Categories of Durability (Waterproofing and Light Resistance) Test for Voluntary Registration (Guideline)

- Durability Categories for Antibacterial, Antifungal, Antiviral Products, or Industrial Sterilization Coating Materials -

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1. Objective

    This reference categorization table shows the concept of test categories, product examples, and reference examples of test categories in order to assure the maximum possible level of consistency among member companies and among products in performing the durability test defined in Terms 4, 5, 6, and 7: "Voluntary Specifications for Quality and Safety" of the Rules and Detailed Rules of this society.

    Definition of durability test

    "Durability test" as used in this guideline refers to a series of tests for treating the products conferred with antibacterial, antifungal, and antiviral functions, etc. under preset conditions considering the environment where such products are normally used before testing their functions, and does not assure functional durability during actual use and product lifetime.

2. Points of Note in Operation
   1) The durability test is positioned as preparation for evaluating the antibacterial, antifungal, or antiviral activity which is necessary to register a product with SIAA.
   2) The reference categorization table shows product examples and test categories from the point of view of customers, in order to supplement the content (range) of application of the categories of waterproofing test [Table 1] and light resistance test [Table 2].
   3) The test categories are the guidelines for test conditions stipulated voluntarily by this society, and the content of this reference categorization table is not absolute.
   4) As products are used in various ways, the application category may differ depending on the usage environment and portion even in the case of an identical product.
   5) The test categories are defined under the responsibility of the company that registers the product and can grasp the actual condition of the product used. Additionally, the categories described in "Voluntary Registration Data Sheets Concerning Quality and Safety" shall be the same as the test conditions implemented.
   6) The content of this guideline may be reviewed and amended as needed.
   7) This guideline does not restrict the specifications (standards) of the industrial associations and institutions to which the member companies belong.

3. Durability Test (For details of test conditions, refer to test methods S08 and S09.)
   Waterproofing test and light resistance test are set as durability tests.

4-1. Categories of Waterproofing Test

    Assuming that the surface of a product conferred with antibacterial, antifungal, or antiviral function loses its functionality and performance becomes deteriorated when in contact with water (or warm water), a test according to the performance of the product (antibacterial, antifungal, or antiviral test) shall be implemented after treating a test piece under the test conditions (water temperature and immersion time) specified for waterproofing test categories.

    Waterproofing test is classified into four categories, considering the degree of contact of the product with water (Table 1).

Table 1 Categories of as well as temperature and immersion time for waterproofing test

| Category | Immersion conditions | | Applicability (Range) |
	Water temperature (°C)	Immersion time (hr.)	
0	Not performed		Products that do not come into contact with water (Products that do not come into contact with water in ordinary use settings, or come into contact with water only during cleaning, etc.)
1	Normal temperature[2]	16 - 18	Products that are unlikely to come into contact with water (Products that do not come into contact with water except for incidental splashing)
2	50 +/- 5	16 - 18	Products that often come into contact with water (Products for containing water or for use in water)
3	50 +/- 5	16 - 18	Products that often come into contact with warm water (Products for containing warm water or for use in warm water)

4-2. Categories of Light Resistance Test

Light resistance test, in which a test according to the performance of the product (antibacterial, antifungal, or antiviral test) is implemented after treating a test piece under the test conditions (testing device and irradiation time) specified for light resistance test categories, based on the assumption that the performance of a product conferred with antibacterial, antifungal, or antiviral function becomes deteriorated when it is exposed to light (in particular, ultraviolet ray), is classified into three categories considering the exposure of the product to light (Table 2).

Table 2 Categories of and irradiation conditions for light resistance test

| Category | Exposure time by type of tester (hr.) | | Applicability (Range) |
	Xenon	Sunshine	
0	Not performed		Products that do not require consideration of occasions of light exposure (disposable products, etc.)
1	10 +/- 0.5	8 +/- 0.4	Products unlikely to be used under light (products for indoor use etc.)
2	100 +/- 5	80 +/- 0.4	Products often exposed to light (products for constant outdoor use, lighting appliances, etc.)

[Reference Categorization Table] Product Classification Examples and Test Categories

Product category	Product examples	Waterproofing test (category)	Light resistance test (category)
Electrical appliances	Dishwashers (drain pans, interiors)	3	1
	Laundering machines (washing chambers), tableware dryers (drain pans, interiors), refrigerators (water reservoir tanks, drain pans, ice storage interiors), air-conditioners (drains, filters)	2	
	Supermarket showcases (racks, inside painted surfaces)	1	
	Vacuum cleaners (exteriors, handles), air conditioners (exteriors), refrigerators (door handles, exterior door packing), audio-visual equipment, microwave ovens (exteriors, handles), rice cookers (exteriors, handles), jar pots (exteriors, handles)	0	

	Jar pots (spouts, plugs), coffee makers (filters)	3	
	Cell phones	0	

Category	Items		
Housing materials and equipment	Roofing, outer wall materials, pavements, exterior paints, outdoor lighting appliances	3	2
	Bathtubs, shower heads		1
	Toilet bowls, kitchen sinks, sink drain traps, bathrooms (tiles, waterproofing pans, panels), shower hoses, washstands (washbowls), drain strainers	2	1
	Cement joints, garbage processors, washstands (counters, panels), bathroom handrails, flush toilets (levers, handles), kitchen counters, toilet seats with warm water cleaning function	1	
	Doorknobs, cocks, storage furniture, handrails (toilets, staircases), wallpaper, flooring materials, interior housing materials, toilet racks, interior paints, ceiling materials, tatami mat facing, staircases, wooden handrails, cupboards (doors, handles, cabinets), rush mats, floor finishing materials, paper holders, storage cabinets (toilets, lavatories)	0	
	Indoor lighting appliances (covers)		2
Kitchenware	Tableware, mugs,	3	1
	Cooking aprons, tool trays, seasoning cases	1	
	Towel hangers, dishcloth hangers, rice bins	0	
	chopping boards, Chopsticks, Sponges (scrubbing cloths/brushes), tableware drain boards, pails, kitchen baskets, bowls, corner boxes, sponges (scrubbing cloths/brushes) receptacles, soap receptacles, kitchen knives	2	
	kitchen vats, ladles	1	
	Trash boxes, sheets (for refrigerators, for sinks), baskets	0	
	Food wraps, storage bags (zipper bags), polyethylene bags, aluminum cups (dish cups)		0
Lavatory, bathroom and toiletry supplies	Stirring rods, drain boards, pails	2	1
	Corner boxes (for bathrooms, for sinks), bathtub covers, grating boards, bathroom stools, toilet brushes, bathroom curtains	1	
	Towel hangers, clothing baskets	0	
	Bathroom mats, soap cases, scrub receptacles, baskets, sponges (scrubbing brushes)	2	
	Sanitary pad trash boxes, toothbrush handles, razor handles	1	
Stationary	Mechanical pencils, pencils, rules, ballpoint pens, notebooks, boards laid under writing paper, staplers, books	0	1
Railway and automobile supplies	Handles, levers, films for preventing glass scattering	0	2
	Straps, net racks, interior parts		1
Others	Sand, exterior paints	3	2
	Glasses, water pillows, cosmetic cases	2	
	Boots, rain shoes, lunch boxes, toothbrush stands, food containers	1	1
	Microphones, clothing cases, trash boxes, hearing aids, cards, thermometers, tatami mats,	0	

	cassette tapes, floppy disks, companion animal beds, combs, paper, sand for companion animals		
	Disposable gloves, diapers, wet wipes, masks		0

Remarks: This guideline combines the following operation manual with "stipulated test conditions and categories" described in the durability test method. Due to the operation of this guideline, "Operating Manual for Product Classification Examples and Durability Test Categories - Antibacterial Power Durability Test for Antibacterial and Antifungal Products –" shall be abolished.

- "Operating Manual for Product Classification Examples and Durability Test Categories - Antibacterial Power Durability Test for Antibacterial and Antifungal Products –"
- Durability test method (2018) (1) Waterproofing test
- Durability test method (2018) (2) Light resistance test

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Formulated: July 29, 2019
Amended: November 22, 2021
Amended: December 14, 2021
(The registration of industrial sterilization coating materials shall be operated on or after April 1, 2022)

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