Standards that connect the world

SOFT99® EUROPE ヨーロッパ

Product Testing and Market Standarts

Japan Industrial Standards (JIS)

JISC
Japanese Industrial Standards Committee
日本産業標準調査会

JSA GROUP
Japanese Standards Association
日本規格協会グループ


The only standard
for chemical
products

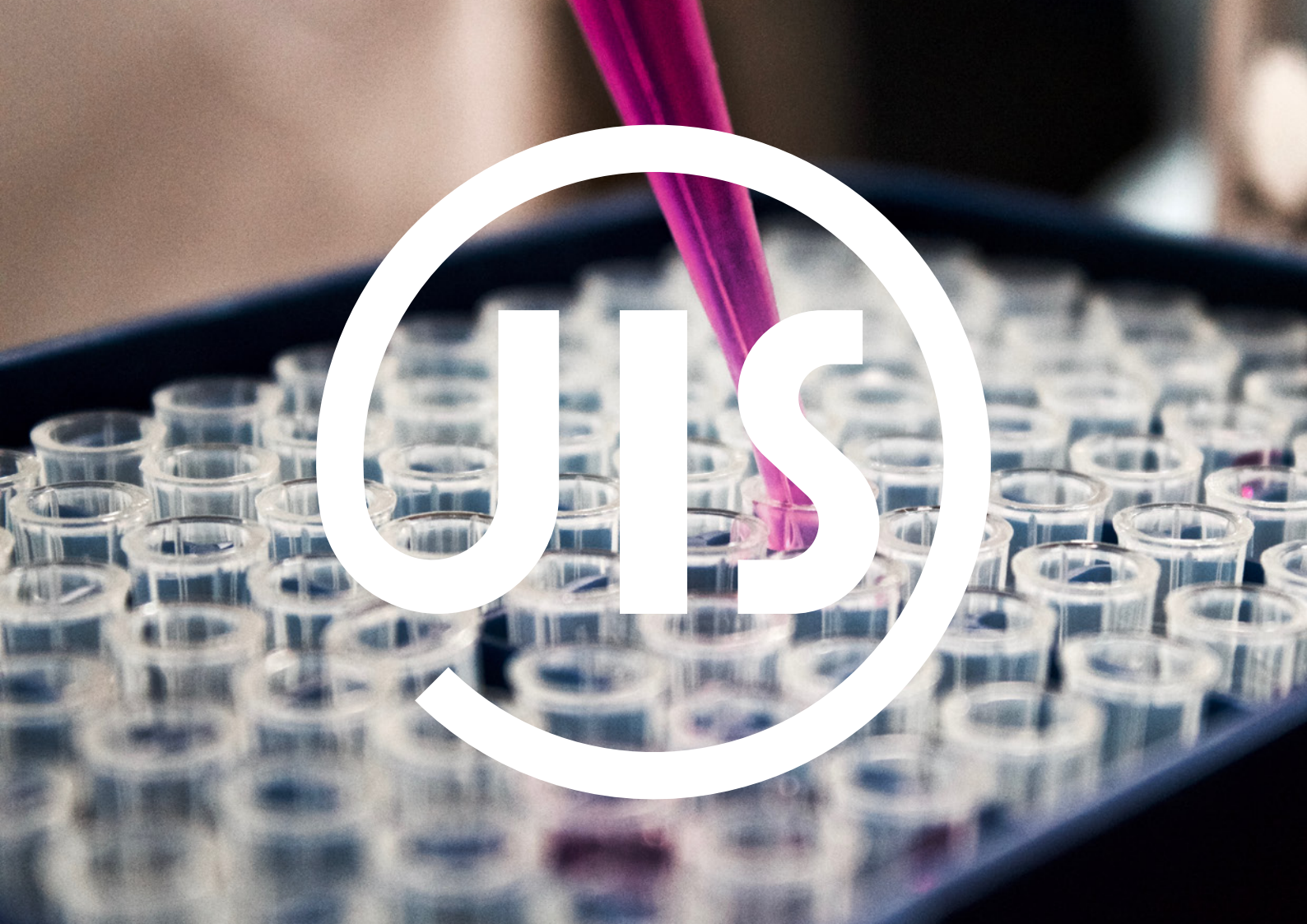
Japan Industrial Standards (JIS)

The first and only standard for chemical products in the world since 1945 year.

Product Testing and Market Standarts

Product durability and declarations regarding their properties in Japan must be verified in accordance with strictly defined standards and according to precise procedures.

All of the values are determined on the basis of standardized tests carried out in laboratory conditions.


UIS

Chemical Engineering from Japan

"K" means Chemical Engineering

Test conditions and their results are determined according to procedures and measures of the **Japanese Industrial Standards Committee (JISC)**.

The standards in which Soft99 moves in determining the durability of coatings are in the category "K" - Chemical Engineering.

The exact standard is K5400 – „Testing methods for paints".


UIS

Evaluation Method

Standards that connect the world

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Pencil hardness test
By JIS K 5400 8.4.2

02
Grid adhesion test
By JIS K 5400 8.5.2
“Grid Adhesive Tape”

03
Salty water resistance test
Painted surface
By JIS K 5400 8.23

04 Unpainted Surface
Salty water resistance
Unpainted surface test
By JIS K 5400 8.23

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UV resistance test
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By JIS K 2396 8.4.4
(Xenon Arc Lamp Method)

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By JIS K 5400 8.21

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Acid resistance test
By JIS K 5400 8.22

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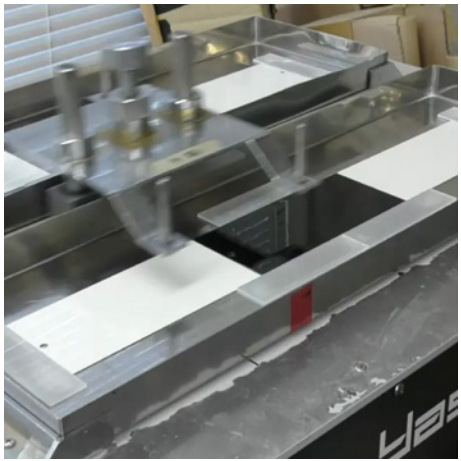
Hydrophobicity test
Contact angle test

01



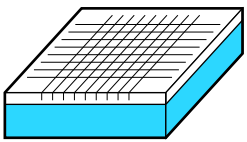
Pencil hardness test
By JIS K 5400 8.4.2

The test is carried out to check the scratch resistance of the coating (ability to protect the paint).

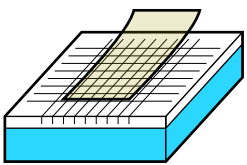
1. The test element is placed on the machine.
2. Any object (sponge, pencil) is placed in the arm of the machine, which is then moved several times over the surface of the test element, simulating normal use (such as cleaning with a sponge).
3. The test element is evaluated to determine the degree of degradation.

02

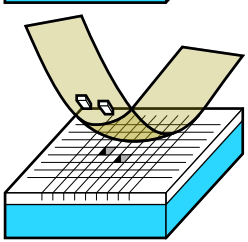
01
Cross-Hatched Cut



02
Stick tape



03
Peel off tape

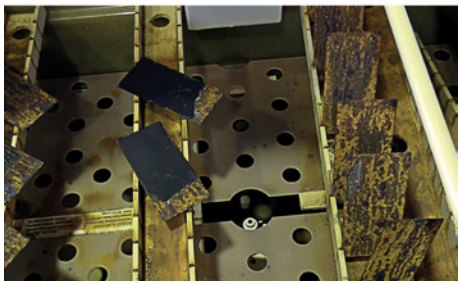


Grid adhesion test
By JIS K 5400 8.5.2
”Grid Adhesive Tape Method”

The test is carried out to check the ability of the coating to protect the paint and its adhesive ability.

1. The coated test item is cut into a grid.
2. A special tape is glued to the cut fragment.
3. The tape is peeled off rapidly.
4. If no paint flakes are visible, then the coating is considered effective in protecting the paint.

03



Salty water resistance test (Painted Surface) By JIS K 5400 8.23

Test carried out to check the ability of the coating to protect painted parts against rust.

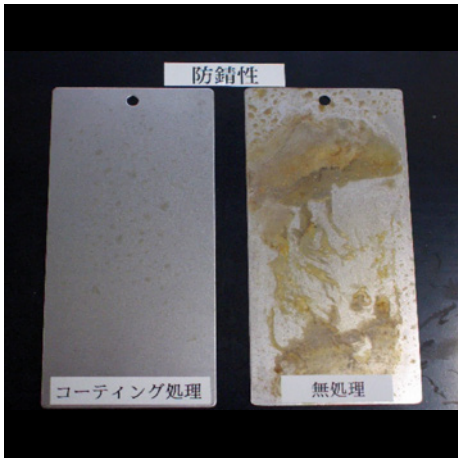
1. Coated test pieces and uncoated test pieces are placed in the test machine.

   IMPORTANT: Coated element is additonally cut (X) to check coating ability to protect damaged (scratched) Surface.

2. The machine sprays elements with the salty water in several cycles.

3. After each 4 hours, the samples are removed and their condition evaluated – as can be seen, the protected parts have not been covered with rust, and the coating has demonstrated protective capabilities.

04



Salty water resistance test (Unpainted Surface) By JIS K 5400 8.23

Test carried out to check the ability of the coating to protect unpainted parts against rust.

1. Coated test pieces and uncoated test pieces are placed in the test machine.
2. The machine sprays elements with the salty water in several cycles.
3. After each 4 hours, the samples are removed and their condition evaluated – as can be seen, the protected parts have not been covered with rust, and the coating has demonstrated protective capabilities.

05

UV Resistance test
By JIS K 2396 8.4.4

A basic test to simulate the main atmospheric factor (UV rays) and the durability of the exposed coating.

1. Coated test items are placed in the test machine.
2. The machine illuminates the test element with very strong Xenon light imitating sun rays.
3. After the assumed cycle, the sample undergoes verification. If it retained its properties, it is directed for further testing.

06

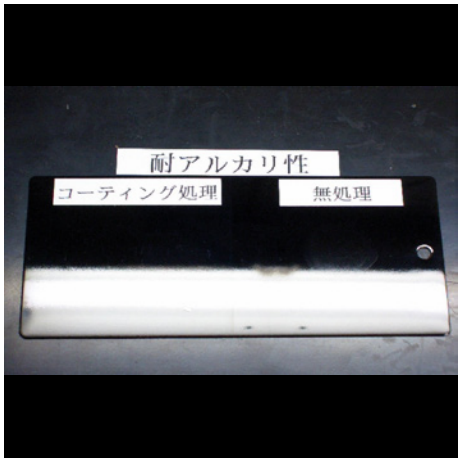
EXAMPLE: 1050 test hours = 7 months durability
IMPORTANT: This is a key test used for the entire Soft99 product range and determines the durability of products (in months)

Wheather resistance test By JIS K 2396 8.4.4 (Xenon Arc Lamp Method)

Extensive test simulating weather conditions. Its task is to assess the durability of the product and its ability to protect the surface.

1. Coated test items are placed in the test machine
2. The machine continuously illuminates the test element with very strong Xenon light
3. In addition, the element is sprinkled with water for 18 minutes every 2 hours.
4. One cycle lasts 150 hours. If after this time the gloss is maintained at 80% and the contact angle has not fallen below 90%, then the product is assumed to be durable for up to 1 month

07



Alkaline resistance test
By JIS K 5400 8.21

Test carried out to check the ability of the coating to protect against alkaline impact.

1. Alkaline is dropped on the component and left for a hour in 50°C.
2. Non coated area (right-half) occurred stain but applied area (left-half) is not damaged at all.

08

Acid resistance test

Test carried out to check the ability of the coating to protect against acid impact.

1. Diluted sulfuric acid is dropped and left for 30 minutes in 50°C.
2. Non coated area (right-half) occurred stain but applied area (left-half) is not damaged at all.

09

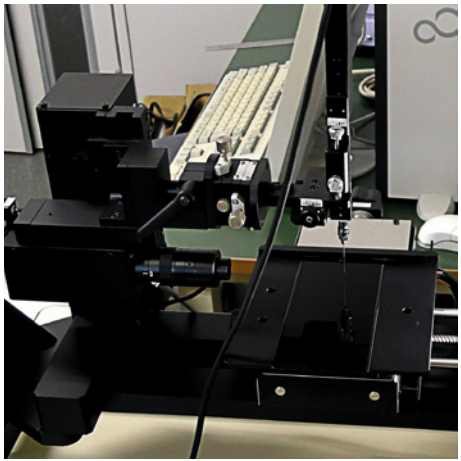
Environment simulator Additional test

Advanced test that allows you to simulate any specific weather conditions, such as humidity or temperature.

This machine is used not only for tests specified by law, but also for additional internal tests created by Soft99 Corporation.

It helps to check product performance in all possible conditions, simulating random wheather conditions from all over the world.

10



This machines helps to find optimum between beading and effective water sheeting.
IMPORTANT: This process is fully automated and results are provided by electronic system.

Hydrophobicity
Contact angle test

Test for determining and verifying the contact angle. In this way, the hydrophobic abilities of coatings and other products are determined

1. The coated test element is placed in the machine
2. A special nozzle generates a drop of water and places it on the test element
3. Advanced optics laser measure the contact angle. The smaller the contact surface, the greater the contact angle.

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