

IOREX

With Human
To The Nature
To The World

The only total pipe solution



Living water
IOREX
이오렉스

01 | What is IOREX?

The only maintenance-free total water pipe solution that improves water while preventing rust, scale, bio-film and slime build-up



• Utilizing Water Itself

- Activates water without using chemicals or electricity
- Prevents rust and corrosion from ever occurring



• Entire Pipe System

- Removes Existing Rust and Corrosion.
- Scale and Biofilm
- Kills Bacteria including Legionella

01 | What is IOREX? - Process

Formation of electromotive forces

when water passes through **special carbon** inside IOREX
(By Fleming's rule) :



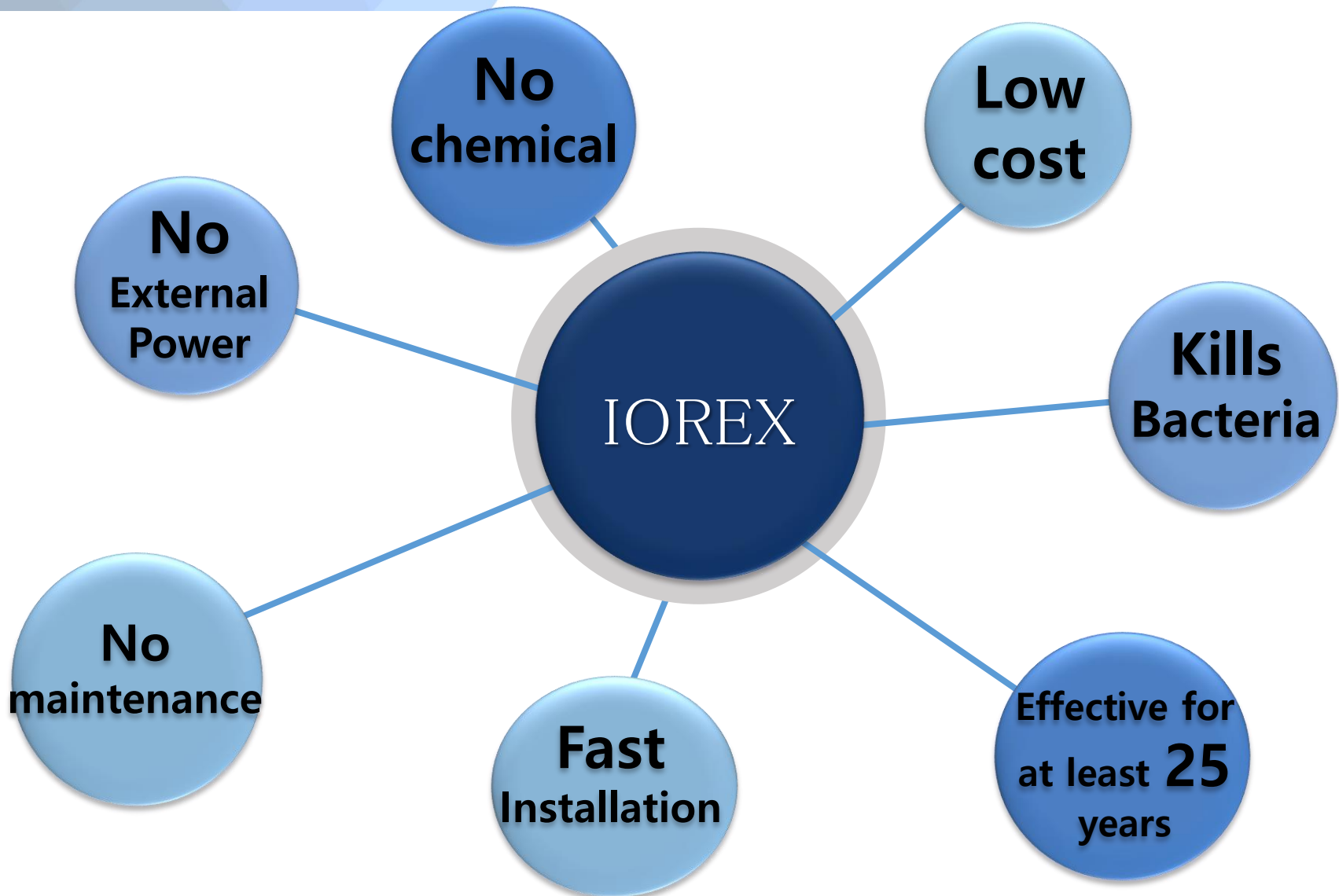
Electrode material
Wear resistance

Ionization begins with reactive ion-enrichment and ion-collision
on Lorenz electric field with the ions dissolved through the emerged potential difference.



Activation of ionization by delivering electrons to the floating water through the electric potential difference between small positive-large negative pole structure.

01 | What is IOREX? - Features



02 | Certification



Korea Patent



USA Patent



China patent



NSF in USA



TRCU in Russia



KC in Korea

03 | Pipe Problems



- Corrosion and scale formation
- Continuous increase in facility maintenance
- Reducing pipe lifespans
- Water pipe become a breeding ground for bacteria

04 | IOREX Solution & Features



IOR-SN(1/2'') model example

⚙️ One-Stop Pipe Solution

- Remove scale, slime and rust, and Keeps pipe clean
- Extends the pipe's lifespan

🏠 Safety & Clean

- Improve water quality, and Cleans brown water
- Biocompatible material (**CARBON**-based)

🔗 Sterilization Effect

- Sterilization function
- Kills up to 99.5% of bacteria

⚡ Economical

- Semi-permanent lifespan (over 25 years)
- Requires no maintenance and replacement

🌐 NSF certificate

- The most authoritative certification
- More than 300 items inspected in water quality

05 | IOREX Usage

IOREX can be installed on any pipe size and on any pipe system in just hours

APARTMENT

RESIDENTIAL BUILDING

INDUSTRIAL

COMMERCIAL BUILDING

SWIMMING POOLS

MUNICIPAL WATER
SYSTEMS

HEATING AND COOLING
PLANTS

HOSPITALS

HOTELS & SCHOOLS



06 | NSF Certification



NSF/ANSI 61



Drinking Water System Components – Health Effects

The product attaining NSF certification does not leach harmful contaminants into drinking water.

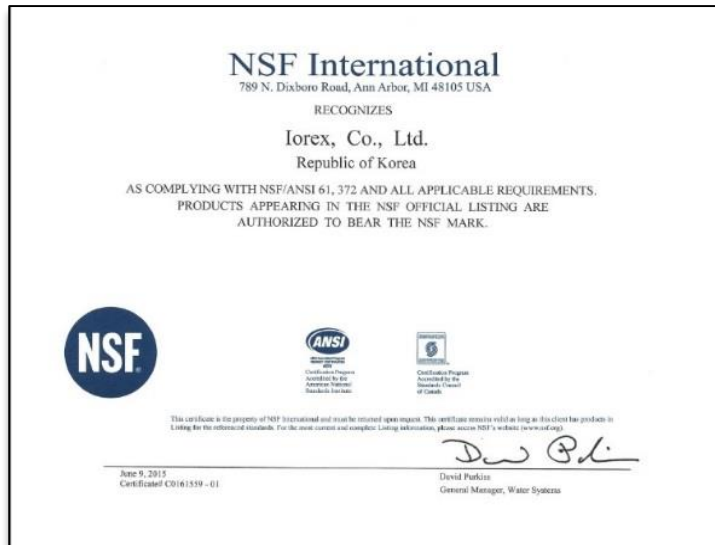
NSF/ANSI 372



Drinking Water system Components – Lead Content

The lead content of drinking water products meets levels determined by the Safe Drinking Water Act.

Certified to
NSF/ANSI 61 & 372



*Obtained NSF certification in 2015

Sterilization Effect showed

- in a cycle of 8 hours using water pump

Date : Feb 11, 2020

KIFA
KOREA FAR INFRARED ASSOCIATION
 KOREA INSTITUTE OF FAR INFRARED APPLIED ESTIMATION

4, Baedjegobun-ro 37-gil, Songpa-Gu, Seoul, Korea http://www.kfir.or.kr TEL. 82-2-2333-6007

CERTIFICATE OF TESTING RESULT

Serial No. of Issue : KFA-123
 Name of Applicant : Tai Hyun Jo [IOREX Co., Ltd.]
 Address of Applicant : 414, Manhattan 21 building, 20, Gukhoe-daero 74-gil, Yeongdeunggu-gu, Seoul, Republic of Korea
 Date of Receipt : 1. 29. 2020
 Name of Test Sample : Ionization Water Treatment System

TEST RESULTS

Test Item	Early Conc. (CFU/ml)	After 8 hours (CFU/ml)	Reduction Rate Of Bacteria(%)
A Bactericidal Test for <i>Escherichia coli</i>	3.3×10^6	8.4×10^4	74.5
A Bactericidal Test for <i>Staphylococcus aureus</i>	1.6×10^6	1.2×10^5	25.0
A Bactericidal Test for <i>Salmonella enterica</i>			70.6

Note: Each bacterium in a cycle of 8 hours was passed through the specimen medium during 24 hours at the 37°C.

1) Test method
 2) Bacteria
 Escherichia coli
 Staphylococcus aureus
 Salmonella enterica
 3) Test Period
 4) Reference
 5) Usage

* This certificate is valid for 1 year.

COPY

Signed Choi T. S.
 The director of Korea Institute of Far Infrared Applied Estimation

Reduction Rate Of Bacteria(%)

74.5

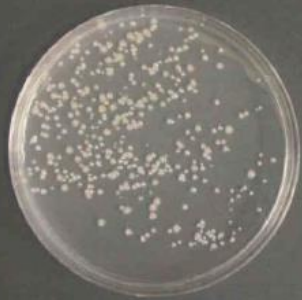
25.0

70.6



07 | Sterilization Effect – by KFIA

K I F A



K I F A



Bactericidal Test
Ionization Water Treatment System (0h)
(*Escherichia coli* ATCC 25922)

Bactericidal Test
Ionization Water Treatment System (8h)
(*Escherichia coli* ATCC 25922)

E.coli

74.5%

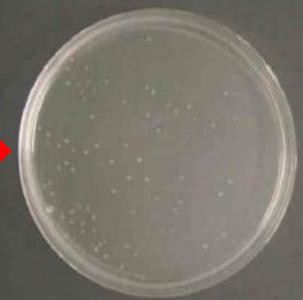


Food poisoning
Gastroenteritis
Neonatal meningitis, etc..

K I F A



K I F A



Bactericidal Test
Ionization Water Treatment System (0h)
(*Salmonella enterica* ATCC 8326)

Bactericidal Test
Ionization Water Treatment System (8h)
(*Salmonella enterica* ATCC 8326)

Salmonella enterica

70.6%



Food poisoning
Gastroenteritis
Typhoid fever, etc..

Q-Mark Inspection Report

98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Korea TEL 82-63-214-2960 FAX 82-63-214-2964

Report No : CTQ-2018-000474

Received Date : Dec.03.2018

Name of Representative : Tai Hyun, Jo

Test Date : Feb.22.2019

Name of Company : IOREX CO., Ltd.

Address : 51 Biseongnal-ro, Deokjin-Gu, Jeonju-si, Jeollabuk-do

Product Specification : IOR-15H

Quantity : 1

Product Name : Steel pipe rust-inhibiting device

Inspection Result : Passed

TEST RESULTS

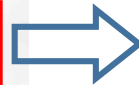
TEST ITEM	UNIT	SAMPLE	SPECIFICATION	RESULT
Rust resistance rate	%	-	30 above	96.4
Turbidity resistance rate	%	-	20 above	96.6

※ TEST METHOD:QB-3576-02 : 2017

Received Date : Dec 03, 2018

Test Date : Feb 22, 2019

TEST ITEM	RESULT
Rust resistance rate	96.4
Turbidity resistance rate	96.6
※ TEST METHOD:QB-3576-02 : 2017	



Q mark?

To protect benefit of consumer and for quality improvement in industrial product, **strict inspection standards** are established suitable for characteristics of product and Q mark is given after system of **quality management** and quality of certain product are ensured.

This is to certify the product mentioned above was inspected in compliance with its related test method.

Bang Hyojin

Inspected by: Bang Hyojin
Tel : 063-214-2960

Lee Gong-yeol

Approved by: Lee Gong-yeol

Feb.22.2019

Korea Testing & Research

President

Kwon Oh-jung



QR Code for forgery

1 of Total 1 Page(s)

Q mark test method

By Korea Testing and Research Institute (KTR)

▶ Test Method : QB-3576-02

Circulate the test water inside the 'device' and 'comparison group' for 20 days and check the state of rust(Fe) corrosion.

The inhibition rate is calculated with the rate between 'device' and 'comparison group' in the rust(Fe) and turbidity.



POCOMOKE CITY in MD – dealing with **brown water problems for over forty years**



POCOMOKE CITY PROJECT

Project Title	Pocomoke City IOREX Pilot Project to clear Brown water
Project Duration	6 months
Start Date	February 9, 2018
Scheduled End Date	August 8, 2018
Official Completion Date	May 31, 2018 (early completion due to faster outcomes)

STATEMENT OF IOREX PILOT PROJECT COMPLETION

A. PROJECT PROFILE

Project Title	Pocomoke City IOREX Pilot Project to clear Brown water		
Project Duration	6 months		
Start Date	February 9, 2018	Scheduled End Date	August 8, 2018
Official Completion Date	May 31, 2018 (early completion due to faster outcomes)		

B. PROJECT DESCRIPTION AND EVALUATION

For over forty years, the Heights neighborhood of Pocomoke City had been dealing with brown water problems that affected the lives of its residents – from newly-washed clothes turning yellow, to water fixtures rusting out and needing frequent replacement, to fear of using the public water for bathing or cooking. Various attempts to address the issue were unsuccessful. Thus, residents had to rely on filters or softeners on their own that needed constant maintenance and were still largely ineffective.

Objectives

The local government of Pocomoke City, MD and IOREX USA, LLC agreed to embark on a 180-day pilot project to determine the effectiveness of IOREX in reducing discolored water, turbidity, and iron content in the water of the Heights area of the city. If the effectiveness of IOREX in improving turbidity and reducing discolored water as well as lowering iron concentrations is proven before the 180-day pilot period ends, then City can call to conclude the pilot program prior to 180 days.

Actions

For the pilot project, two 6-inch IOREX devices were installed by the city's personnel in the Heights neighborhood. The first device was installed on February 9, 2018, and the second device was installed on February 12, 2018.

Outcomes

The subsequent testing conducted by the Geoscope Environment Laboratories on February 27th, March 13th, and April 10th showed that the iron content has lowered by 76.89%, turbidity has dropped by 56.95%, and the Heterotrophic Plate Count has decreased by 84.56% over the pre-installation readings. Discolored water also cleared in 15 days and the water in the

THE TEST RESULTS REVEALED THAT THE PILOT PROJECT IS SUCCESSFUL AND IOREX IS EFFECTIVE IN CLEARING DISCOLORED WATER, LOWERING TURBIDITY AND RUST IN WATER. THE RESIDENTS OF THE HEIGHTS AREA ARE VERY SATISFIED WITH THE WATER THEY ARE GETTING NOW AND, SINCE THE IOREX INSTALLATION, THEY NOW HAVE THE BEST WATER IN POCOMOKE CITY.

Bobby Cowger


 City Manager
 Pocomoke City, Maryland

Iron content lowered by **76.89%**
 Turbidity dropped by **56.95%**
 HPC decreased by **84.56%**
 Discolored water cleared in **15 days**

*HPC (Heterotrophic Plate Count)

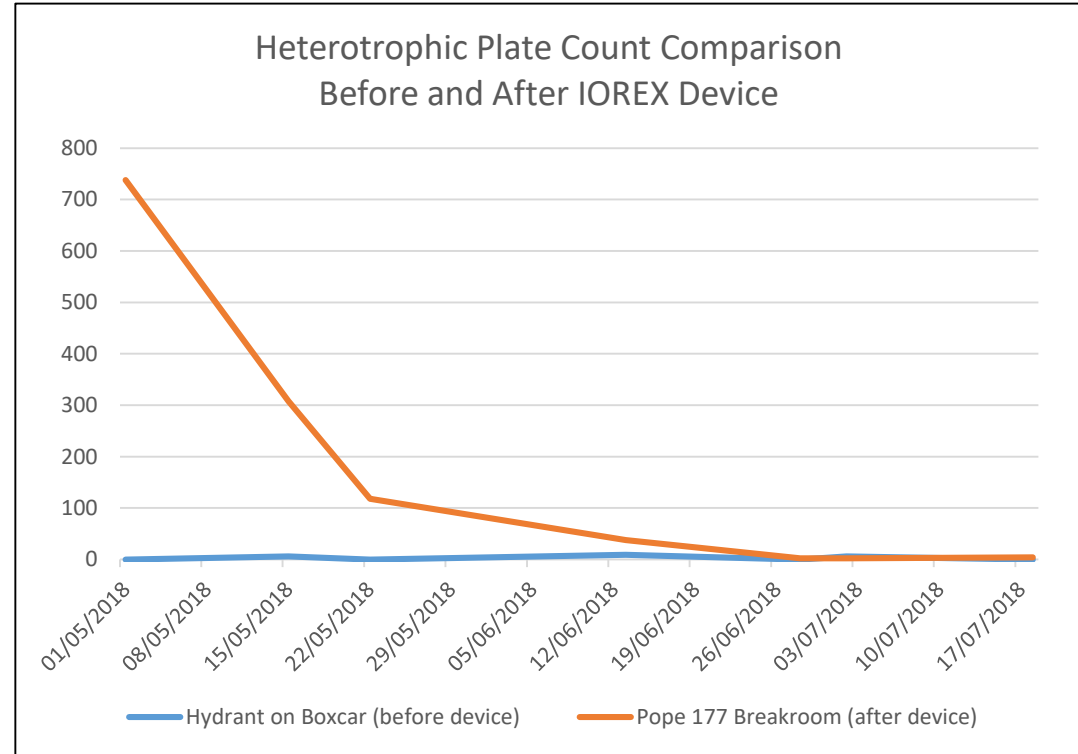


09 | Performance — American States Utility Services, Inc



US Army Base – IOR-50N

Date	Breakroom (building with IOREX installation – CFU/mL)
5/1/18	738
5/15/18	308
5/22/18	118
6/13/18	38
6/28/18	2
7/2/18	2
7/18/18	4



After IOREX installation, HPC levels showed a total decrease of **99.46%** during the pilot testing period.

ASUS NEWSLETTER - July 2018

- IOREX INTRODUCTION as Innovation Technology

INNOVATION TECHNOLOGY

ASUS focuses on ways to become the more strategic and efficient when it comes to costs savings and new innovation. In addition to innovation opportunities, ASUS is also committed to efforts focused in energy-security.

IOREX PIPE SOLUTION



The inner part is composed of a special carbon. When water passes through the IOREX ionizing water system, static electricity is created through friction. By absorbing the static electricity that is formed, it becomes more electrically charged, and emits outer.

IOREX is an innovative, zero-power, self-operating, and energy-neutral water and pipe treatment system that effectively removes and prevents rust and scale by instantly ionizing water as it passes through a water supply system. It utilizes the flow of water to clean and maintain pipes. It also removes and prevents biofilm, and kills any bacteria present in the water. IOREX is a natural and environmentally friendly water treatment system that is simple to install and easy to use. When water passes through IOREX, it generates static electricity due to friction on the contact surface. When the electric charge of the static electricity level becomes high, water molecules are ionized by discharging electrons. Water is ionized as it passes through the electrostatic field, which is formed by the motion of those electrons.

Ultimately, IOREX converts simple water into ionized water via the charging effect, and subsequently cleaning and maintaining the water system. IOREX avoids the costliness of pipe lining or replacement and reduces the need for chemical treatments, labor, descaling and corrosion inhibitors. Installation is easy and can be done within just a few hours. This system does not require any specialized maintenance. It is a semi-permanent product that can be used for approximately twenty years and can be installed on any size pipe from 1/2" to 36". Compared to typical methods that can take months of labor and require invasive work and extensive costs, IOREX saves energy, reduces maintenance costs, contributes to environmental protection, and lengthens the life of pipes and water systems.

Primary benefits of the IOREX include, but are not limited to:

- **Chemical corrosion inhibitors:** Once IOREX is installed, there is no longer a need to use any kind of corrosion inhibitors. Comparison data shows, between using corrosion inhibitors and only using IOREX, the system exhibited far better
- **Heating cost:** By improving heat transfer efficiency through reducing scale and rust build-up, savings amount to between 1-5% of energy consumption
- **Energy:** Unlike other water system products, IOREX is energy-neutral and does not require an external power source to operate, so there are no hidden costs associated with IOREX
- **Future pipe repair & replacement:** IOREX can dramatically extend the lifespan of water pipes and alleviate pinhole leaks.
- **Bacteria eliminator:** It sterilizes water by breaking down the cell wall of bacteria (including Legionella bacteria) and therefore makes water safer

In the FLOW
 www.asusinc.com

2018
 JULY

Serving Those Who Serve®

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 Spotlight on our promoted employees

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 ASUS Serving Those Who Serve Award

ASUS is proud to sponsor the following organizations:

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IOREX saves energy,
 reduces maintenance costs,
 contributes to environmental
 protection, and lengthens
 the life of pipes and water
 Systems.



- Installation Date : April 2017
- Pipe diameter : 65mm
- 1st water quality test : Apr 5, 2017
- 2nd water quality test : May 22, 2017
- 3rd water quality test : Jul 25, 2018

Washroom in machine room

Item(unit)	Criteria	1 st	2 nd	3 rd
General Bacteria (CFU/mL)	below 100	541	Not detected	Not detected
Hardness (mg/L)	below 300	101	62	55
Cu (mg/L)	Below 1	0.191	0.015	0.019

2nd floor washroom

Item(unit)	Criteria	1 st	2 nd	3 rd
General Bacteria (CFU/mL)	below 100	210	Not detected	Not detected
Hardness (mg/L)	below 300	101	62	55
Cu (mg/L)	Below 1	0.148	0.037	0.039

⇒ **No bacteria** was detected thanks to excellent sterilization effect of IOREX, which means the piping has been maintained clean and clean water continually can be supplied.

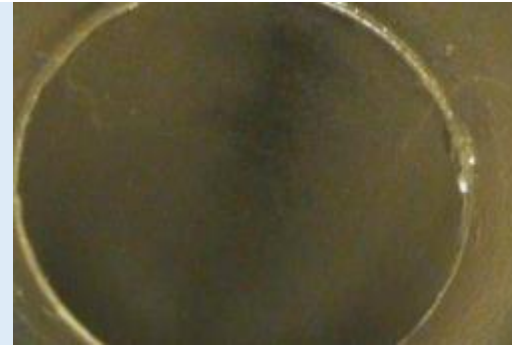
09 | Performance – Busan Veterans Hospital

- Installation Date : Nov 24, 2009
- Models : IOR-125Ax2, 100A, 80A, 50A
- Endoscope inspection date : Sep 1, 2017
(after 8 years from the installation)
- Pipe : Stainless steel



Before
IOREX

rust and scale on welding parts



After
IOREX

Without scale and rust entire pipe including welding.

It maintained its clean condition even though eight years of usage.

09 | Performance – Dr.Chung's Food



Dr.Chung's Food Co., Ltd. that opened the first page of Korea's soymilk history was established in 1973, and it is the soymilk company that has led the soymilk industry of Korea and world for the past 40 years.



Cooling tower

Installation Location	At the square cooling tower of the Cheongju factory of Dr.Chung's Food Co., Ltd.
Model Installed	IOR-100A
Pipe type	SUS
Anticipated Effectiveness	Removal of the moss from the lower part of the cooling tower
Date of Installation	November 30, 2019
Date of Verification	March 9, 2020



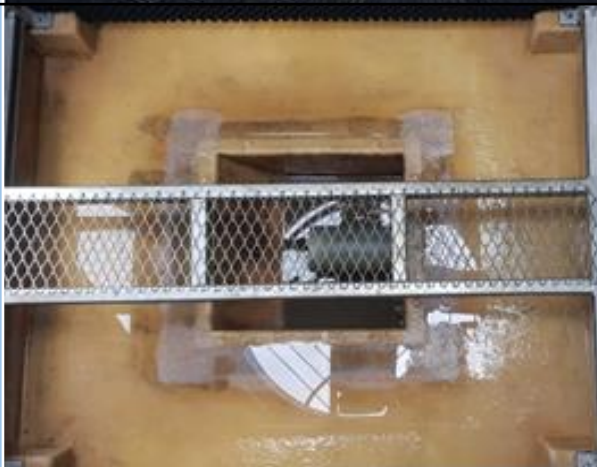
Installation – IOR-100A

**Before
Installation**



Green moss on the floor inside the cooling tower is so thick that cleaning cannot eradicate it, and the condition is getting worse.

**After
Installation
(100 days
later)**



IOREX alone has eradicated the old moss on the floor. Cleaning could not remove the old moss before installation, but the inside has **become very clean within 100 days after IOREX.**



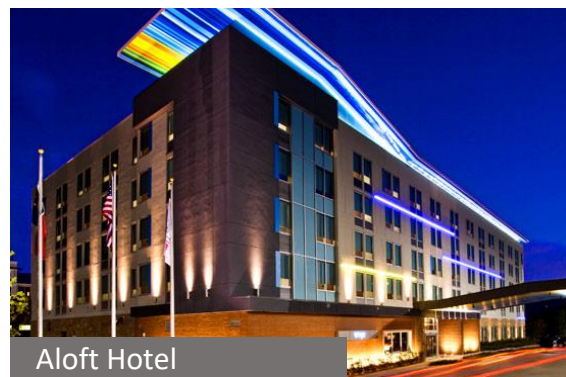
10 | Installation Examples - Korea



10 | Installation Examples - Overseas



Faust Hotel



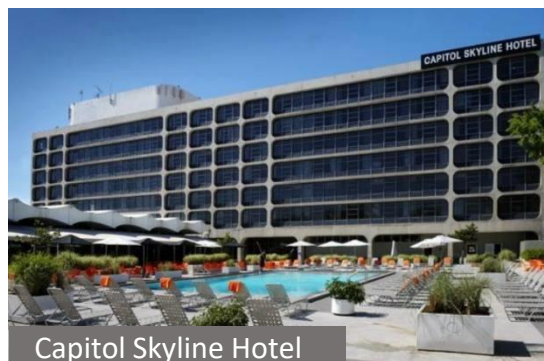
Aloft Hotel



Symphony House



Figueroa Hotel



Capitol Skyline Hotel



Prince George's County Public Schools



10 | Installation Examples - Overseas



Brightview Senior Living – Bethesda Woodmont



Brightview Senior Living – Sayville



Brightview Senior Living – West End



Brightview Senior Living – Serverna Park



Harborside Hotel



10 | Installation Examples - Overseas



CHINA



USA



CANADA



RUSSIA



NEW ZEALAND



MALAYSIA



VIETNAM



THAILAND

- Alcom BHD in Malaysia
- Hermitage Museum in Russia
- Mausoleum in Vietnam
- Institute of Agricultural Science in China
- SeaOil in Thailand

Rethink pipe protection



The World's Most Natural
Way to protect and
Restore Water Pipes

Reset your water

Nothing else needed

THANK YOU!

