

Water tank life extension solution
[SUS coating] proposal

~ Bringing innovative technology to the world now ~



No update water tank required
Direct application without primer
Base material protection with stainless steel (SUS316L)



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FRP tank Upgrade – Stronger and like New!



Before
Application



After
Application

The useful life of the cistern is 15 years based on the cistern structural design calculation method.

Renewal of water tank requires the water outage in the building, and expensive cost. Therefore the building management tends to delay the water tank renewal.

Deteriorated cisterns are damaged and causing fiberglass scattering and panel damage, often requiring emergency work that is not originally necessary.

SUS-Coating is a revolutionary solution that transforms old tanks into like-new ones without producing industrial waste and specializing in the long-term life extension of facilities.

Age-related deterioration, internal stains

Bursting accident due to aging deterioration



Source : [https:// konyabon.com /ebina0513](https://konyabon.com/ebina0513)

May 2020 _

In 2020, an accident occurred at a commercial water storage facility when the tank burst because it could not withstand the water pressure inside.

Procrastination in renewal can affect the sanitation of the water reservoir and can cause unnecessary work and human casualties due to damage to the panels.

It is necessary to renew and repair the reservoir before an accident occurs.

internal stains



Source : [http:// www.sanwas.co.jp /concept3.html](http://www.sanwas.co.jp/concept3.html)

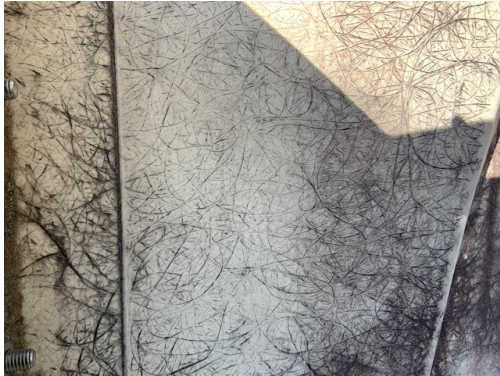
FRP deteriorates after about 10 years and sunlight passes through it, causing the growth of bacteria through photosynthesis.

Even if the interior is cleaned once a year, it often returns to the same condition six months later, and dirt and bacteria are mixed in.

By applying SUS-coating, it blocks sunlight going inside, and it prevents the formation of algae and the growth of bacteria, and makes it possible to keep the water storage hygienic.

■ Symptom like these?

exposed glass fiber



panel cracks



water leak



Rust on the frame



internal rust



Paint peeling



solves all the problem like this!

Exterior Deterioration Diagnosis

《 Example of exterior deterioration diagnosis report 》

〇〇病院様		様		NO: 001	
				調査実施日: 2023年〇月〇日	
貯水槽外装劣化診断報告書					
貯水槽の外装劣化診断について、結果を下記の通りにご報告いたします。					
建物の名称	〇〇病院様 本館		住 所	神奈川県横浜市	
対象水槽サイズ	2m x 4m x 3m 受水槽		年 式	1999年	
写真					
劣化状況	○ 即対応	● 要対応	○ 現状維持		
<p>貯水槽は水槽構造設計算法に基づき対応年数は15年に定められていますが、こちらの受水槽は設置から24年が経過していますので、補修もしくは更新をご検討ください。</p> <p>天端のFRPが薄くなりガラス繊維が露出していますので、強風でガラス繊維が飛散、人が吸引してしまうリスクがあります。</p> <p>現状のままですと、パネル破損が起り、断水、緊急工事が必要になる可能性が高くなりますので、補修など早急なご対応をお勧めいたします。</p>					
			〒231-0062 神奈川県横浜市中区桜木町2-24ビル4階 TEL: 045-947-3645 FAX: 045-947-3646 株式会社 秀 (Shu Inc.) 建設業許可: (般-1) 第86395号 貯水槽管理技術者: 0402013号 貯水槽診断士: 22-028号 水利用設備環境衛生士: 1322-1493号 自然災害調査士: 00002645号		
			 Shu Inc.		

A free exterior deterioration assessment will be performed if necessary for budgeting purposes.

Generally, it is difficult to tell how deteriorated a cistern is, and repair work tends to be pushed back.

Application

Scope of Application

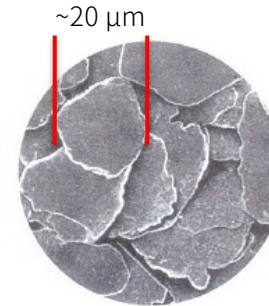
Sus coating is applied to the FRP body, steel-racks, steel frames, and other attached accessories.

The coating's stainless pigment (SUS316L) has excellent corrosion resistance to non-oxidizing acids and corrosive gases.

When magnified under a microscope, the film adheres strongly in multiple layers in a scale-like structure, preventing degradation without hydrolysis.



Before coating application
(FRP elevated water tank)



Food Sanitation Law Ministry of Health and Welfare Notification No. 20 Passed

→Harmless to the human body

Total light transmittance (JIS K7105 optical special test) 0%

→Preventing the growth of algae and bacteria in the aquarium

Application Procedure

(1) Base preparation (high pressure washing/cleaning)



If high-pressure water cleaning is not possible, use a brush or scraper to remove dirt from the FRP body.

The trestle and steel frame parts are removed with a wire brush to remove rust and old paint.

Finish by removing old paint, rust, and aged old coatings with an electric brush.

If algae is adhering to the surface, wash with water and dry thoroughly using a blower.

(2) Base de-greasing treatment



Degrease the FRP body, dry it after degreasing, and wipe off any dust.

Corners and bolt attachment areas should be degreased thoroughly.

Application Procedure

(3) Coating



Caulking is applied to the joints at the top edge to prevent rainwater contamination.

To firmly adhere the glass fibers of the FRP body, the top edge is painted 4 times, and the sides, bottom, base, and attached parts are painted 3 times.

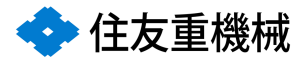
(4) Complete



Visually inspect the exterior to ensure that there are no uneven coatings or cracks on the outside of the tank.

*Yellowing may occur after installation, but this does not affect the protection of the base material.

■ Clients (example)



Cost and Process Comparison

	SUS-Coating	Painting work	Water tank Replacement
process	Washing	Washing	Temporary tank installation Piping switching
	Degreasing	Degreasing	Demolition of existing tank and rebuilding of foundation
	suspension coating	sanding	Assembling a new tank
		Degreasing	Special industrial waste treatment
		Primer	
		* No primer	Painting
	* No water outage	* No water outage	* Water outage may occur
Construction period	5 days	10 days	14 days
initial cost	¥5,000,000	¥1,000,000	¥15,000,000
20 years from now	Suspension coating 1 time	Painting work 2 times, renewal work 1 time	Renewal work twice
Total cost after 20 years	first time ¥5,000,000 only	total ¥17,000,000	total ¥30,000,000
Maintenance period	39 years of life extension No need for renewal or repainting	Repaint every 10 years due to no protection on tank body materials. Need tank replacement eventually	Replace every 15 to 20 years * Recommended by each water tank manufacturer

* Comes with a 10- year warranty from the suspension coating headquarters .

* It may turn yellow after installation, but this will not affect the protection of the base material.

* We can give you a quote if you send us a photo of the water tank (front and side).

* Inspection and cleaning is required by law and is required every year even after SUS coating application.

* Replacing a water tank takes 10 years to depreciate , but SUS coating can be depreciated in a lump sum as a repair cost.

*estimation on 45t size tank

SUS Coating Headquarter
Shu Inc. _



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 **Sus-Coating**



Video
explanation



References