Vitrium™ is the world’s leading glass-fused-to-steel coating for bolted storage tanks and has been proven in the field for more than 67 years. CST’s Vitrium coating technology enhanced with titanium dioxide (TiO₂) is applied in a 3-coat, 1-fire (3c1f) process procedure. Vitrium is also produced in a 3-coat, 2-fire (3c2f) process primarily when special colors are requested or thicker layers of glass are required.

The coating has been trademarked as Vitrium (derived from Vitreous and Titanium). This premium technology increases the advantages of previous glass technologies and provides new process efficiencies. CST ensures Vitrium TiO₂ technology is utilized on every tank for maximum corrosion resistance and the longest life span available.
Enhanced Glass-Fused-To-Steel Technology

Vitrium features and benefits include:
- Tough TiO$_2$ glass formulations provide longer life
- White interior is easier to inspect than darker coatings
- Factory certified holiday-free sheets
- Designed for use in both cold and hot climates
- Designed, fabricated, shipped and supported within the USA

COATING LINE

Step 1: Blasting and Profiling
Grit blast panels to remove mill scale and prepare substrate to accept coating

Step 2: Degrease and Rinse
A combination of rinse solution and hot air is used to clean and preheat the substrate to optimal coating temperature

Step 3: "A" Coating Application
Interior, Exterior & Edges

Step 4: Dryer
Panels pass through natural gas dryer to remove all moisture from the coating

Step 5: Vitrium Base Application
Interior – 1st coat

Step 6: Top Coat Application
Exterior

Step 7: Dryer
Panels pass through natural gas dryer to remove all moisture from the coating

Step 8: Vitrium Saturated TiO$_2$ Application
Interior – 2nd coat

Step 9: Dryer
Panels pass through natural gas dryer to remove all moisture from the coating

Step 10: Quality Control Check
Parts are checked using a dry film thickness test and visual inspection to identify and correct panels with non-conforming coating

FURNACE LINE

Step 11: Furnace Line
Coated panels pass through the furnace to bond the enamel (coating) to the substrate, yielding an exceptionally durable finished product

Step 12: Final Quality Control
Trained service professionals examine all panels for final Dry Film Thickness and with an Electric Holiday Tester to ensure consistent coverage and protection on all panels

Physical Properties – Vitrium™

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside Sheet Color</td>
<td>White</td>
</tr>
<tr>
<td>Outside Sheet Color</td>
<td>Cobalt Blue, Desert Tan, Forest Green, Sky Blue, White</td>
</tr>
<tr>
<td>Nominal Thickness</td>
<td>Interior: 10-16 mils, 260-410 microns; Exterior: 7-15 mils, 180-380 microns</td>
</tr>
<tr>
<td>Service Range</td>
<td>140° F (60˚C) @ 3-10 pH-subject to verification, depending on specific products stored</td>
</tr>
<tr>
<td>Abrasion Resistance</td>
<td>Taber-8 mg loss (CS-17, 100g, 5000 cycles)</td>
</tr>
<tr>
<td>Elasticity</td>
<td>Young's Modulus 12 x 10$^6$</td>
</tr>
<tr>
<td>Permeability</td>
<td>Impermeable to gases and liquids within normal operating temperature ranges</td>
</tr>
<tr>
<td>Thermal Conductivity</td>
<td>8 BTU in/hr ft$^2$˚F</td>
</tr>
<tr>
<td>Cleanability</td>
<td>Smooth, inert, glossy, anti-stick</td>
</tr>
<tr>
<td>Hardness</td>
<td>6.0 Mohs</td>
</tr>
<tr>
<td>Adherence</td>
<td>Over 5,000 psi to base steel</td>
</tr>
<tr>
<td>Impact Resistance</td>
<td>24 inch-lb.</td>
</tr>
<tr>
<td>Corrosion Resistance/ ASTM B-117</td>
<td>Excellent, virtually unaffected by most waste waters, brines, sea water, salt spray, organic and inorganic chemicals</td>
</tr>
</tbody>
</table>

Note: Specific applications may be limited by sealant, hardware or glass protection characteristics.

Call 815-756-1551 or visit aquastore.com to find an authorized dealer near you.
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