



Shijiazhuang Center Enamel Co., Ltd

Glass-Fused-to-Steel Tanks Manufacturer



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About Our Company

Center Enamel Glass-Fused-to-Steel Tanks

Center Enamel Co., Ltd (Shijiazhuang Zhengzhong Technology Co., Ltd) is a professional manufacturer dedicated to the design and fabrication of industrial and household enameled products since 1989. Our products range from Glass-Fused-to-Steel tanks to enameled cookware, enameled bathtubs and enamel glaze. With a professional staff of enameling R&D team and more than 20 enameling patents, Center Enamel Co., Ltd has become the GFS tanks industry leader in Asia and is certified to ISO9001, NSF61, LFGB, BSCI and other international standards.



Center Enamel Co., Ltd is not only the first manufacturer in China to produce Glass-Fused-to-Steel tanks, but also the most experienced GFS tanks manufacturer in all of Asia. Center Enamel Glass-Fused-to-Steel tanks engineering & design, product testing and quality system is in strict accordance with AWWA D103-09, OSHA, ISO/EN 28765, NSF61, API and NFPA etc. international standards. CEC Glass-Fused-to-Steel tanks are widely used in drinking/potable water, industrial effluents, municipal sewage, bio-energy, landfill leachate, agriculture etc. applications. Until 2018, Center Enamel Glass-Fused-to-Steel tanks have been exported to more than 45 countries including USA, Australia, Canada, Malaysia, Indonesia, Russia, UAE, Panama, India and South Africa etc. The superior product quality and prompt service gains us worldwide recognition.

As an outstanding containment system provider with more than 30 years of experience, Center Enamel Co., Ltd sincerely expects to establish a long-term cooperation with the local partners throughout the world and make continuous contribution to the development of the industry.



Main Applications

Drinking Water

Industrial Effluents

Municipal Sewage

Bio-energy

Landfill Leachate

Agriculture





▶ Glass-Fused-to-Steel Tanks

Advantages:

- Short construction period, cost effective tank solution;
- Superior corrosion resistance, service life is more than 30 years;
- Easy to install, no need for big installation equipment and/or very skilled labors;
- Tank volume is easily expanded;
- It can be dismantled, removed and relocated;
- Elegant appearance, tank color can be customized;

GFS/Enamel Tank Leader of Industry

▶ GFS Tanks Application Fields



Power and Energy

Biogas biomass	Fuel oil	Boiler feedwater
Aviation oil	Kerosene	Reverse osmosis water
Process water	DI water	Drilling mud
Coal storage	Diesel	Fly ash silo



Water Supply and Treatment

Potable water	Bitter-brackish water	Biological filter
Water purifying tank	Disinfecting water	Sedimentation container
RO water	Sea water desalination	Raw water / fresh water
Fire-fighting water	Irrigation water	Clarification pool
Lime silo	Saline water / brine water	Aeration tank



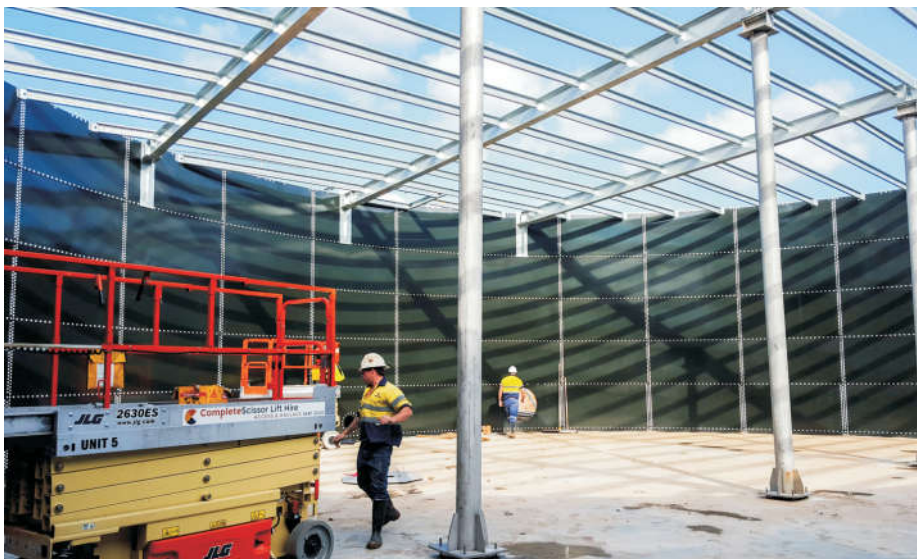
Waste Water Treatment

Buffer pool	Aerobic reactor	Biological filter
Regulation tank	Anaerobic reactor	Leachate storage
Water purifying tank	Sedimentation container	Sludge tank
Effluent treatment	Irrigation water	Animal wastes



Industrial Dry Bulk Storage

Mineral	Wood product	Stone / clay / glass
Chemicals	Petrochemicals	Mining industry
Foods	Plastics	Grain / seeds



Professional R&D team:

Technical consultant: 1 professor senior engineer, national famous expert with more than 50 years' experience of enamel researching.

Technical experts: 8 persons, more than 10 years' enamel researching experience

Technical researcher: 23 persons



1 Professor senior engineer
(person)

8 Technical experts
(persons)

23 Technical researchers
(persons)

Quality Control:

Raw material test: ingredient analysis, impurities test;

Formula finalizing small sample test: enamel fluidity test, chromatic difference analysis, enamel burning experiment, acid and alkali resistance test, glossy, adhesion test etc.;

Middle stage product test: magnify experiment simulated operation environment;

Destructive testing: impact test, holiday test, sliced electric microscope analysis.



Center Enamel Technology Advantages

Why Choose Center Enamel Glass-Fused-to-Steel Tanks:

- Cutting edge enameling technology to secure the product performance
- The first and most experienced Glass-Fused-to-Steel tanks manufacturer in Asia
- Innovative enameling protection on sheet's four edges and bolt holes
- Product meet or exceed AWWA D103-09, OSHA, ISO/EN 28765, NSF61, API and NFPA etc. international standards
- Certified by ISO9001, NSF61, LFGB, BSCI etc. international qualification system
- Mature exporting experience with projects reference in more than 45 countries in the world
- Quick installation & lowest maintenance cost

GFS/Enamel Tank Roof Options



Double Membrane Roof



Glass-Fused-to-Steel Roof



Aluminum Alloy Trough Deck Roof



FRP Roof

Glass-Fused-to-Steel Tanks Production Introduction

- ◆ CNC laser cutting and prefabricating all nozzles/bolts' openings
- ◆ Fabricated sheets are grit blasted to a uniform, near-white surface
- ◆ A proprietary glass formulation is applied that chemically bonds to each steel panel
- ◆ Dry and firing in tunnel oven at 820°C-930°C high temperature
- ◆ All enameled sheets are inspected and conducted with 1500V holiday test



Step 1 Plate CNC Cutting



Step 2 Enamel Spraying



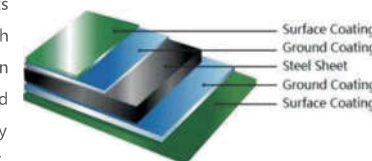
Step 3 High Temperature Firing



Step 4 Quality Inspection

What is Glass-Fused-to-Steel Tanks?

After firing at 820°C-930°C high temperature, the molten glass reacts with the steel plate surface to form an inert and inorganic bond, which combines the strength and flexibility of steel and outstanding corrosion resistance of glass, so GFS tanks can provide many advantages over standard epoxy or welded painted storage tanks. Glass-Fused-to-Steel technology is the premium coating technology in the storage tanks market, and GFS tanks are widely used in bio-energy, municipal sewage, landfill leachate and industrial wastewater treatment etc. applications.



GFS/Enamel Sheet Specifications

CATEGORY	SPECIFICATION
Coating color	Standard dark green and blue color or customized
Coating thickness	0.25-0.45mm
Acid and alkalinity proof	Standard PH: 3~11, Special PH:1~14
Adhesion	3,450N/cm
Elastic	7.9*10 ⁴ MPA
Hardness	6.0 Mohs
Service life	≥30 Years
Holiday test	>1500V
Permeability	Gas liquid impermeable
Easy to clean	Smooth, glossy, inert, anti-adhesion
Corrosion resistance	Excellent, suitable for wastewater, salt water, sea water, high sulfur crude oil, salt fog organic and inorganic compounds



▶ Glass-Fused-to-Steel Tank Application Project Cases

Anti-microbial Enamel Technology

After several years' research and development, the anti-microbial enamel produced by Center Enamel Co., Ltd got approved by China building materials industry environmental testing center. The test report shows that the anti-microbial enamel steel has excellent performance with mold resistance. It suppresses all kinds of composite mould. The anti-microbial enamel steel conforms to the standards of JC/T897-2002 《antibacterial capabilities of antibacterial enamel》. Composite mould includes: aspergillus niger (AS3. 4463), aspergillus (AS3. 3935), penicillium (AS3. 4253), penicillium funiculosum (AS3. 3875), ureobasidium pullulans AS3. 3984), chaetomium globosum(AS3. 4254)

Applications

Drinking water plant, medical enamel and commodity enamel, etc.

Test Report



Project Application Cases



West Africa Niger Azelik Uranium deposits potable water project
(contracted by China National Nuclear Corporation)

Anti-microbial enamel steel tank:

Tank diameter: 19.86m

Height 4.8m

Volume: 1375m3



In Europe, USA and many other countries, enamel bolted tanks have been used for more than 100 years history, they are commonly used in waste water treatment, potable water, dry bulk storage etc. applications.

▶ CEC Glass-Fused-to-Steel Tanks Color Options



Dark Green



Dark Blue



White



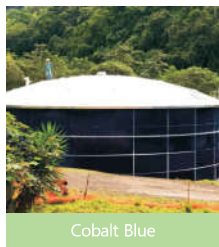
Forest Green



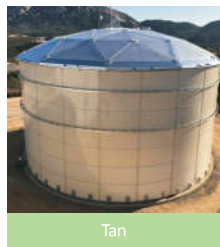
Light Blue



Light Grey



Cobalt Blue



Tan

► GFS Tank Worldwide Project Reference



Coco-Cola Plant Wastewater Treatment

Location: Seremban, Malaysia

Tank quantity: 2 sets of GFS tanks

EGSB tank with enamel roof: 7.64*17.4M

Adjusting tank with aluminum deck roof: 9.17*16.8M

Installation: October 2016



Drinking / Potable Water Tank

Location: Costa Rica

Tank model: 12.99 * 6.0M

Tank roof: aluminum alloy deck roof

Tank color: light blue

Installation: November 2015



Textile Industry Parks Wastewater Treatment

Location: Adama, Dire Dawa and Addis Ababa, Ethiopia

Tank quantity: 23 sets of GFS tanks

Total storage capacity: 31,000m3 at 3 sites

Tanks main size: 25.22*4.8M, 28.28*7.2M, 23.69*7.2M

Tank roof: aluminum alloy trough deck roof

Installation: October 2018



Filtered Water Storage Tank

Location: Wallen, Australia

Tank model : 17.58*3M

Roof type: aluminum alloy trough deck roof

Tank color : forest green

Installation: March 2015

► GFS Tank Worldwide Project Reference



Melbourne Drinking Water Project

location: Australia Melbourne

Tank model: 22.17*6M

Tank quantity: 2 sets of GFS tanks

Tank roof: aluminum alloy deck roof

Tank foundation: embedded

Installation: April 2016



Two Potable Water Storage Tanks in Canada

Location: Yukon, Canada

GFS tank with enamel floor: 12.23*5.4M

GFS tank with enamel floor : 12.23*7.8M

Tank quantity: 2 sets of GFS tanks

Roof type: enamel roofs

Installation: July 2018



Inner Mongolia Biogas Project

Location: Inner Mongolia

Quantity: 4 sets of biogas digesters

Tank model: 25.22*8.4M

Roof type: double membrane roofs

Installation: December 2016



Coca Cola Plant Wastewater Treatment Tanks

Location: Riyadh, Saudi Arabia

Equalization tank: 15.29*7.2M

Calamity tank: 8.4*9M

Anaerobic digester tank: 12.22*8.4M

Flash aeration tank: 7.64*7.2M

Holding tank: 6.88*7.2M

Installation: June 2017

► GFS Tank Worldwide Project Reference



Agricultural Water Treatment Plant

Location : Manta, Ecuador
Tank model : 18.33 * 4.8M
Tank quantity : 6 sets of GFS tanks
Tank roof : aluminum alloy trough deck roofs
Installation : November 2015



Leachate Anaerobic Nitrification Reactors

Location: Taizhou city, Zhejiang province
2 sets of concentration tank: 4.58*6M
2 sets of AO tanks: 4.58*13.2M
3 sets of AO tanks: 7.64*13.2M
Tank roof: FRP roof
Installation: September 2018



Drinking / Potable Water Tanks

Location : Panama
Tank model : 21.4* 6.0M , 19.87*5.4M , 6.88*6.6M
Tank quantity : 3 sets of GFS tanks
Tank color : interior white, exterior cobalt blue
Tank roof : aluminum dome roof provided by others
Installation : November 2015



Leachate Containment Tanks

Location: oregon, USA
Outer storage tank: 29.81*7.2M
Inner storage tank: 25.99*10.2M
Tank roof: aluminum dome roof by others
Installation: August 2016

► GFS Tank Worldwide Project Reference



Pineapple Plant Wastewater Treatment

Location: Indonesia
Tank model: 19.87*9.6M
Roof type: aluminum alloy trough deck roof
Tank color: dark blue
Installation: May 2016



Drinking Water Storage Tanks

Location: Maldives
Tank model: 6.11*5.4M
Tank quantity: 2 sets of GFS tanks
Tank foundation: above floor type
Installation: May 2016



Heineken Plant Wastewater Treatment Tanks

Location: East Timor
Sedimentation tank: 4.2x4.2M
Pretreatment tank: 8.4x4.2M
Adjusting tank: 8.4x4.2M
Hydrolytic acidification tank: 8*9M
Aerobic tank : 12.99x4.2M
Installation: November 2016



Azelik Azelik Uranium Deposits Water Tanks Project

Location: Niger
3 * fire water tanks: 9.93*3.6M
2 * drinking water tanks: 19.86*4 8M
1 * wastewater tank: 9.93*4.2M
Tank quantity: 6 sets of GFS tanks
Installation: November 2009