



SB & M
Lifetime
Solution

แนะนำ: CPAC SB&M Lifetime Solution Co., Ltd.

SHO-BOND & MIT has been developing new businesses globally through partnerships between Sho-Bond Group and Mitsui & Co., Ltd. making full use of the diverse industry network. In November 2020, **CPAC SB&M Lifetime Solution Co., Ltd.** has been established with **CPAC**, one stop solution provider in Thailand, aiming to develop maintenance business in south-east Asia.



SHO-BOND HOLDINGS CO., LTD.
ショーボンドホールディングス株式会社



mitsui & co.

51%

49%



SHO-BOND & MIT
Infrastructure Maintenance Corporation

49%



SCG
SIAM CEMENT GROUP



51%



Company Name	SHO-BOND & MIT Infrastructure Maintenance Corporation (SB&M)
Head Office	Tokyo, Japan
Business activities	Structural maintenance of roads, bridges, railways, ports, and building overseas
Investment ratio	SHO-BOND HOLDINGS 51%、 MITSUI 49%
Incorporation	April 1, 2019

Company Name	CPAC SB&M Lifetime Solution Co., Ltd.
Head Office	Bangkok, Thailand
Business activities	Maintenance business for roads, bridges, railways, ports, buildings, and other structures in Southeast Asia
Investment ratio	CPAC 51%、 SB&M 49%
Incorporation	November 6, 2020



Assessment & Consulting

- Structural Assessment/ Analysis
- Deep Inspection with Hi-Technology
- Structural Health Monitoring
- Consultant for Repairing method



Strengthening

- Strengthening of Structures
- Changing Usage Conditions
- Increasing Structural Performance
- Increasing Durability



Repairing & Maintenance

- Engineering Technique
- Hi-Performance Materials
- Safety Working Conditions
- Extend Lifetime of Structures



Structural Protection

- Cathodic Protection Techniques
- Concrete Surface Coating
- Special Coatings for Steel Structures
- Moisture cure Coating
- Underwater & Wet Surface Coatings



Material Provider with Research & Development

- Research and Development for Repairing Materials
- Produce, Import, and Distribute Hi-Performance and Quality of Repairing Materials

Innovation of Repairing Materials for Structures

September 29th, 2025

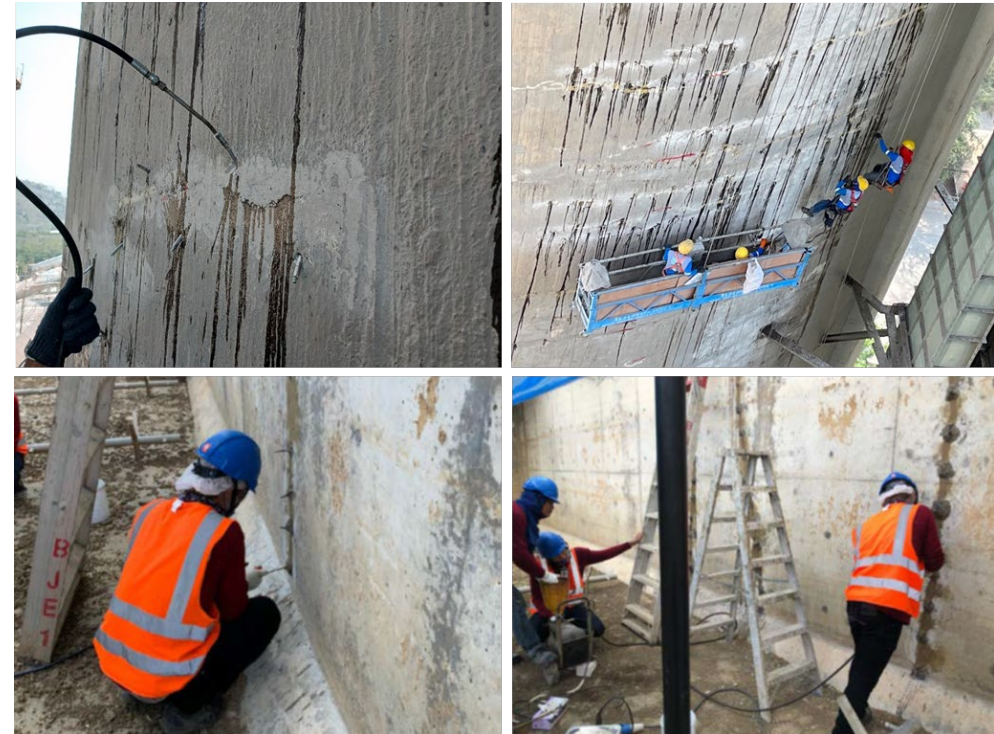
Presented By Chawis Thongyothee, Ph.D.

1. Repairing Cracks

- Crack width is not over than 0.3 mm (Depending on the inspector)
- Using Epoxy Resin for repairing cracks in concrete
- High- and Low- pressure techniques can be applied

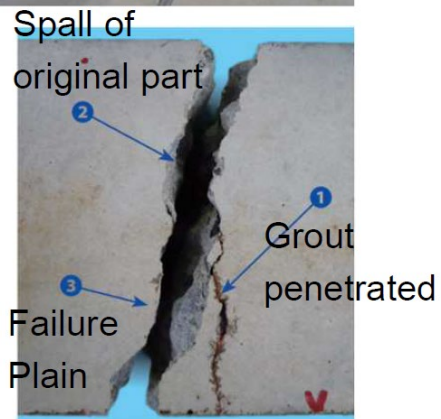
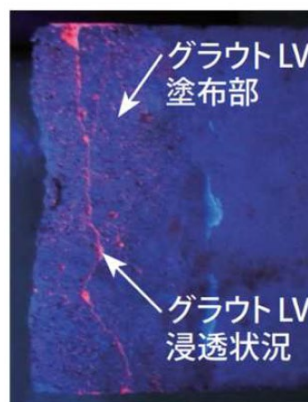
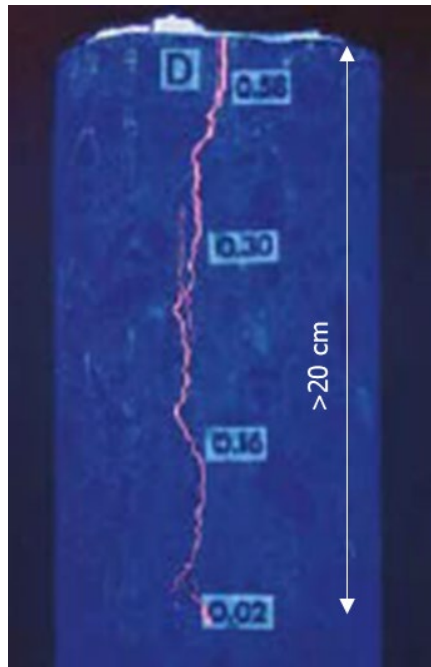
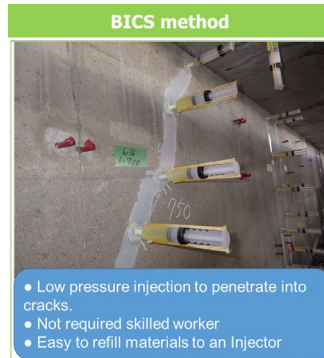


Low Pressure Technique



High Pressure Technique

Example: Low Pressure Technique with BL-Grout by Sho-Bond



Testing Results

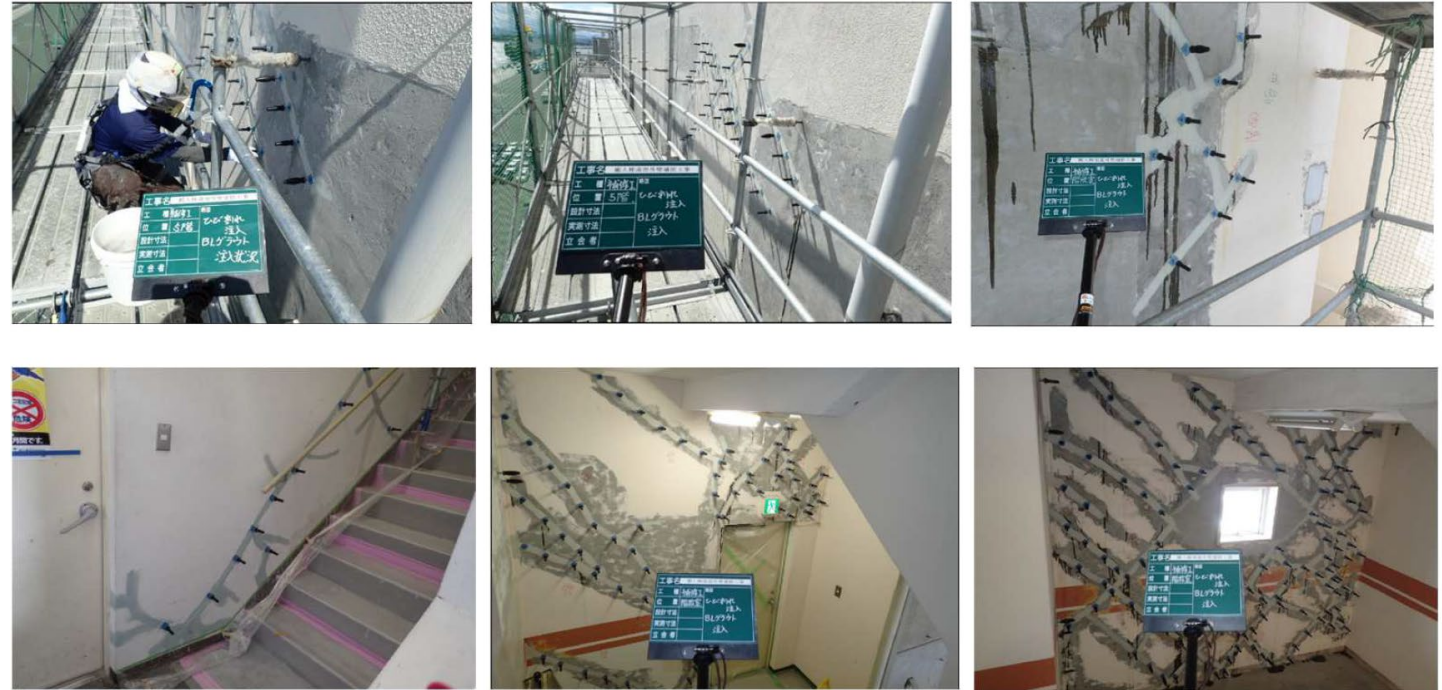


Project Reference in Thailand (CPAC SB&M) in 2024

Example: Low Pressure Technique with BL-Grout by Sho-Bond



Project Reference in Japan (Sho-Bond) in 1995



Project Reference in Japan (Sho-Bond) in 2011

2. Section Repaired with Small Area

- Deterioration of concrete surface with various reasons
- Spalling of concrete surface and no rebars covers
- Rust on rebars (Corrosion) and loss of rebar-section
- Damage area is in a range 0.30 – 1.00 m (Depending on the inspector)
- Patching with Modify Polymer Cement (Fiber riches)



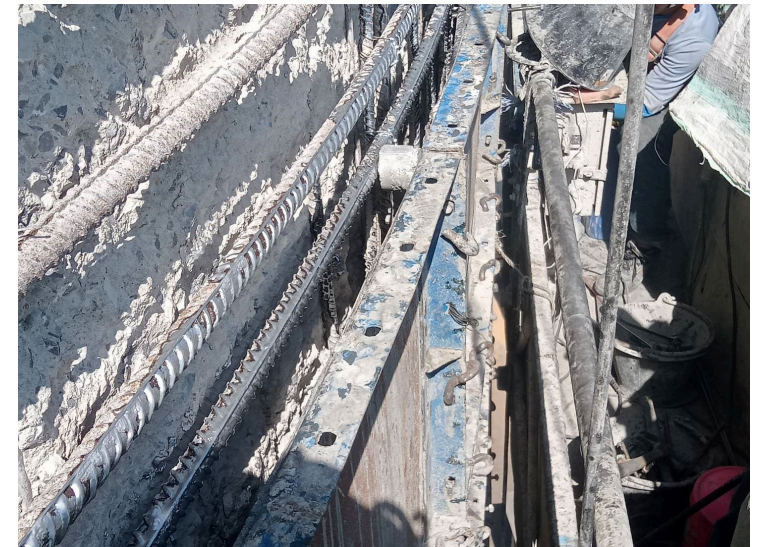
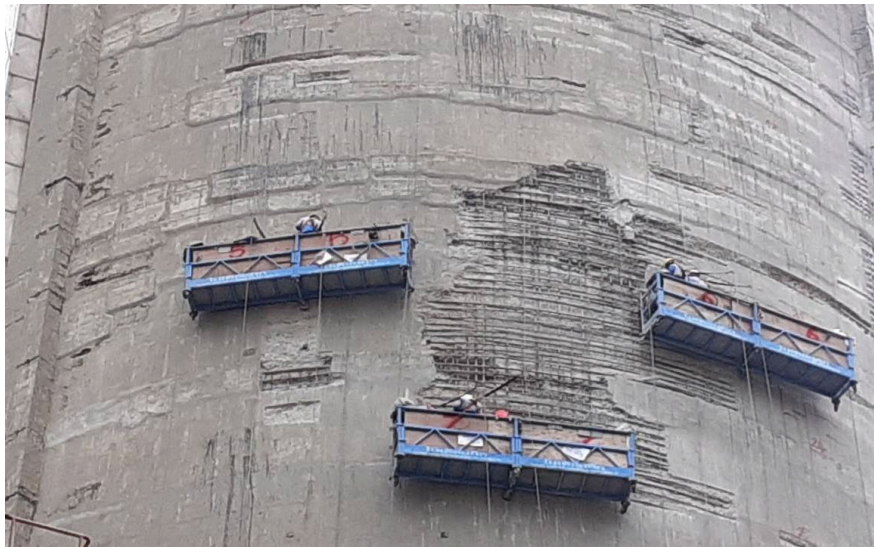
Example: Section Repaired with Small area by Patching Method



Repairing Processes with Patching Method

3. Section Repaired with Large Area

- Deterioration of concrete surface with various reasons
- Spalling of concrete surface and no rebars covers
- Rust on rebars (Corrosion) and loss of rebar-section
- Damage area is larger than 1.00 m (Depending on the inspector)
- Grouting with Modify Polymer Cement (Non-Shrink Grout)



Example: Section Repaired with Large area by Grouting Method



Repairing Processes with Grouting Method (Column)

Example: Section Repaired with Large area by Grouting Method

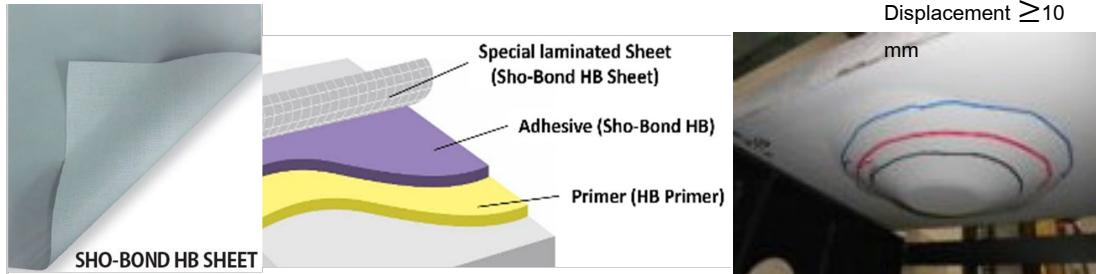


Repairing Processes with Grouting Method (Floor)

Structural Protection (1)

HB Sheet – Spalling Prevention

Weight ≥ 150 kg
Displacement ≥ 10 mm



Features

- 1 **Protect** concrete from water, chloride ion and carbon dioxide invasion
- 2 Excellent **spalling prevention** performance
- 3 Due to factory products, performance and finished quality are **stable**
- 4 **Possible to apply over** HYBRID SHEET without peeling off when additional reinforcement (CFRP etc.) would be required in future



Installing HB Sheet for Spalling Prevention of Concrete

Concrete Anode – Corrosion Protection



Installing Concrete Anode for Protecting Rebars inside Concrete Structures

Structural Protection (2)

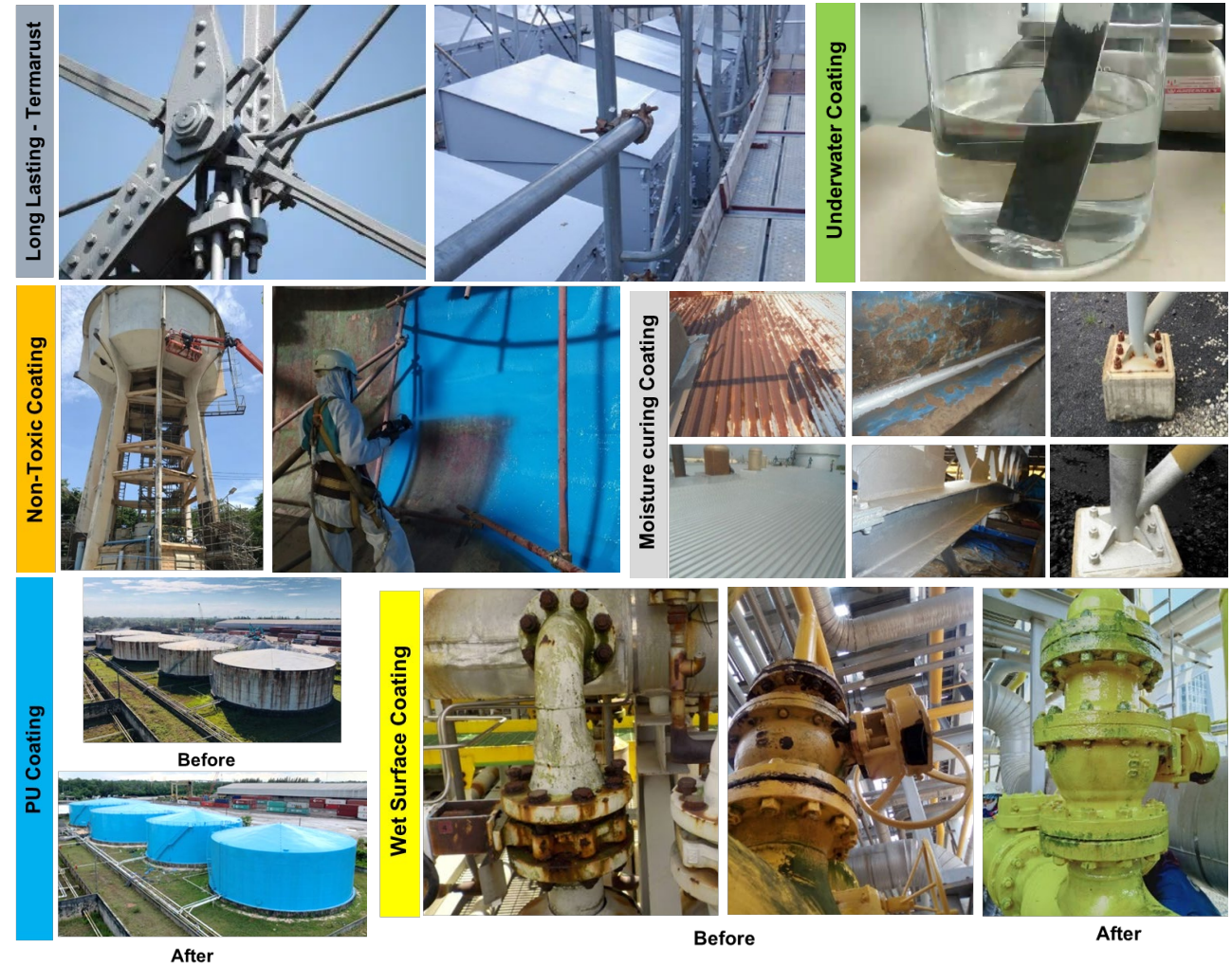
New Span Guard TS – Surface Coating



Coating Concrete Surface with New Span Guard

It can be extended lifetime of concrete more than **30+ years**.

Special Coating – Structural Protection



Special Coatings for Steel Structures in various cases

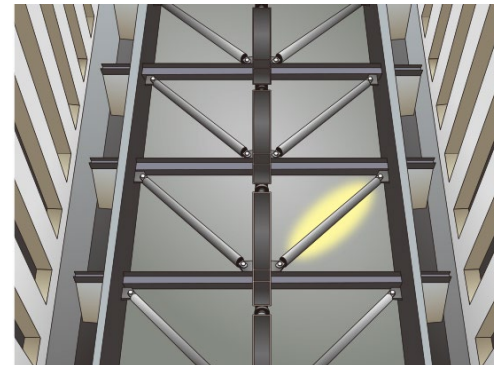
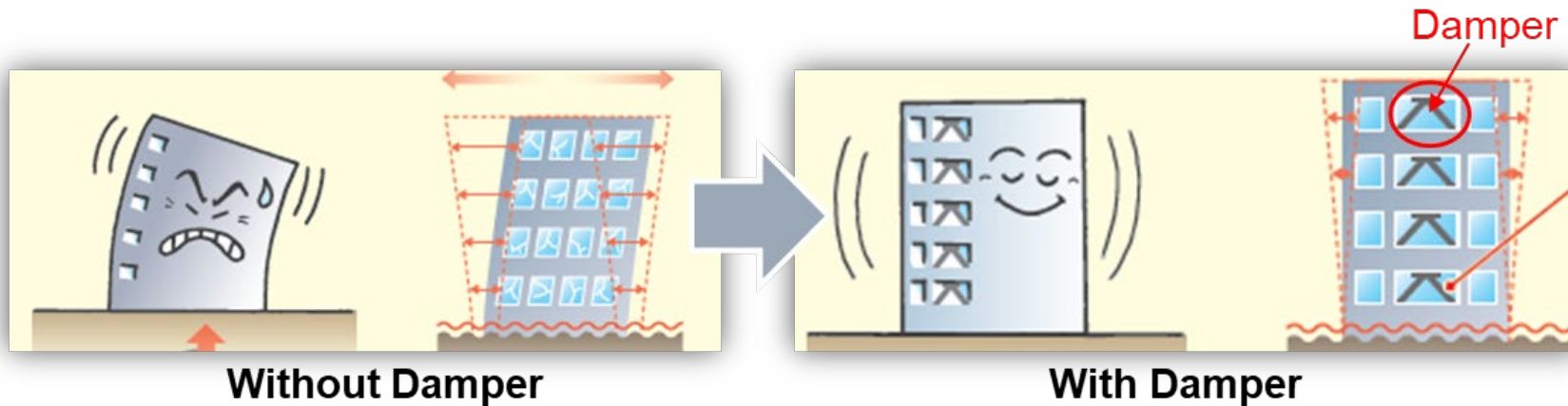
Damper – Energy Release/ Reduce Shaking

A damping system:




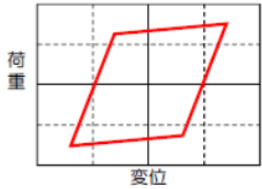
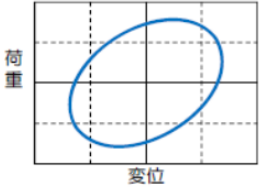
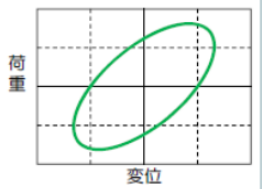
- Damping systems use devices called “**Dampers**” to reduce shaking.
- These devices absorb seismic energy and prevent structural damage.

What causes buildings to shake?

- Earthquakes
- Strong winds
- Vibrating from human activities (traffic & construction)

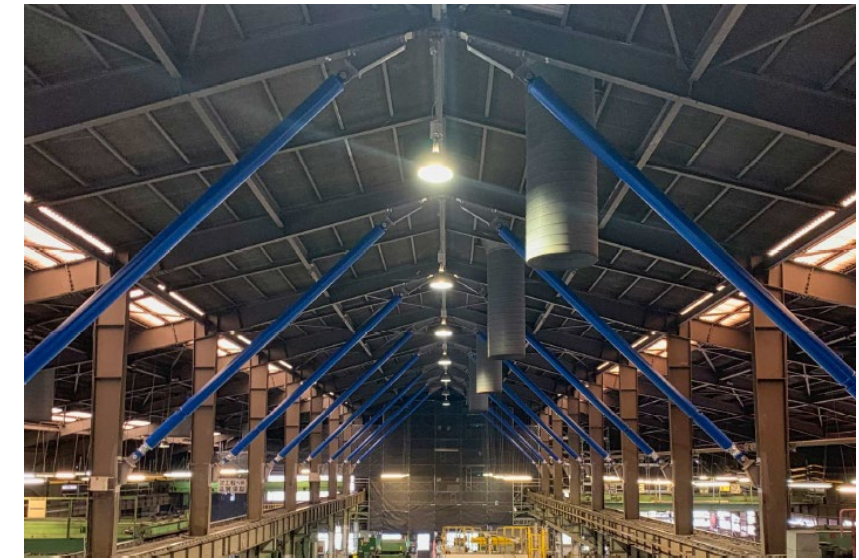


Types of Dampers

	Steel Damper (Metallic Type)	Viscous Damper (Oil Type)	Viscoelastic Damper (Rubber Type)
			
Principle	• Metal deformation	• Oil viscosity	• Rubber elasticity
Behavior			
Temperature effect	✓ Stable	✓ Stable	✗ Changes with temperature
Durability	✗ Wears with time	✓ Very durable	✓ Very durable
Performance	✓ Good for strong shaking ✗ Not effective for light shaking	✓ Works for both big and small vibrations	✓ Works well for small vibrations
Cost	✓ Low	High	High

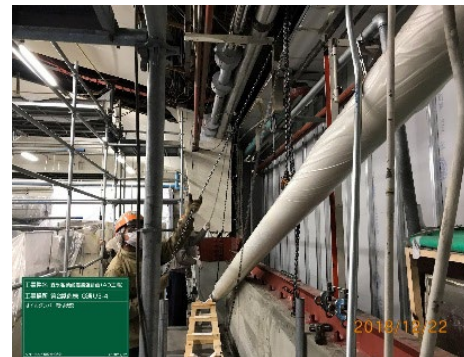
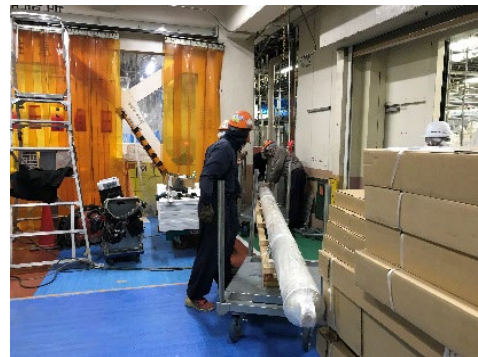
Example: Used cases with Damper in Japan (1)

Building	Automobile parts manufacturing plant
Build. area	11,498 m ²
Construction details	Hydraulic dampers: 200 kN x 103 pcs
Features	<ul style="list-style-type: none"> ➤ Seismic damping implemented while keeping the factory operational. ➤ No welding required, eliminating fire hazards.



Example: Used cases with Damper in Japan (2)

Building	Food factory
Build. area	2,436m ²
Construction details	Hydraulic dampers: 150 kN x 3, 120 kN x 5 Roof cable braces: 16 sets
Features	<ul style="list-style-type: none"> ➤ Seismic damping achieved with minimal operation downtime. ➤ No welding required, ensuring fire-free construction.



End of Presentation

Thank you for your kind attention



ご静聴ありがとうございました

No equipment

Damper

Isolation