

Corrosion-resistant concrete products

- Hazama Ando corp.
- Global Works Co., Ltd.
- Tokyo City University

Admixture **added in advance** to concrete to **inhibit the activity** of sulfur-oxidizing bacteria and iron-oxidizing bacteria that cause sulfuric acid deterioration in concrete.

- Current antimicrobial agent (S)
- ➔ Mainly used in Japan
- New antimicrobial agent (C)
- ➔ Use outside Japan

Antimicrobial agent



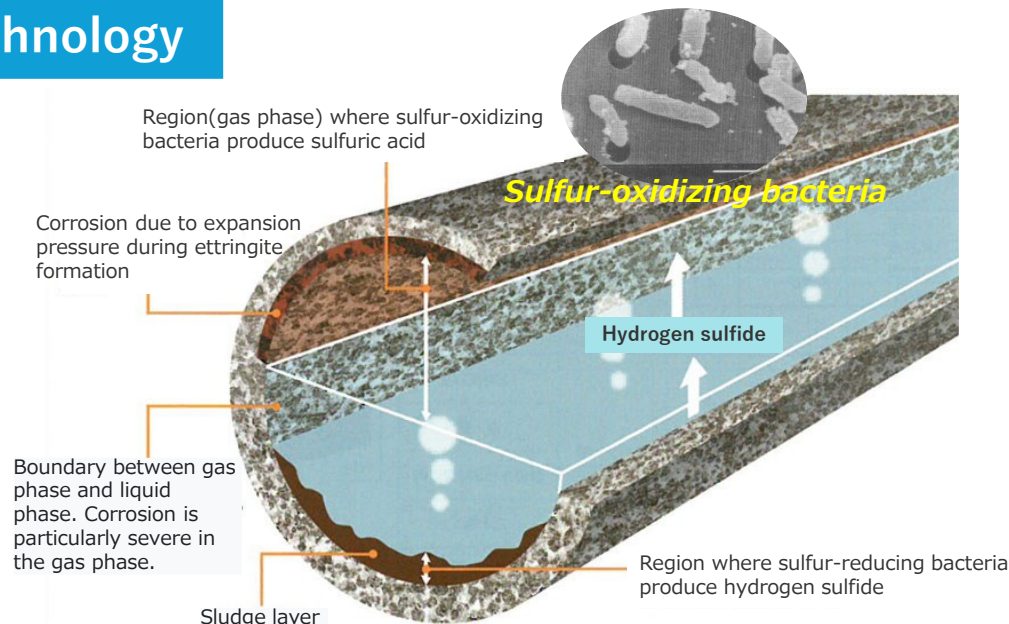
[Results in Japan].

- Construction Technology Review & Certification (Sewerage Technology) - technology
- Corrosion Resistant Reinforced Concrete Products (Japan Sewage Works Association Type II Certified Materials and Equipment)

[Products: **more than 20 years of experience**, with **2,000 tons delivered each year**].

Outline of technology

Admixture **added in advance** to concrete to **inhibit the activity** of sulfur-oxidizing bacteria and iron-oxidizing bacteria that cause sulfuric acid deterioration in concrete.



Features of the technology

- **Effective when mixed into concrete.**
→ **Demonstrate antimicrobial effect.**
- **Life extension measure.**
When corrosion protection is required,
compared to lining Hume pipe construction
→ **Cost reduction of more than 50% including construction cost**



Specifications

- Hume pipes
- Jacking pipes
- Assembly manholes
- Box culverts
- Cast in place concrete manholes



Overview of the demonstration

- Locally manufactured manholes can meet Japanese Standards.
- The inhibition by the corrosion resistant concrete is effective in [Vietnam](#).

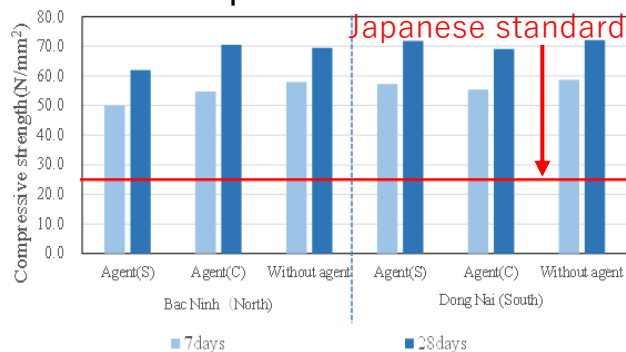
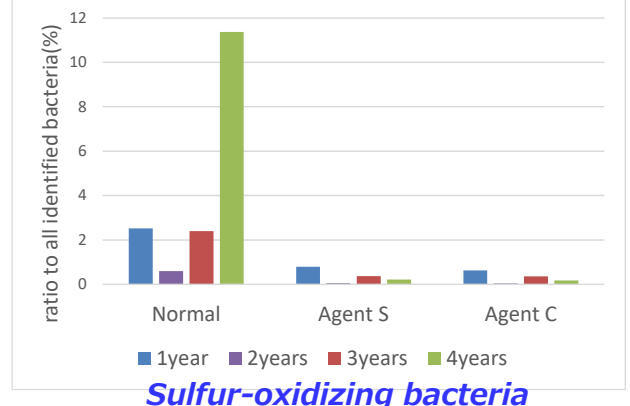


Figure-1 Compressive strength test results



Sulfur-oxidizing bacteria

WOW TO JAPAN Project (Wonder Of Wastewater Technology Of JAPAN Project)

This technology conducted a demonstration in 2021 as part of the Ministry of Land, Infrastructure, Transport and Tourism's "WOW TO JAPAN Project (Wonder of Wastewater Technology of JAPAN Project)."