

UIG BOLTED TANKS

For Water & Wastewater Storage

UNITED INDUSTRIES GROUP, INC.

UIG ETRCS Tanks

SEPARATING FACT from FICTION

Vitreous or Porcelain enamel, is a material made by fusing powdered glass to a substrate by firing. The powder melts, flows, and then hardens to a smooth, durable vitreous coating on metal. It is an integrated layered composite of glass and metal. Since the 19th century the term applies to industrial materials and many metal consumer objects.

Vitreous enamel can be applied to most metals. Modern industrial enamel is applied to steel in which the carbon content is controlled to prevent unwanted reactions at the firing temperatures.

UIG's Enamelled Titanium Rich Carbon Steel (ETRCS) panels go a step further by utilizing a unique quality of steel with a high titanium content.

The integration of the enamel frits (powder) with the steel is the basis of the tank panel. If the steel is poor, the entire product is poor. UIG's Titanium Rich Carbon Steel is the foundation for the enameling process and the prevention of defects such as:

- Sulfur Stress Corrosion Cracking
- Abrasion
- Hydrogen Bubbling
- Galvanic Corrosion
- Pitting Corrosion
- Fatigue corrosion
- Erosion Corrosion
- Stress Corrosion Cracking

UIG proprietary corrosion resistant enameling process is unique because the 'frits', custom formulated glass material is heated to a very high temperature of at least 816 °C (1,500 °F) to create a surface that resists the most aggressive industrial waste, geothermal and chemicals. UIG's ETRCS is accomplished by the exchange of molecules of frits and steel to produce a new extreme bonding finish that is flexible and yet superior to Titanium itself in extreme applications.

All surfaces of the steel plates are grit blasted to SSPC SP 10 and the edges are rounded and treated with a special rust resistant coating for maximum protection.

DESIGN AND ENGINEERING

UIG Bolted Tanks provide years of low cost storage because of their special design and construction.

UIG Tanks are designed by engineers with decades of experience in devising storage tanks for all types of liquids and uses in the water and wastewater industry. UIG, Inc. utilizes those standards, specifications and/or interpretations and recommendations of professionally recognized agencies and groups such as AWWA D-103, API 12B, ACI, AISI, AWS, ASTM, BS, NFPA, OSHA, DIN, UL, ISO, FM, U.S. Government, UIG, etc. as the basis in establishing its own design, fabrications and quality criteria, practices methods and tolerances. Utilizing our advanced operations, tanks for special conditions such as heavy liquids, high wind factors, snow or seismic loadings can be designed for maximum efficiency, long-life and service.

All tank parts are machine cut, formed and punched for uniformity and standardization. All openings are factory cut prior to enameling to ensure 100% holiday free panels.

UIG tanks are built to last. UIG ETRCS Storage Tanks are available in three standard configurations of ECOglass-SO, ECOglass-AV and the ultimate ECOglass-MX for the most aggressive applications. UIG's ETRCS frits can be custom blended for a particular application's pH. All have excellent corrosion resistance to a wide range of water, wastewater, leachate, sludge, storm water, food process, hydrocarbons, sour crude oils, brines, alkalis,



RESISTANT TO CHEMICAL ATTACKS

UIG provides the design, engineering and construction of Enamelled Titanium Rich Carbon Steel Storage Tanks to meet your specific application requirements.

UIG ETRCS Bolted Storage Tanks are used in a wide range of applications including harsh chemicals. One of the major reasons for the attraction is that UIG ECOGlass is resistant to attacks from most chemicals and to mixtures of corrosive materials. In addition, it has a smooth and anti-stick inert surface. It is easy to clean and does not introduce impurities to the process materials.



UIG ECOGlass Bolted Steel Tanks can be used with most acid or alkali media (pH 0 – 14). UIG's Customized Frit Formulas withstand attacks from most substances in both oxidizing and reducing environments. The exceptions include fluorides at any temperature or concentration; hot, concentrated phosphoric acid and highly alkaline chemicals at elevated temperatures.

The unique characteristics of UIG ETRCS Bolted Storage Tanks are the following:

The Vitreous Glass Enamel is designed and fabricated by UIG to suit your application. It is not one size fits all.

The Steel Plates are Proprietary Titanium Rich Hot Rolled Carbon Steel. The purpose is to have less austenite which can contain much more hydrogen during the enamel firing/curing and to create preferable Ti-precipitates during the hot rolling process.

Use of Titanium Rich Hot-Rolled Carbon Steel eliminates so called 'Fish Scale' defect and it works extremely well with the application of the catalytic Nickel Oxide primer or NIO mixed with base of glass frit.

STEEL ENAMELING

UIG employs the latest breakthrough technology in steel enameling industry based on the utilization of Titanium Rich Carbon Steel (TRCS) specifically prepared for enameling application only.

During enameling TRCS has excellent chemical properties and physical performance due to its high titanium content which eliminates Fish Scale defect, corrosion and erosion. Furthermore superfine glass foam-like structure of the enameled layer provides enameled steel plates with excellent flexibility and durability.

Step 1:
Plate Fabrication and
Rolling

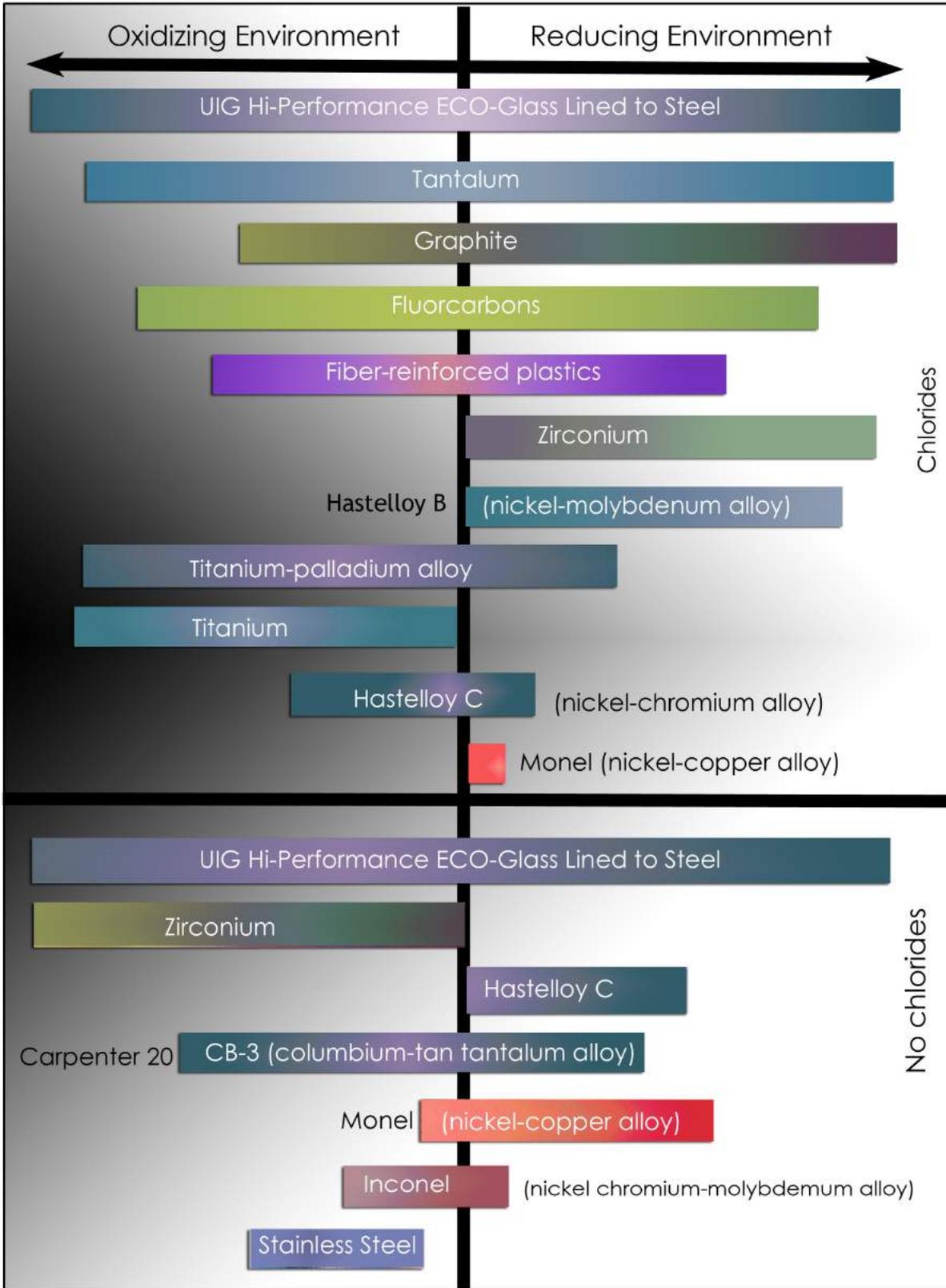


Step 2:
Preparing for Glass
Spraying

Step 3:
High Temperature Enameling
at 1450°F - 1600°F
(790°C - 870°C)



Step 4:
Product Testing Line



POWER AND ENERGY APPLICATIONS

Crude Oil - Fuel Oil - Diesel - Aviation Oil - Kerosene

Drilling Mud - Process Water - DI Water - Reverse Osmosis Water

Boiler Feed Water - Coal Storage - Fly Ash Silo - Geothermal Water

WATER SUPPLY AND TREATMENT APPLICATIONS

Potable Water - Water Purifying Tank - RO Water - Bitter/Brackish Water

Disinfecting Water - Sea Water Desalination- Lime Silo - Irrigation Water

Raw Water/Fresh Water - Fire Fighting Water - Irrigation Water - Aeration Tank

Saline Water/Brine Water - Clarification Pool - Biological Filter - Sedimentation Container



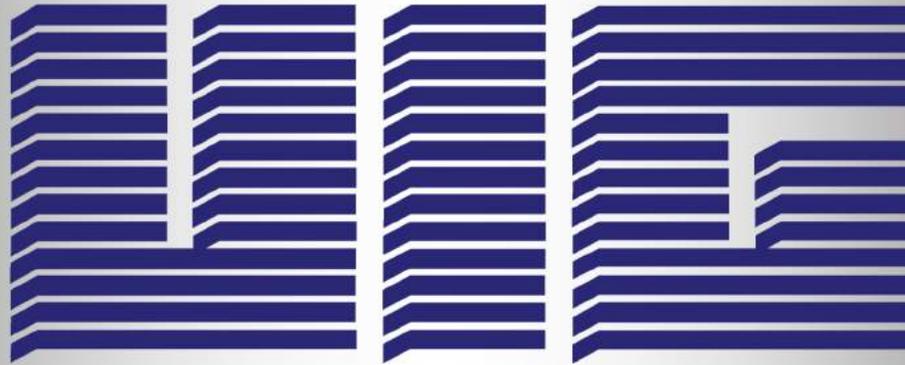


WASTEWATER TREATMENT APPLICATIONS

Buffer Pool - Regulating Tank - Water Purifying Tank - Aerobic Reactor
Anerobic Reactor - Sedimentation Container - Biological Filter - Leachate Storage
Effluent Treatment - Irrigation Water - Animal Wastes - Sludge Tank

INDUSTRIAL DRY BULK STORAGE

Mineral - Chemicals - Foods
Wood Product - Petrochemicals - Plastics
Stone/Clay/Glass - Mining Industry - Grain / Seeds-



FOR MORE INFORMATION

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