2.2 or higher.

CHAPTER 6-2: Photocatalyst Antibacterial Tests

19. Photocatalyst Antibacterial Tests

19.1 Test Methods

The tests shall be conducted in accordance with Table 19-1 Photocatalyst antibacterial test methods.

Table 19-1 Photocatalyst antibacterial test methods

Test Method	Ultraviolet Radiation Conditions	Bacteria number measurement method after culturing	Pretreatment
JIS R 1702* (Glass Adhesion Method)	Wave length: 300～380 nm Irradiance: 0.25 mW/cm^2 or less Radiation time: 8 hours	Pour plate culture method (Colony method)	The test may be conducted if necessary. When testing, irradiate both untreated and treated test samples with 1.0 mW/cm^2 for 24 hours before autoclave sterilization.

* JIS R 1702 Fine ceramics (advanced ceramics, advanced technical ceramics) - Test method for antibacterial activity of photocatalytic materials and efficacy

19.2 Test Bacterial Species

The tests shall be conducted in accordance with Table 19-2 Test bacterial species.

Table 19-2 Test bacterial species

Species (number)	*Staphylococcus aureus*（NBRC 12732）	*Klebsiella pneumoniae*（NBRC 13277）

19.3 Evaluation Criterion

The evaluation criterion is indicated on Table 19-3.

Table 19-3 Evaluation criterion

Evaluation Criterion	Test Validity Conditions
S_L（antibacterial activity value）$=M_{BL}-M_L \geqq 2.0$ and $\triangle S$（ultraviolet irradiation effect）$^{*1}=(M_{BL}-M_L)-(M_{BD}-M_D) \geqq 1.0$	F_{BL}（ultraviolet radiation growth value）$=M_{BL}-M_{BA}>0$ and F_{BD}（dark growth value）$=M_{BD}-M_{BA}>0$

*1: $\triangle S$ should satisfy the evaluation criterion after the predetermined number of washings, and $\triangle S$ before washing shall also be shown.

L: Ultraviolet irradiance used for the tests（mW/cm^2）

M_{BL}: The average common logarithm for 3 units of bacteria count obtained from untreated test samples or control fabric after 8 hours of light irradiation under ultraviolet irradiance condition

M_L: The average common logarithm for 3 units of bacteria count obtained from photocatalyst antibacterial treated test samples after 8 hours of light irradiation under ultraviolet irradiance condition

M_{BD}: The average common logarithm for 3 units of bacteria count obtained from untreated test samples or control fabric after 8 hours of light irradiation

M_D: The average common logarithm for 3 units of bacteria count obtained from photocatalyst antibacterial treated test samples after left in the dark for 8 hours

M_{BA}: The average common logarithm for 3 units of bacteria count obtained from untreated test samples or control fabric immediately after inoculation

* The control speciments is a cloth sold by JTETC as a standard cloth for antibacterial test (cotton),which is treated by water-washing the attached white cloth (JIS L 0803, cotton 3-1) that described in the proviso of JIS L 1902 3.1.

19.4 Correspondence to bacterial growth inhibitory effects on control cloth itself

When a control fabric is used, care must be taken as the test validity conditions might not be satisfied due to the bacterial growth inhibitory effect produced on the control fabric itself by ultraviolet irradiance. In the case of $M_{BA} < M_{BL} < M_{BD}$, the unfinished cloth and standard cloth are expected to be releasing a bacterial

growth inhibitory effect from the time of ultraviolet radiation, $\triangle S$ may be calculated as $M_{BL} = M_{BD}$ by deducting this amount. In other words, it shall be $\triangle S = M_D - M_L \geqq 1.0$.

CHAPTER 6-3: Antifungal Tests

20. Antifungal Tests

20.1 Test Methods

The test methods are the ATP luminescence measurement methods specified in ISO 13629-1.

20.2 Test Fungus

Taking actual use into account, two or more of the four types of test fungi indicated in Table 20-2 are selected for testing.

Table 20-2 Test fungi

Type of Fungi	*Aspergillus niger*	*Penicillium citrinum*	*Cladosporium sphaerospermum*	*Trichophyton mentagrophytes*
Number	NBRC 105649	NBRC 6352	NBRC 6348	NBRC 32409

20.3 Evaluation Criterion

The evaluation criterion is indicated in Table 20-3.

Table 20-3 Evaluation criterion

Product Classification	Evaluation Criterion	Test Validity Conditions
	A_a : antifungal activity value $A_a = (\log C_t - \log C_o) - (\log T_t - \log T_o)$ (in case of $\log C_o > \log T_o \geqq \log T_t$) $A_a = \log C_t - \log T_t$	F (growth vakue) $= \log C_t - \log C_o \geqq 1.5$
A*1	$A_a \geqq 3.0$	
B*2	$A_a \geqq 2.0$	

*1: A has a fewer number of washings, fungus grows easily on the product, and is exemplified in Appendix Table 1 List of SEK Mark Applicable Textile Products.

*2: B is products other than those of A, and is exemplified in Appendix Table 1 List of SEK Mark Applicable Textile Products.

$\log C_o$: The common logarithm of arithmetic average of the amount of ATP, obtained from three control speciments immediately after incubation of test fungus

$\log C_t$: The common logarithm of arithmetic average of the amount of ATP, obtained from three control speciments after 42 h incubation of test fungus

$\log T_o$: The common logarithm of arithmetic average of the amount of ATP, obtained from three antifungal testing speciments immediately after incubation

$\log T_t$: The common logarithm of arithmetic average of the amount of ATP, obtained from three antifungal testing speciments after 42 h incubation

20.4 Correspondence to Cases of Trichophyton Growth Failure

In the case of Trichophyton growth failure on the control fabric, if the following inequality formula is satisfied, the evaluation criterion is assumed satisfied, as the growth of Trichophyton on an antifungal treated cloth is considered to have been inhibited.

In the case of product classification A ($A_a \geqq 3$): $1.5 \leqq F < 2$ and $(\log T_t - \log T_o) \leqq -1 \Rightarrow A_a$ satisfies evaluation criterion,

In the case of product classification B ($A_a \geqq 2$): $1.5 \leqq F < 2$ and $(\log T_t - \log T_o) \leqq 0 \Rightarrow A_a$ satisfies evaluation criterion.

21. Deodorant Tests

21.1 Test Methods

The test methods are organoleptic examination and/or instrumental analysis test method (detector tube method or gas chromatograph method).

An outline of organoleptic examination and instrumental analysis test method is given in Table 21-1 Organoleptic examination and instrumental analysis test method.

Table 21-1 Organoleptic examination and instrumental analysis test method

	Detector Tube Method	Gas Chromatograph Method	Organoleptic Examination
Odor component generation method	Master gas adjustment method or permeator	Drops by microsyringe	Drops by micropipette
Test sample size*1	100cm^{2}or 1.0g	50cm^2 or 0.5g	5×20 cm（100 cm^2） or 1.0 g
Pretreatment of sample	20℃、65% RH and humidity controlled for 24 or more hours		
No. of test pieces	n ＝ 3		n ＝ 1
Container	5 L sampling bag*2	500 ml Erlenmeyer flask	500 ml Erlenmeyer flask
Gas filling amount & adjustment liquid drip amount	3L	5μl	5μl*3
Measuring time (exposure time)	2 hours		

*1: The standard of woven and knitted fabrics, nonwoven fabrics, tapes, etc. is area, and that of yarns and fibers is weight. If the weight of a test sample of a predetermined area is less than 1 g in organoleptic examination and detection tube tests, the test sample may be adjusted within a range so that the sample does not exceed two times the 1 g sample weight and provisional area. If case the weight of a sample of provisional area is less than 0.5 g in the gas chromatograph method, it may be adjusted within a range so that the sample does not exceed two times the 0.5 g sample weight or provisional area. The sample is folded so that it is smaller than the provisional area for testing. It should be noted that weight of fiber samples is 2.4 g for organoleptic examination and detector tube test methods and 1.2 g for the gas chromatograph method.

*2: The sampling bags to be used are those made of vinyl alcohol-based polymer film (53 μm thickness) or polyester-based multi-layer (laminate) film (57 μm thickness).

*3: 1.0ml of the original odor gas of the hydrogen sulfide and 0.5ml of the original odor gas of the methyl mercaptan are njected by syringe.

21.2 Odor Category and Test Odor Components

The test odor components for each odor category are indicated in Table 21-2 Odor category and odor components. The description of the odor category on the SEK Mark may be limited to the typical odor category (Smell of Sweat. etc.).

Table 21-2 Odor category and odor components.

	Smell of Sweat	Smell of Nonenal	Smell of Excretion	Smell of Tobacco	Smell of Garbage	Smell of Ammonia
Ammonia	○	○	○	○	○	○
Acetic acid	○	○	○	○		
Isovaleric acid	○	○				
Nonenal		○				
Methyl mercaptan			○		○	
Hydrogen sulfide			○	○	○	
Indole			○			
Acetaldehyde				○		
Pyridine				○		
Trimethylamine					○	

If a single odor component besides the smell of ammonia constitutes the odor category, it is possible to apply for single odor components. However in this case, the effects other than from single odors cannot be mentioned.

21.3 Concentrations of Test Odor Components Used for Organoleptic Test Method

The concentrations of test odor components that are used for adjustment methods for test odor components of odor intensity 3.5 are indicated in Appendix Table 7. The concentration adjustment methods for determining odor components are indicated in Appendix Table 8.

21.4 Concentrations of Test Odor Components Used for Instrumental Analysis Method (Initial Concentration)

The concentrations (initial concentration) of test odor components that are used for the instrumental analysis test method are indicated in Table 21-4 Concentrations of test odor components (initial concentration).

Table 21-4 Concentrations of test odor components (initial concentration).

Detector Tube Method		Gas Chromatograph Method	
Test Odor Component	Initial Concentration	Test Odor Component	Initial Concentration
Ammonia	100 ppm	Nonenal	Approx. 14 ppm
Acetic acid	30 ppm[*1]		
Methyl mercaptan	8 ppm	Indole	Approx. 33 ppm
Hydrogen sulfide	4 ppm		
Acetaldehyde	14 ppm	Isovaleric acid	Approx. 38 ppm
Pyridine	12 ppm		
Trimethylamine	28 ppm		

*1: Acetic acid is measured using a one-range detector tube that requires no moisture correction.

21.5 Evaluation Criterion for Deodorant Testing Method

Organoleptic examination and instrumental analysis tests are conducted for each odor component, and it is necessary to pass both criterions.

However, in regard to the four odor components of ammonia, acetic acid, isovaleric acid and nonenal, organoleptic examination can be omitted if the reduction of odor components in instrumental analysis tests passes the criterion when only instruments provided in Table 21-7 are used.

21.6 Evaluation Criterion for Organoleptic Examination

The odor in the flask after the test and the odor of the test piece must be compared with the judgment odor (odor intensity is equivalent to 2.0), and five of the six panelers have to judge that both the odor in the flask and that of the test piece are equivalent or less than the intensity of the judgment odor.

21.7 Evaluation Criterion for Instrumental Analysis Test Method

In regard to all test odor components in each of the odor categories, the reduction in odor conponents by detector tube and gas chromagraphic methods shall be equivalent or higher than the values shown in Table 21-7.

Table 21-7 Method of calculating reduction in odor components and reduction in odor components

Test Method	Method of Calculating Reduction in Odor Components	Odor Component	Reduction in Odor Components (%)	
			Used with Organoleptic Examination	Only Instruments Used
Detector tube method	Odor reduction (%) ＝ (Sb – Sm) / Sb ×100 Sb : Average of blank test Sm: Average of measurement	Ammonia	70% or higher	80% or higher
		Acetic acid	―	70% or higher[*1]
		Methyl mercaptan	70% or higher	―
		Hydrogen sulfide	70% or higher	―
		Acetaldehyde	70% or higher	―
		Pyridine	70% or higher	―
		Trimethylamine	70% or higher	―

Gas chromatographic method	Odor reduction (%) ＝ (Sb – Sm) / Sb ×100 Sb : Average of peak area of blank test Sm: Average of peak area of test sample	Isovaleric acid Nonenal Indole	85% or higher 75% or higher 70% or higher	95% or higher 90% or higher —

*1: Acetic acid is measured using a one-range detector tube that requires no moisture correction. (If the detector tube is used, the organoleptic examination can be omitted because the correlation between the instrumental analysis test results and organoleptic examination results are confirmed.)

Appendix Table 7 Concentration adjustment method for test odor components of 3.5 odor intensity

Odor Component	Solvent	Preparation of Original Odor Solution & Original Odor Gas	500 ml Injection into Erlenmeyer Flask
Ammonia	Water	Guaranteed reagent (28%) 7.2 ml in distilled water → 100 ml	Aqueous solution 5 μl (Micropipette)
Acetic acid	Water	Guaranteed reagent (99.7%) 0.5 ml in distilled water → 100 ml	Aqueous solution 5 μl (Micropipette)
Isovaleric acid	Water	Guaranteed reagent (98%) 1.0 ml in distilled water → 100 ml ⇒ 0.5ml in distilled water → 100 ml	Aqueous solution 5 μl (Micropipette)
Hydrogen sulfide	—	Standard gas (10%) 1.0ml in air 1L	1.0 ml (Syringe)
Methyl mercaptan	—	0.1% standard gas cylinder	0.50 ml (Syringe)
Nonenal	Ethanol	Guaranteed reagent (95%) 0.7 ml in ethanol → 100 ml ⇒ 0.3 ml in ethanol → 100 ml	Ethanol solution 5 μl (Micropipette)
Indole	Ethanol	Guaranteed reagent (98%) 0.61 g in ethanol → 1000 ml	Ethanol solution 5 μl (Micropipette)
Acetaldehyde	Water	Extra-pure reagent (90%) 0.6 g in distilled water → 100 ml	Aqueous solution 5 μl (Micropipette)
Pyridine	Water	Guaranteed reagent (100%) 0.30ml in distilled water ⇒ 100 ml	Aqueous solution 5 μl (Micropipette)
Trimethylamine	Water	Guaranteed reagent (30%) 5 ml in distilled water → 100 ml ⇒ 1 ml in distilled water ⇒ 100 ml	Aqueous solution 5 μl (Micropipette)

Appendix Table 8 Concentration adjustment method for determining odor components of 2.0 odor intensity

① The original odor solution and original odor gas of 3.5 odor intensity are created on the basis of Appendix Table 7, and are diluted to the predetermined number of times for each odor component. The concentrations of original odor solution and original odor gas are adjusted for use as judgment odor gas equivalent to 2.0.

② Dilution is to be made with a solvent in the case of solution and odorless air in the case of gas.

③ The created original odor solution or original odor gas for use as judgment odor gas is injected into a 500 ml Erlenmeyer flask.

④ The injection amount is described in Appendix Table 7, and it becomes the judgment odor gas after it is left as it is for 120 minutes after injection (odor intensity is equivalent to 2.0).

⑤ The judgment odor gas is adjusted right before the test.

[Concentration adjustment method for judgment odor gas]

Odor Component	Dilution Rate	Odor Component	Dilution Rate
Ammonia	1/10	Nonenal	1/20
Acetic acid	1/10	Indole	1/50
Isovaleric acid	1/20	Acetaldehyde	1/20
Hydrogen sulfide	1/5	Pyridine	1/5
Methyl mercaptan	1/30	Trimethylamine	1/5

CHAPTER 6-5 Photocatalyst Deodorant Tests

22. Photocatalyst Deodorant Tests

22.1 Test Methods

The test method is the instrumental analysis test method (detector tube method). The test shall be conducted according to the procedure indicated in Appendix Table 9 Test flow chart. An outline of the test method is given in Table 22-1 Instrumental analysis test method (detector tube method).

Table 22-1 Instrumental analysis test method (detector tube method)

Odor component generation method	Master gas adjustment method or permeators		
Test sample size*1	100 cm^2	No. of test pieces	n＝2
Pretreatment of sample	It is processed for 3 hours under the condition of 1 mW/cm^2. If necessary, it may be extended to 24hours.		
Measuring time (Exposure time)	24 hr	Diluted gas	Humidity-conditioned air (20°C、65% RH)
Container	5 L sampling bag*2	Ultraviolet irradiation wavelength	300～380 nm
Gas filling amount	3 L	Ultraviolet irradiation illuminance	1 mW/cm^2

*1: If the weight of a test sample of predetermined area is less than 1 g, the test sample may be adjusted within a range so that the sample does not exceed two times the 1 g sample weight and predetermined area. When the test is conducted, the test sample is spread out so that the ultraviolet rays irradiate the entire surface of the sample. In regard to test samples that have been processed on one side, the test sample is placed so that ultraviolet rays irradiate the processed surface.

*2: The sampling bags to be used are those made of vinyl alcohol-based polymer film (53 μm thickness) or polyester-based multi-layer (laminate) film (57 μm thickness).

22.2 Test Odor Components

The test odor components shall be one or both of the following, and the odorous components tested are shall be described in the SEK Mark.

・Ammonia and acetaldehyde

22.3 Concentration of Test Odor Components for Instrumental Analysis Test Method (Initial Concentration)

The concentrations (initial concentration) of test odor components for use in the instrumental analysis test method are indicated in Table 22-3 Concentrations of test odor components (initial concentration).

Table 22-3 Concentrations of test odor components (initial concentration)

Test Odor Component	Initial Concentration	Test Odor Component	Initial Concentration
Ammonia	100 ppm	Acetaldehyde	14 ppm

22.4 Methods of Calculating Reduction of Test Odor Components and Photocatalyst Effects

The methods of calculating reduction of test odor components and photocatalyst effects are indicated in Table 22-4.

Table 22.4 Methods of Calculating Reduction of Test Odor Components and Photocatalyst Effects

Odor Component Reduction	R_L: Reduction under light condition (%)	$R_L=(L_0-L_1)/L_0\times100$	V: Photocatalyst effect (points)	$V = R_L - R_B$
	R_B: Reduction under dark conditionds (%)	$R_B=(B_0-B_1)/B_0\times100$		

L_0: Concentration of odor component for test (blank test) conducted without test sample under light conditions

L_1: Concentration of odor component for test conducted on test sample under light conditions

B_0: Concentration of odor component for test (blank test) conducted without test sample under dark conditions

B_1: Concentration of odor component for test conducted on test sample under dark conditions

22.5 Evaluation Criterion for Instrumental Analysis Test Method

The evaluation criterion for the odor component reduction and photocatalytic effects of test odor components are indicated in Table 22-5.

Both the reduction of odor components and the difference with the odor component reduction from photocatalytic effects shall meet the evaluation criterion.

Table 22-5 Evaluation criterion for reduction of odor components and photocatalyst effects

Evaluation Item	Evaluation Criterion
Odor component reduction after first exposure test (%)	$R_L \geqq 70$ and $R_B \geqq 70$[*1]
Difference in odor component reduction from photocatalyst effects $V = R_L - R_B$ (points)	$V_1 \geqq 20$ and $V_2 \geqq 20$

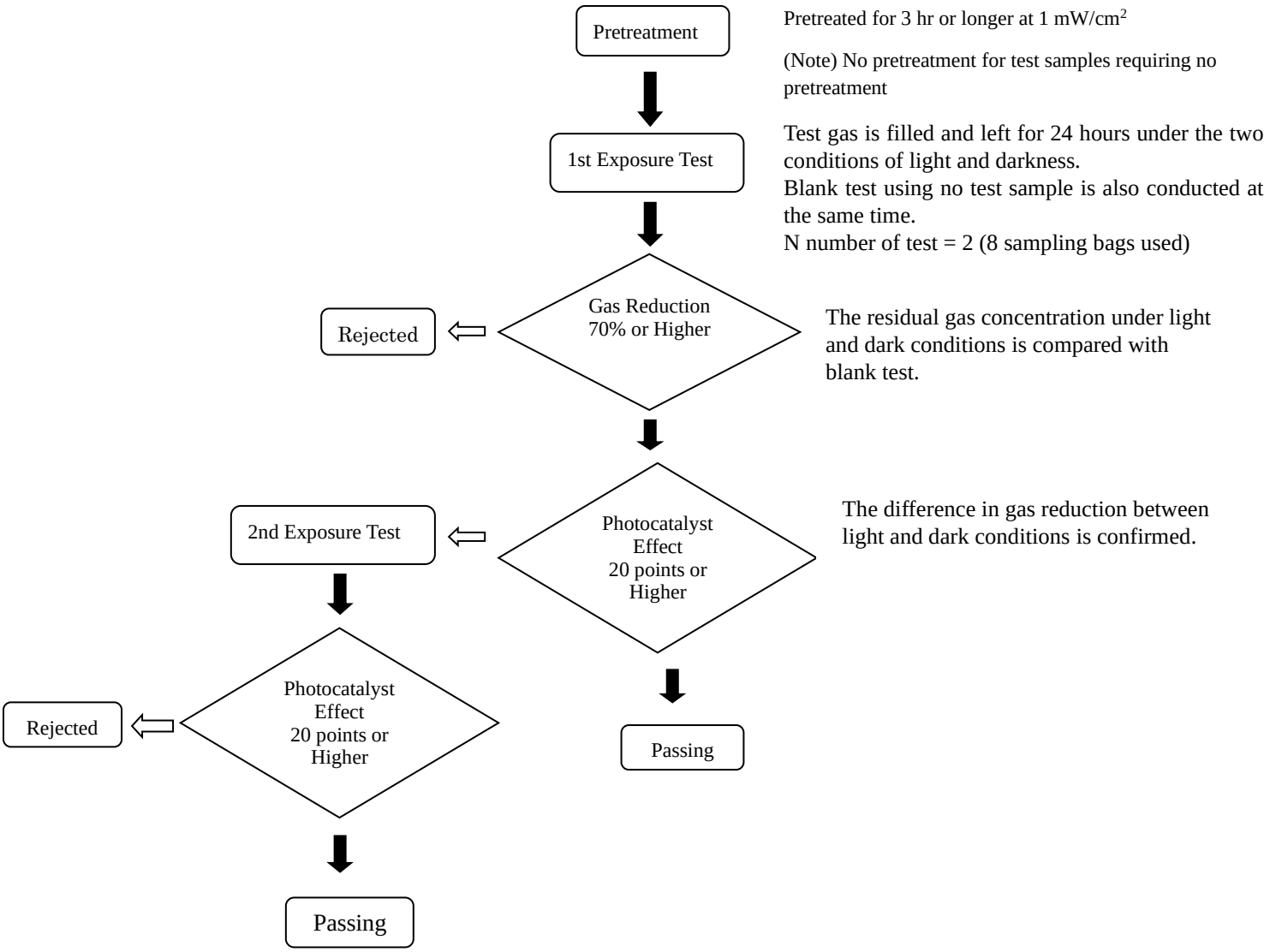
V1: Value obtained from first exposure test

V2: Value obtained from second exposure test

*1: The larger value between R_L and R_B shall be used. (Generally, it is R_L.)

*2: The difference (V) in odor component reduction from photocatalytic effects may meet the evaluation criterion after the predetermined number of washings, but the difference (V) in odor component reduction before washing shall also be shown.

Appendix Table 9 Test procedure flow chart for photocatalyst deodorant test



CHAPTER 6-6: Soil-Resistant Tests

23. Soil-Resistant Tests

23.1 Test Methods and Evaluation Methods and Evaluation Criterion

The test and evaluation methods shall be conducted as indicated in Table 23-1 Soil-resistant test methods and evaluation methods and evaluation criterion.

Table 23-1 Soil-resistant test methods and evaluation methods and evaluation criterion

Test Method		Evaluation Method & Evaluation Criterion	Test Item
JIS L 1919	A-1 (coarse granular soil such as mud)	Assessment by JIS staining grey scale (Absolute evaluation) Grade 3.5 or higher（SG/SR*1） (Comparative evaluation) Grade 3.0 or higher and difference with untreated cloth is 1.0 or higher（SG/SR*1）	White or light colored
	A-2 (Fine granular soil such as dust)		
	B (Hydrophilic soil)		
	C Contaminants-2 (Lipophilic soil)*2		
Designated optional methods (JTETC methods)	Pollen soil test (Coarse products which pollen pass through easly are excluded.)	Grade assessment by standard photo (Grade 1～5) SG is Grade 3.0 or higher and SR is Grade 4.0 or higher	Black or dark color or White or light colored
	Food stain test (Required) Curry, meat sauce, chili oil (Optional) Sauce, soy sauce, wine, coffee	Assessment by JIS staining grey scale (Absolute evaluation) Grade 4.0 or higher (SR)	White or light colored

*1: Both or either one of SG (difficult soil adherence) and SR (easy soil release by washing). However, the SEK Mark will not be granted for SR of B method alone.

23.2 Appendix terms

Table 23-2 Appendix terms (Mention of the representative appendix term is possible)

Test Method	SG	SR
A-1	Finishing for difficult adherence of coarse granular soil	Finishing for easy release of coarse granular soil
A-2	Finishing for difficult adherence of fine granular soil	Finishing for easy release of fine granular soil
B	Finishing for difficult adherence of aqueous soil	Finishing for easy release of aqueous soil
C	Finishing for difficult adherence of oily soil	Finishing for easy release of oily soil or sebum dirt
Pollen soil test	Finishing for difficult adherence and easy release of pollen	
Food stain test	—	Finishing for easy release of food stains

* In the case of Soil Guard & Release (SGR), “Finishing for difficult adherence and easy release of …” shall be additionally indicated. Pollen soil shall be only SGR.

23.3 Finishing Methods and Display of Agent Name

The soil-resistant finishing may also be a finishing method that uses no finishing agents. The display of the agent name on the mark in this case shall specifically describe the processong method, such as “Processing method: high-density fabric” or “Processing method: Calendering”.

23.4 5.2 Caution Description for Soil-Resistant Finishing

The Soil-Resistant Finishing Mark has the following caution note near the Mark in order to avoid conflicts with misleading interpretation of the Law for Ensuring the Quality, Efficacy and Safety of Drugs and Medical Devices and Act Against Unjustifiable Premiums and Misleading Representations (Premiums and Representations Act), as well as to avoid misleading consumers. ●: Required and ○: Recommended.

● ⚠ CAUTION

● This product is intended for soil that is appended to the mark, and has no effects on all types of dirt.

● Soil-resistant finishing does not make soil completely adhereable (or releaseable).

● Food stain test is conducted for curry, meat sauce, chili oil and ○○○. (Required only for food stains.)

○ If soil is adhered, the soil-resistant effects are greater if it is wiped and washed immediately.

CHAPTER 6-7: Antiviral Tests

24. Antiviral Tests

24.1 Test Methods

The test shall be conducted as indicated in Table 24-1 Antiviral test methods

Table 24-1 Antiviral test methods

Test Method		Test Sample	Exposure Time
JIS L 1922	Plaque method	0.4 g	25℃, 2 hours

24.2 Test viruses and host cells

Test viruses are selected from Table 24-2 Test viruses and host cells, and the predetermined virus strains and host cells shall be used,

Table 24-2 Test viruses and host cells

Test Virus	Virus Strain	Host Cell
Influenza virus	Type A influenza virus (H3N2) ● A/Hong Kong/8/68: TC adapted ATCC VR-1679	MDCK cells (Madin-Darby canine kidney) ● ATCC CCL-34
Feline calicivirus	Feline calicivirus ● F-9 ATCC VR-782	CRFK cells (Feline Renal Cell Line) ● ATCC CCL-94

24.3 Evaluation Criterion

The evaluation criterion is indicated in Table 24-3 Evaluation criterion.

Table 24-3 Evaluation criterion

Evaluation Criterion	Antiviral activity value: $Mv = \text{Log}(Va) - \text{Log}(Vc) \geqq 3.0$	
Test validity conditions	The virus infective titer of inoculated concentration for the test	Influenza virus suspension: $1 \sim 5 \times 10^7$ PFU/ml Feline calicivirus suspension : $1 \sim 5 \times 10^7$ PFU/ml
	To be confirmed the efficiency for suppression of agent activity of test specimen	
	The reduction value on control cloth : $M = \text{Log}(Va) - \text{Log}(Vb) \leqq 1.0$	

Log (*Va*): The common logarithm average of 3 infectivity titre value immediate after inoculation of the reference specimen

Log (*Vb*): The common logarithm average of 3 infectivity titre value after 2 h contacting with the reference specimen.

Log (*Vc*): The common logarithm average of 3 infectivity titre value after 2 h contacting with the antiviral fabric specimen.

24.4 Treatment for test pieces that are difficult for the test virus suspenskion to penetrate

In the case of a test piece in which the test virus suspension is difficult to penetrate, a test virus suspension containing 0.05% of nonionic surfactant (Tween 80) may be used in accordance with JIS L 1902 Explanation 4.10c).

24.5 Caution Description for Antiviral Finishing

The Antiviral Finishing Mark has the following caution note near the Mark in order to avoid conflicts with misleading interpretation of the Law for Ensuring the Quality, Efficacy and Safety of Drugs and Medical Devices and Act Against Unjustifiable Premiums and Misleading Representations (Premiums and Representations Act), as well as to avoid misleading consumers. ●: Required

● ⚠ CAUTION

● Antiviral finishing is not intended for the treatment or prevention of sicknesses.

● Antiviral tests are conducted with virus strains ATCC VR-1679 (with envelope) and ATCC VR-782 (without

envelope) that have been left for two hours at 25°C. (Test virus is only described.)

- This antiviral finished product does not inhibit the function of virus.

CHAPTER 6-8: UV Ray-shielding Tests

25. UV Ray shielding Tests

25.1 Test Methods

The test shall be conducted as indicated in Table 25-1 UV Ray shielding test methods.

Table 25-1 UV Ray shielding test methods

Test Method	Measurement Wavelength	Irradiation Method
JIS L 1925	290nm～400nm	Pre-spectral method or post-spectral method

25.2 Scope of application

Table 25-2 Scope of application

Processing Method	Registration
Kneading	Registered for each processing agent
Post-processing	
Due to material characteristics	Registered for each material characteristic
By color	Register the representative color

*If the evaluation criteria differ depending on the material or color, they must be registered separately.

*Performance evaluation must be carried out on a single piece of fabric.

*Excludes products that are designed to stretch intentionally when worn.

*If it is expected that the measurement results will vary widely depending on the texture and hue of jacquard, lace material, printed products, etc., the test should be conducted at the place where the UV Ray shielding rate is expected to be lower.

*For samples such as curtains where the back surface of the fabric is irradiated with ultraviolet rays during use, the back surface must be the measurement surface.

25.3 Evaluation Criterion

The evaluation criterion is indicated in Table 25-3 Evaluation criterion.

Table 25-3 Evaluation criterion

Evaluation method		UV Ray shielding rate (%) (JIS L 1925_7a)	UPF rating value (JIS L 1925 _8/ Annex B)
Target product name		Supplementary Table 1 List (Large Classification ①②③④⑤⑥⑦⑧⑨⑪⑫⑭⑮⑯)	Supplementary Table 1 List (Large Classification ②④⑧⑫)
Evaluation Criterion	A	98% or more	UPF50+
	B	90% or more	UPF15 or more

* UV Ray shielding rate: A calculated value of the ratio of the transmitted light of the sample to the incident light of the sample in the measurement wavelength range.

*UPF: UV protection factor. A value calculated by multiplying the ultraviolet transmittance in the measurement range by a numerical value indicating the degree of influence of the skin for each wavelength and the relative energy value of the spectral irradiance.

* UPF rating value: According to JIS L 1925.

☐The evaluation criteria for the target product are recommended, and it should be judged based on the product status, etc., and evaluated by either or both. However, products such as curtains that are not clearly supposed to be worn should be evaluated based on the UV Ray shielding rate.

☐When registering processed products with different evaluation criteria for each target product, a certification

number is assigned to each processed product.

☐Judge the evaluation method and evaluation criteria for each target product, and display either or both together with the evaluation criteria.

☐If the target product uses multiple UV Ray shielding effects with different evaluation criteria, the label shall be evaluation criteria B.

25.2 Appendix terms

☐Appendix terms must be displayed according to the evaluation criteria.

☐The effect of UV Ray shielding should be described by the UV Ray shielding rate (JIS L 1925_7a) or / and the UPF rating value (JIS L 1925_8/ Annex B). [Select either or both and enter.]

Illustrative: Textile products have an UV Ray shielding effect (shielding rate of 98% or more).
Textile products have an UV Ray shielding effect (shielding rate of 90% or more).
Textile products have an UV Ray shielding effect (shielding rate of 98% or more / UPF50 +).
Textile products have an UV Ray shielding effect (shielding rate of 90% or more / UPF15).
Textile products have an UV Ray shielding effect (UPF50 +).
Textile products have an UV Ray shielding effect (UPF15 or higher).

25.5 Expression method and processing agent name display

The UV Ray shielding process may be a processing method that does not use a processing agent (selection of material or color, etc). In this case, the method of expressing the ultraviolet shielding effect is specifically described instead of the processing agent name display.

Illustrative: (Due to material characteristics) → "Expression method: high-density woven fabric / high-density knit / wool / full dull" etc.
(By color) → "Expression method: use black / use dark color" etc.

25.6 Caution Description for UV Ray Shield finishing

The UV Ray Shield Finishing Mark has the following caution note near the Mark in order to avoid conflicts with misleading interpretation of the Law for Ensuring the Quality, Efficacy and Safety of Drugs and Medical Devices and Act Against Unjustifiable Premiums and Misleading Representations (Premiums and Representations Act), as well as to avoid misleading consumers. ●: Required

●  CAUTION

●The UV Ray shielding effect shows the performance of the fabric.

(Supplementary Provisions)

<April 1, 2012>

The implementation of new criterion values for acute oral toxicity tests, chromosome aberration tests and mouse lymphoma TK tests in "Safety Tests of Finishing Agents Consisting of Multiple Main Component (Multiple Components)" stipulated in Section 11.4 and "Safety Test Methods for Finishing Agents and Evaluation Criterion" stipulated in Table 11-1 has a grace period until March 31, 2015, and is not retroactive for the registered finishing agents.

Transitional measures in correspondence to the new criterion values of the above-mentioned acute oral toxicity tests shall be provided in the internal regulations by a separate Safety Working Group. The use of vinyl fluoride sampling bags in Sections 21.1 and 22.1 is allowed until March 31, 2013.

The description regarding soil-resistant finishing is tentative, and shall be determined at the time of inauguration of soil-resistance certification.

<October 1, 2012>

The accreditation of ISO/IEC Guide 65 (ISO/IEC 17065) from the Japan Accreditation Board (JAB) is limited to antibacterial finishing (SEK Blue Mark). Accordingly, all of the subjects from Chapter 6 -2 to Chapter 6 -6 are exempted from this accreditation.

<April 1, 2013>

The changes in the Deodorant Finishing Mark and Photocatalyst Deodorant Mark in Figure 5-1 shall be made within three years. Due to circumstances regarding printing of the Mark or time required for unification of Mark in respective product groups, etc., it is considered unavoidable to exceed this time limit.

<April 1, 2014>

No special supplementary provisions are made.

<April 1, 2015>

The implementation of acute oral toxicity tests, chromosome aberration tests and mouse lymphoma TK tests in "Safety Tests of Finishing Agents Consisting of Multiple Main Component (Multiple Components)" stipulated in Section 11.4 and "Safety Test Methods for Finishing Agents and Evaluation Criterion" stipulated in Table 11-1 had a grace period until March 31, 2015, but the grace period shall be extended to March 31, 2018.

The exclusion of some masks newly stipulated in Section 6.2 shall also have a grace period until March 31, 2018.

<April 1, 2016>

"The foreign corporation to apply thorough Japanese corporation as an agent" stipulated in Section 1.3 will be effective after the appointment to the General Assembly of 2016.

<April 1, 2018>

"Safety Tests of Finishing Agents Consisting of Multiple Main Component (Multiple Components)" stipulated in Section 11.4 had a grace period until March 31, 2018, but the grace period shall be extended to March 31, 2019.

<April 1, 2019>

No special supplementary provisions are made.

<April 1, 2020>

No special supplementary provisions are made.

<October 13, 2020>

No special supplementary provisions are made.

<June 1, 2021>

No special supplementary provisions are made.

<April 1, 2022>

No special supplementary provisions are made.

<April 1, 2023>

No special supplementary provisions are made.

<April 1, 2024>

No special supplementary provisions are made.

Supplementary Table 1 List of SEK Mark applicable textile products

Skin Patch Test	No. of Washings: Other than on the right	No. of Washings: Antimicrobial (Specific Applications)	Evaluation Criterion(Antifun	UPF rating value	Classification: Large Classification ICS Code	Classification: Medium Classification	
Required	10	50			① Fabrics 59.060, 59.080	Woven and knitted fabrics, nonwoven fabrics	
				○	② Apparel 61.020	Outerwear	Jackets, trousers, skirts, dresses, coats, winter wear, sweaters, cardigans, children's overalls, rompers, breastfeeding ponchos and capes, monk`s working clothes etc.
						Innerwear	Blouses, business shirts, T-shirts, etc.
						Athletic wear	Heaveyweight wear for kendo, judo, swimwear, etc.
						Underwear	Under garments, shirts, foundation garments (bras, girdles, corsets, bodysuits, etc.), lingeries (slips, chemises, petticoats, shorts, etc.)
						Sleepwear	Bedroom wear such as nightwear, pajamas, nightgowns, etc.
						Aprons	Aprons, kappogi (Japanese cooking wear), etc.
						Socks	Socks, tights[6], tabis (Japanese split-toe socks), etc.
					③ Beddings 97.160	Cotton pile blankets, bedsheets, bedcovers, waterproof sheets, bed pads, quilt covers, etc.	
				○	④ Sundries, etc. 61.040, 97.160	Towels, handkerchieves, scarves, supporters, kitchen towels, scourers, toiletry goods (toilet covers, etc.), adult diapers, adult diaper covers, bath mats, pelvic belts, belts for back pains, mops, wet towels, hug string	
					⑩ Yarns, Accessories 59.060, 61.040	Sewing thread, hand sewing thread, hand knitting yarn, embroidery yarn, fastener (tape part)[5]	
	5				⑤ Apparel 61.020	Kimono goods, pantyhose[6]	
		5			⑥ Beddings 97.160	Blankets, bedspreads, futon ticking, fabrics for such articles, Mouton, mattresses	
			A		⑦ Interior goods 97.140, 97.160	Upholstery, car seat covers, vehicle seat (out-side fabric)	
		10		○	⑧ Sundries, etc. 59.080,61.040, 61.060, 97.160	Headwear, gloves, neckties, shoes, insoles, mufflers, hoods, table napkins, arm covers, interlining (contacting the skin), bandage	
	3	5	A		⑨ Interior goods 59.080, 97.160	Carpets, tatami matting, goza (incl. goods made from rush), exercise mat	
					⑮ Sundries, etc. 97.160	Watch bands, masks[3], mask covers, slippers, electric blankets, electric feet warmers, stuffed dolls, sleeping bags, eye masks*, headphone cover, microphone cover, cushion(ticking)	
					⑱ Apparel 97.160	Kimono (including obi)	
	0	0			⑭ Disposables, Linens 97.150	Sweat pads, underwear, bedsheets, disposable covers (contacting the skin), disposable masks[3], disposable diapers, wipe sheet, disposable waterproof sheets, disposable eye masks[3], protective clothing, disposable light incontinence liner, disposable sanitary sheet, linen (contacting the skin)	
Not required	10	10			⑰ Sundries, etc. 97.160	Laundry nets, shower curtains	
	5	5	A		⑪ Interior goods 97.160	Curtains, blinds, partitions	
	3	10	A	○	⑫ Sundries, etc. 55.080,59.080, 97.160	Mats, tents, table cloths, interlinings (don't touch the skin), ropes, nets, business bags, school bags, bags, umbrellas, mask cases, glasses cases	
		5			⑬ Fibers 59.060	Fibers	Cotton, wool, polyester, acrylic, down, feather, nonwovens

	0	0	A		⑯ Sundries, etc. 97.160	Filters, wall cloths, strainers, disposable mops and mats (including rework rental), car floor mats, disposable curtains, screen doors, disposable covers(don't touch the skin)

1) A in evaluation criterion column is products described in Section 20.3, and the evaluation criterion is $A_a \geqq 3.0$ and for other products $A_a \geqq 2.0$.

2) The Soil-Resistant Finishing Mark excludes ⑨ interior goods, ⑩ yarns and ⑬ fibers.

3) Masks and eye masks do not include those in which the function-finished portion or processing agent come into direct contact with lips or nostrils or eyes.

4) The UPF rating value is for ICS code ②, ④, ⑧, ⑫, ⑱. The UV Ray Shield Finishing Mark excludes ⑩ yarns, accessories and ⑬ fibers from the applicable products.

5) Indication of partial use of fasteners is not permitted.

6) Tights should basically be made of long or short fibers of 33 decitex or more. Pantyhose should basically be made of long fibers of less than 33 decitex. If the product has a classification name, follow it.

Supplementary Table 2 List of products made with function-finished parts

Product	Treated Parts
② Apparel Outerwear, innerwear Jackets, trousers, skirts, dresses, coats, sweaters, cardigans, aprons	1) Main fabric, lining 2) Main fabric 3) Lining 4) Pocket bag fabric 5) Collar, cuffs
② Apparel Winter garments	1) Fiberfill (⑬ Fibers) 2) Skin-side fabric
② Apparel Bras	1) Cup, side 2) Cup 3) Size (armpits)
② Apparel Underwear, shirts, foundation garments (excl. bras), lingeries, swimwear	1) Skin-sidefabric 2) Main fabric
② Apparel Socks ⑤ Apparel Pantyhose	Portion covering footwear at time of use (sole, toe and heel)
② Apparel Tabis	Insole & instep linings
② Apparel Underwear (boxer briefs, shorts, etc)	Crotch cloth, chic, gusset cloth
③ Beddings (covers) Futon covers, pillow cases	Main body
③ Beddings (covers) Quilt covers	1) Outer fabric 2) Fiberfill 3) Back fabric
③ Beddings (bed sheets) Pile sheets, towel buckets	1)Pile portion 2)Base fabric part
④ Sundries (toiletry goods) Toilet covers	
① Fabrics Toweling ④ Sundries Towels ⑫ Sundries Mats	

④ Sundries Supporters, adult diapers & adult diaper covers	Skin-side portion
⑥ Beddings Futons	1) Ticking 2) Fiberfill (wadding) (⑬ Fibers)
⑧ Sundries Headwear	1) Main fabric 2) Skin-side 3) Slip 4) Lining 5) Interlining
⑧ Sundries Gloves, arm covers	1) Skin-side portions 2) Out-side portions
⑫ Sundries Bags, business bags, mask cases	1) Out-side portions 2) Inside 3) Handle
⑧ Sundries Shoes	Inner portion
⑧ Sundries Insoles	1) Fiberfill (⑬ Fibers) 2) Ticking
⑨ Interior goods Carpets	1) Pile portion 2) Base cloth portion
⑫ Sundries School bags	Portion that comes into contact with the back
⑭ Disposable products ⑮ Sundries Masks, eye masks	1) Front side 2) ○ layer (2nd layer from the table, etc.)
⑮ Sundries Watch bands	Skin-side portion
⑮ Sundries Sleeping bags ⑮ Sundries Stuffed dolls	1) Fiberfill (⑬ Fibers) 2) Ticking（Incl. inner portion）
⑮ Sundries Slippers	1) Fiberfill (⑬ Fibers) 2) Inner portion
⑥ Beddings Patchwork blanket	1) Skin-side 2) Pile
④⑯ Sundries Mop	1) Wiping surface 2) Pile
④ Sundries Wig	1) Base fabric 2) Hair
⑨ Interior goods Exercise mat	1) Ticking 2) Cushion material