

YHR TANKS

GLOBAL STORAGE TANK AND
ANAEROBIC DIGESTION SOLUTIONS



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益康生态
YIKANG ECOLOGICAL



盈和瑞环境
YHR ENVIRONMENT

EXCEED CUSTOMER EXPECTATIONS

YHR INTRODUCTION



Beijing Yingherui Environmental Technology Co., LTD. (as known as "YHR") is a wholly-owned subsidiary of Guangdong Yikang Ecological Environment Technology Group Co.,Ltd (as known as "YIKANG ECOLOGICAL").

Founded in 2005, YHR is a Chinese National High-Tech Enterprise. Selected as the third batch of specialized, sophisticated, distinctive, and innovative "Little Giant" enterprises by the Ministry of Industry and Information Technology of the People's Republic of China.

YHR is the global industry leading designer, manufacturer and erector of Bolted Steel Tanks and Silos. YHR has two modern and cutting-edge manufacturing facilities in Tangshan city and Jinzhou city, Hebei Province, China.



The Vice President Unit of China
Enamel Industry Association



The Professional Competence
Assessment Base of China
Enamel Industry



YHR drafted the Chinese
Standard QB/T 5379-2019 for
Glass Fused To Steel Tanks



YHR HISTORY

› 2005

YHR was established in Beijing, China, YHR introduces Glass-Fused-To-Steel technology into China

› 2006

YHR Glass Fused to Steel Tanks entered international market

› 2008

YHR awarded Chinese National High-Tech Enterprise

› 2015

YHR takes the lead in drafting Chinese Industry Standard QB/T 5379-2019 for Glass Fused to Steel Tanks

› 2018

YHR Glass Fused to Steel Tanks certified by NSF/ANSI/CAN 61 for potable water contact, YHR launches new manufacturing facility in Tangshan city, Hebei province, China

› 2020

YHR launches new manufacturing line of Fusion Bonded Epoxy Coated Steel Tanks

› 2022

YHR became the vice president unit of China Enamel Industry Association

› 2021

YHR awarded "Little Giant" enterprises by the Ministry of Industry and Information Technology of the People's Republic of China

› 2023

YHR is awarded the contract for supply four (4) 28500m³ Glass Fused to Steel Tanks in the Dominican Republic

Selected as Top Ten enterprises of China Light Industry Enamel Industry in 2022 and the Professional Competence Assessment Base of China Enamel Industry

OUR CLIENTS

華潤 China Resources

Red Bull 红牛

伊利

PETRONAS

DANONE

Coca-Cola

CHERY

Maynilad

中国建材

MANILA WATER

AB InBev

中粮 COFCO

Budweiser

BECHTEL

GUDANG GARAM

Heineken

新希望集团 NEW HOPE GROUP

GLASS FUSED TO STEEL

YHR Glass-Fused-To-Steel Technology, is a leading solution combines the advantages of both materials – **the strength and flexibility of the STEEL and highest corrosion resistance of the GLASS.** The Glass fused to the Steel at **1500 – 1650 deg. F**, become a new material: GLASS-FUSED-TO-STEEL with perfect anti-corrosion performance.

■ Top Coat
■ Base Coat
■ Base Steel



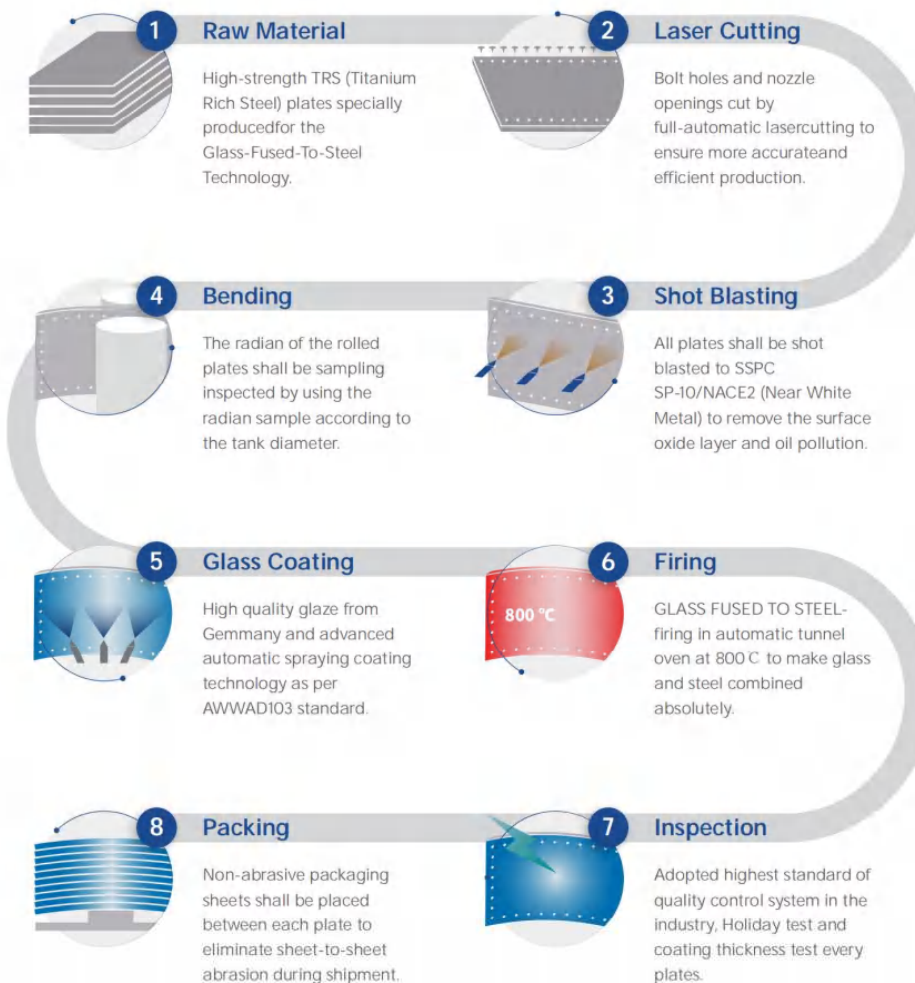
YHR has developed **high-strength TRS** (Titanium Rich Steel) plates specially produced for the Glass-Fused-To-Steel Technology, which can work perfectly with our glass frit and can eliminates the "Fish Scale" defect.

SPECIFICATION

YHR Glass-fused-to-steel Tank Specification

Standard Color	RAL 5008 Grey Blue / RAL 5013 Cobalt Blue
Coating Thickness	250-450microns
Coating Process	Standard 2 coats, 3 coats available
Adhesive	3450N/cm
Elasticity	500KN/mm
Hardness	5.0 Mohs
PH Range	Standard Grade 3~11: Special Grade 1~14
Holiday Test	Acc. to tank application, 900V to 1500V
Service Life	more than 30 years

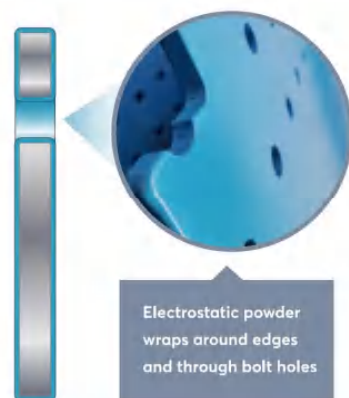
MANUFACTURING PROCEDURE GFS TANK



EPOXY COATED STEEL

Fusion Bonded Epoxy (FBE) is an electrostatically applied coating system with superior coverage and uniform coating thickness. Thermoset resin fusion bonded epoxy used on the internal surface combined with the ultra durable polyester on the external surface ensures high performance corrosion resistance for storage tanks and silos.

Interior and exterior coated surfaces shall be inspected for any visible defect or holiday and have their coating thickness verified by a nondestructive mil-thickness test. Interior coating inspection shall include a holiday test before shipment.



Technical information

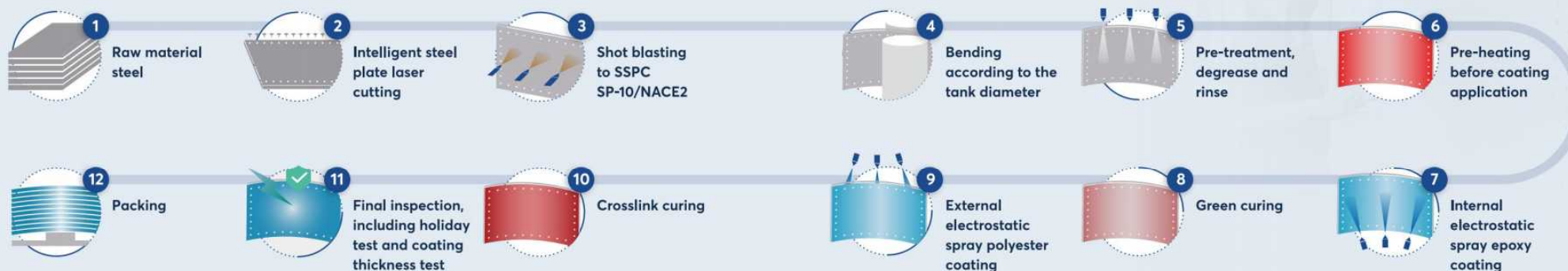
Internal coating - Thermoset resin fusion bonded epoxy

Application	Test	Result
Dry Film Thickness	Non-Destructive Test	FBE-V900: Minimum 5 mils / 130 microns FBE-V1100: Minimum 8 mils / 200 microns FBE-V1500: Minimum 12 mils / 300 microns
Hot Water Immersion, 70 °C	GB/T1733	Meets or exceeds industry norms
Adhesion	GB/T5210	≥12 / 16 / 16 MPa
Corrosion Resistance	Salty Spray GB/T 1771	2mm creep from scribe at 1000 Hrs / 2000 Hrs / 4000 Hrs
Impact Resistance	GB/T 20624.2	≥18J
PH Range	-	3-13
Abrasion Resistance	Abrasion wheel GB/T1768	CS-17, 1000 cycles <40mg
Hardness	GB/T 6739	2H
Chemical Immersion	50% NaOH, 50% H2SO4	Meets or exceeds industry norms
Holiday Test	900v/1100v/1500v every panel	Discontinuity free (Zero defects at test voltage)

External Coating - Ultra durable polyester

Application	Test	Result
Dry Film Thickness	Non-Destructive Test	Minimum 3 mils / 80 microns
Weathering Resistance	GB/T1865	1000 Hrs no change
Adhesion	GB/T5210	≥12 / 16 / 16 MPa

MANUFACTURING PROCEDURE FBE TANK



YHR TANKS ADVANTAGES

- ✓ Excellent anti-corrosion performance



- ✓ Smooth, cohesion less, anti-bacteria



- ✓ High-inertia, high acidity/alkalinity tolerance



- ✓ Fast installation with better quality: design, production and quality control in factory



- ✓ Less influenced by local weather



- ✓ Safe, skill-free: less working aloft, no need for long time worker training



- ✓ Low maintenance cost and easy to repair



- ✓ Possible to combine with other technologies



- ✓ Possible to relocate, to expand or to reuse



- ✓ Beautiful appearance



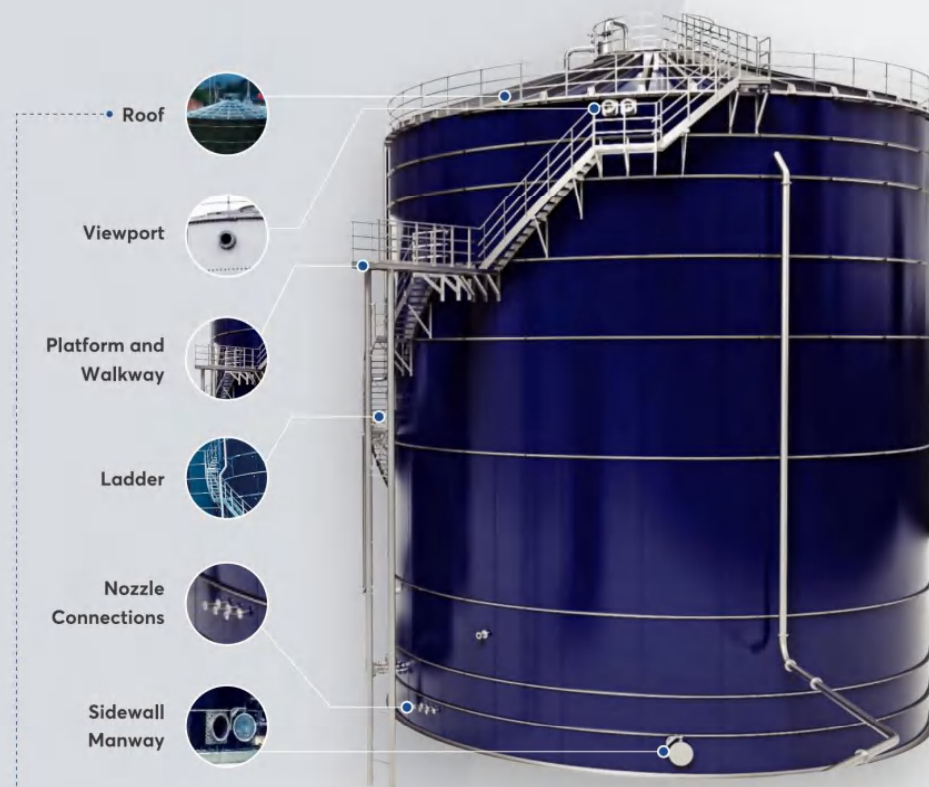
ADVANTAGES

Certification & Capabilities

- **ANSI/AWWA D103-2019:**
Factory-Coated Bolted Steel Tanks for Water Storage
- **NSF/ANSI/CAN 61:**
Drinking Water System Components - Health Effects
- **NFPA 22-2018:**
Standard for Water Tanks for Private Fire Protection

- **ISO 28765:2016:**
Vitreous and porcelain enamels — Design of bolted steel tanks for the storage or treatment of water or municipal or industrial effluents and sludges
- **QB/T 5379-2019:**
The design specification of bolted vitreous and porcelain enamelled steel tanks for the storage water or treatment of municipal or industrial effluents and sludges

TANK ANCILLARIES



Roofs

Trough Deck Roof



Double Membrane Roof



Tapered Steel Roof



Geodesic Dome Roof



YHR TANKS APPLICATION



Municipal Wastewater



Biogas Digester



Industrial Wastewater



Slurry Storage



Sludge Storage



Potable Water



Liquid Leachate



Fire Protection Water



Dry Bulk Storage

ANAEROBIC DIGESTION

The anaerobic reactor is a core equipment for the treatment of organic solid waste and high-concentration organic wastewater. It features low energy consumption, high organic load, and the generation of biogas for energy utilization. YHR can customize anaerobic reactors tailored to the water quality characteristics of different projects.

We offer the following reactors to meet your needs:

- CSTR (Continuous Stirred Tank Reactor)
- UASB (Upflow Anaerobic Sludge Blanket Reactor)
- IC (Internal Circulation Reactor)

Application

Anaerobic reactors are primarily used for the treatment of organic solid waste and organic wastewater.

Organic Solid Waste:

Livestock and poultry manure, Agricultural crop straw, Food and kitchen waste, Municipal sludge, Distillery waste, etc.

Organic Wastewater:

Landfill leachate, Food and kitchen wastewater, Pharmaceutical wastewater, Dyeing wastewater, Papermaking wastewater, Brewery wastewater, Food processing wastewater, etc.

ANAEROBIC DIGESTION CASES

01

CSTR



Raw Material Type: **Pig manure + Corn stalks**
 Tank Capacity: **4447.26m³•6**
 Tank Dimensions: **Φ25.97•8.4m(H)•6**

02

UASB



Raw Material Type: **Kitchen Waste**
 Tank Capacity: **312m³•1, 4813m³•2, 138m³•1, 1078m³•1**
 Tank Dimensions: **Φ6.88•8.4m(H)•1, Φ19.1•16.8m(H)•2, Φ3.82•6m(H)•1, Φ10.7•12m(H)•1**

03

IC



Raw Material Type: **Printing and Dyeing Wastewater**
 Tank Capacity: **4399m³•2, 330m³•1, 1508m³•1**
 Tank Dimensions: **Φ15.28•24.0m(H)•2, Φ7.64•7.2m(H)•1, Φ21.39•4.2m(H)•1**

GLOBAL PROJECT REFERENCE

01

Fire Protection Water



The Dominican Republic



Fire Protection Water Tank Project

Tank Capacity: **650m³**
 Tank Dimensions: **Φ9.93m•8.4m(H)**
 Construction Time: **2020**



The United States of America



Chicago Fire Water Tank Project

Tank Capacity: **510m³**
 Tank Dimensions: **Φ8.8•8.4m(H)**
 Construction Time: **2020**



The United States of America



Fire Protection Water Tank Project

Tank Capacity: **180m³**
 Tank Dimensions: **Φ6.4•5.6m(H)**
 Construction Time: **2019**

02 Potable Water



Costa Rica



Potable Water Storage Project

Tank Capacity: 1110m³

Tank Dimensions: Φ11.46*10.8m(H)

Construction Time: 2019



Malaysia



Felda FGV-Rompin Potable Water Storage Project

Tank Capacity: 320m³

Tank Dimensions: Φ10.7*3.6m(H)

Construction Time: 2021



The Republic of Maldives



Potable Water Storage Project

Tank Capacity: 240m³*2, 60m³*1

Tank Dimensions: Φ9.17*3.6m(H)*2,
Φ4.58*3.6m(H)*1

Construction Time: 2019



Philippines



Manila Water Potable Water Storage Project

Tank Capacity: 5730m³*4

Tank Dimensions: Φ26.74*10.2m(H)*4

Construction Time: 2021

03 Biogas Digester



China



State Grid Tongliao Biogas Plant Project

Tank Capacity: 6470m³*8

Tank Dimensions: Φ31.32*8.4m(H)*8

Construction Time: 2020



China



Jiuyuan Biogas Plant Project

Tank Capacity: 5650m³*6

Tank Dimensions: Φ28.27*9.0m(H)*6

Construction Time: 2018



China



Liken Dairy Biogas Plant Project

Tank Capacity: 4430m³*8

Tank Dimensions: Φ18.33*16.8m(H)*8

Construction Time: 2020



New Zealand



Ecogas Biogas Plant Project

Tank Capacity: 1780m³*2, 4010m³*3

Tank Dimensions: Φ15.47*9.5m(H)*2,
Φ23.2*9.5m(H)*3

Construction Time: 2022

04 Wastewater/Sewage Treatment



Brazil

Chery Automobile WWTP Project

Tank Capacity: $110\text{m}^3 \times 2$, $420\text{m}^3 \times 2$

Tank Dimensions: $\Phi 6.11 \times 3.6\text{m(H)} \times 2$,
 $\Phi 12.22 \times 3.6\text{m(H)} \times 2$

Construction Time: 2013



Ghana

Coca-Cola Group Soft Drinks Plant Sewage Treatment Project

Tank Capacity: $480\text{m}^3 \times 1$, $950\text{m}^3 \times 2$, $200\text{m}^3 \times 1$

Tank Dimensions: $\Phi 9.17 \times 7.2\text{m(H)} \times 1$, $\Phi 12.99 \times 7.2\text{m(H)} \times 2$,
 $\Phi 6.88 \times 5.4\text{m(H)} \times 1$

Construction Time: 2020



Solomon Islands

Heineken Sewage Treatment Project

Tank Capacity: $890\text{m}^3 \times 1$, $110\text{m}^3 \times 1$

Tank Dimensions: $\Phi 13.75 \times 6.0\text{m(H)} \times 1$,
 $\Phi 5.35 \times 4.8\text{m(H)} \times 1$

Construction Time: 2019



China

Shuangliu Airport Sewage Treatment Project

Tank Capacity: $6070\text{m}^3 \times 3$

Tank Dimensions: $\Phi 35.91 \times 6\text{m(H)} \times 3$

Construction Time: 2020

05 Other



China

Landfill Liquid Leachate Treatment Project

Tank Capacity: $2790\text{m}^3 \times 4$, $250\text{m}^3 \times 1$

Tank Dimensions: $\Phi 16.81 \times 12.6\text{m(H)} \times 4$,
 $\Phi 6.88 \times 6.6\text{m(H)} \times 1$

Construction Time: 2019



Indonesia

PT. Gudang Garam Tbk Clove Storage Silo Project

Tank Capacity: $1700\text{m}^3 \times 15$

Tank Dimensions: $\Phi 11.39 \times 16.72\text{m(H)} \times 15$

Construction Time: 2020



China

Waste Incineration Liquid Leachate Treatment Project

Tank Capacity: $2580\text{m}^3 \times 4$

Tank Dimensions: $\Phi 14.51 \times 15.6\text{m(H)} \times 4$

Construction Time: 2016



Thailand

Yili Group Food Processing Water Storage Project

Tank Capacity: $1070\text{m}^3 \times 2$, $140\text{m}^3 \times 1$, $50\text{m}^3 \times 2$

Tank Dimensions: $\Phi 13.75 \times 7.2\text{m(H)} \times 2$, $\Phi 6.11 \times 4.8\text{m(H)} \times 1$,
 $\Phi 3.82 \times 4.8\text{m(H)} \times 2$

Construction Time: 2020