

Worldwide Containment Solutions



COST EFFECTIVE
RAPID CONSTRUCTION
LONG LIFE



PERMASTORE[®]
TANKS & SILOS

THE COMPANY

Permastore Limited is the market leader in the manufacture and supply of Glass-Fused-to-Steel Tanks and Silos. Since 1959 the Company has been providing durable and cost effectively engineered containment solutions in Municipal and Industrial environments worldwide. Permastore exports to over 110 countries and in excess of 300,000 structures have been installed worldwide, each with the ability to withstand local environmental extremes, from the cold of the arctic to the heat of the desert.

PERMASTORE®
**“The Product
of Choice”
for all your
containment
solutions around
the world**

- **Production** – All controlled at one manufacturing site, thereby simplifying the supply chain and providing a seamless service to meet Customers' requirements.
- **Technical Support** – An experienced team that interacts with our Customer base to ensure Customer demand is met.
- **Modern Manufacturing Facility** – A state of the art factory dedicated solely to the production of Glass-Fused-to-Steel product.
- **Advanced Glass-Fused-to-Steel Technology** – This provides the ultimate in corrosion resistance for the life of the structure.
- **ISO 9001:2008** – Accreditation of quality standards to guarantee Customer satisfaction.
- **International Standards** – Permastore's quality systems meet or exceed the glass coating requirements of AWWA D103-09, EEA7.20 and EN ISO 28765:2011 amongst others.
- **International Bodies** – Verified by MPA NRW. Certified to NSF/ANSI 61. Approved by the Secretary of State to Regulation 31 for drinking water.
- **In-house Engineering Design and Contract Management** – This provides reassurance that all structures arrive on schedule and are fit for purpose.

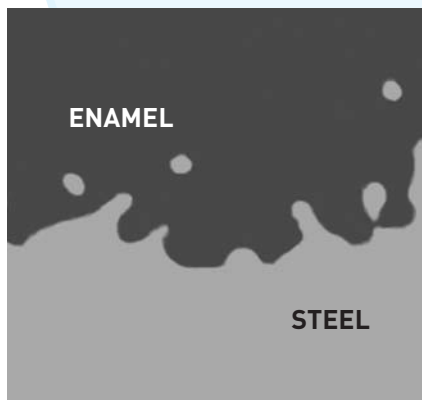


THE SOLUTION

WHAT IS GLASS-FUSED-TO-STEEL?

Glass-Fused-to-Steel is a unique tank finish. Two materials are fused together to achieve the best of both materials – the strength and flexibility of steel combined with the corrosion resistance of glass. Applied to both interior and exterior surfaces, Glass-Fused-to-Steel is able to provide many years of trouble free service in harsh environments.

- High performance and hard wearing
- As strong and flexible as steel
- Inert Silica Glass
- Colour fast / UV Stable

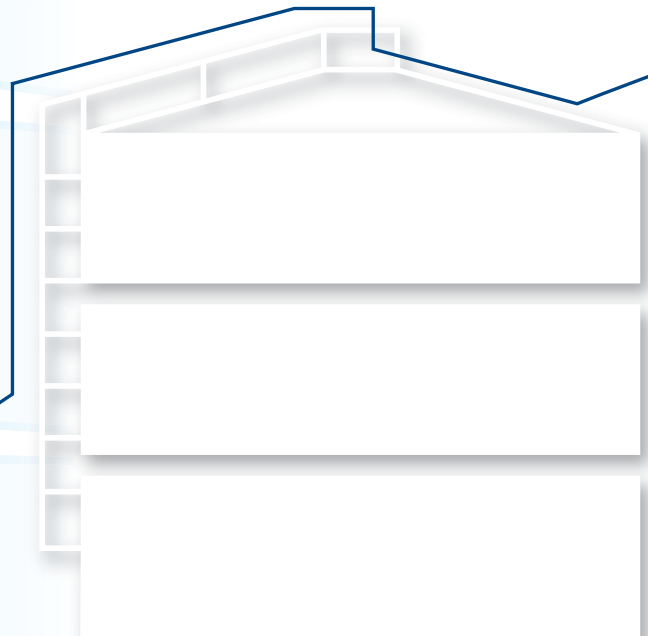


THE QUALITY

Is guaranteed – long-lasting and durable.

This philosophy is enshrined in Permastore's procedures, which exceed the requirements of International Enamelling Standards. All industrial grade finishes are subject to 100% inspection and electronic testing of the contact surface. Any panel having a discontinuity is rejected.

We have earned our reputation by dedication to the highest quality and commitment to ZERO DISCONTINUITY glass fusion.





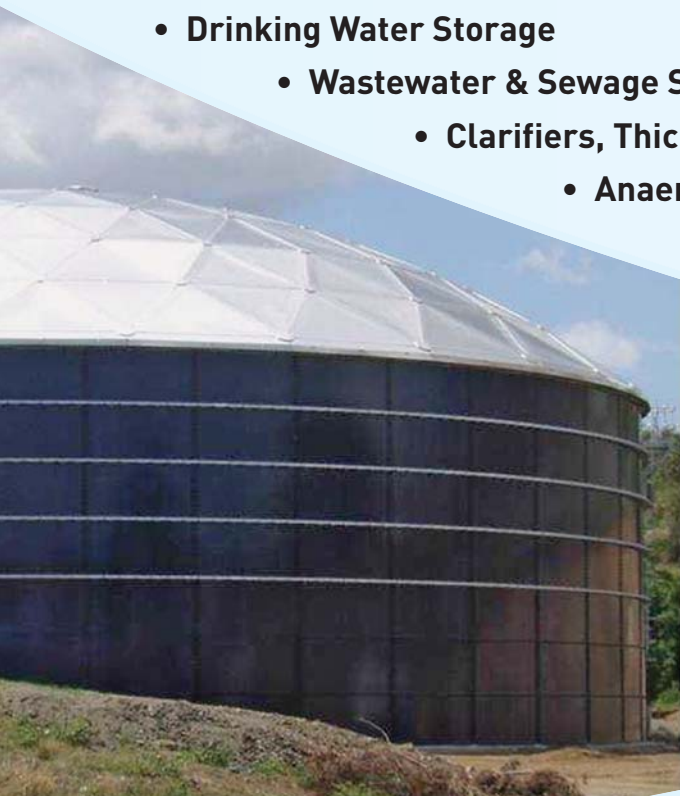
INDUSTRIAL PRODUCTS

- Effluent Storage & Processing
- Anaerobic Digestion
- Leachate Storage
- Fire Water
 - Desalination
 - Dry Bulk Storage



MUNICIPAL PRODUCTS

- Drinking Water Storage
 - Wastewater & Sewage Storage & Processing
 - Clarifiers, Thickeners, Filtration Units
 - Anaerobic Digestion





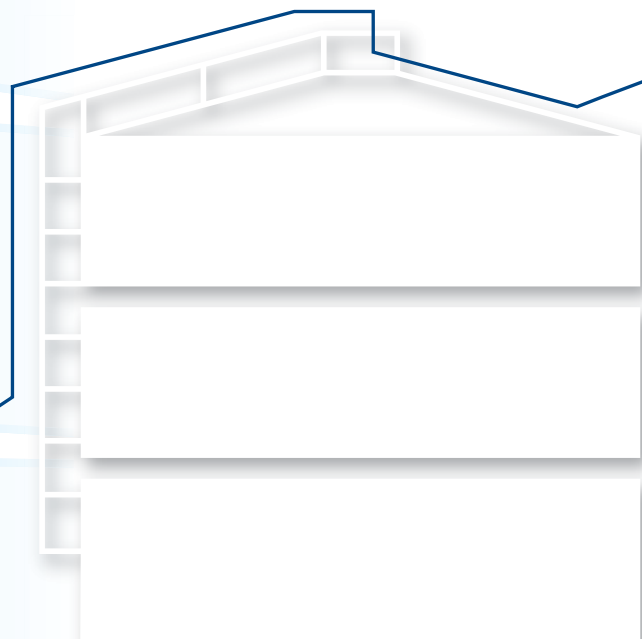
BENEFITS FOR THE END USER

Permastore's Glass-Fused-to-Steel finish combined with its modular design and build concept, offers an array of benefits to contractors and end users.

- Long Life
- Low Capital Cost
- Low Maintenance Costs
- Rapid Site Installation Times
- Economic Worldwide Shipments
- Flexibility to Re-model, Extend, Dismantle and Re-site
- Optimum Corrosion Resistance



**The
Complete
Package**



GLASS GRADES

ISO FUSION® V700

ISO FUSION® V700 is the primary industrial contact surface finish generally used for bulk solids, storm water, filter tanks and sludge storage. An established low cost solution delivering security and protection through Permastore's high voltage 100% zero discontinuity coating specification.

- **Application:** pH 3-9
- **Type:** 2 coat, 1 fire
- **Thickness:** 200-360 microns
- **Test Regime:** Zero discontinuities at 700V
- **Exceeds quality requirements of EEA 7.20**
- **Meets or exceeds the glass coating requirements of AWWA D103-09 – Section 10.4**
- **Meets or exceeds quality requirements of EN ISO 28765:2011***

TRI FUSION®

TRIFUSION® has rightfully become the standard by which all other finishes are assessed. This proven high quality contact surface finish sets the benchmark for use in the more demanding areas of industrial effluent treatment and sludge digestion. An additional protective layer, together with the zero discontinuity finish tested at an exacting 1100 Volts, provides exceptional security and continuous protection.

- **Application:** pH 2-11
- **Type:** 3 coat, 2 fire
- **Thickness:** 280-460 microns
- **Test Regime:** Zero discontinuities at 1100V
- **Exceeds quality requirements of EEA 7.20**
- **Meets or exceeds quality requirements of EN ISO 28765:2011***

HV ISO FUSION®

HV ISO FUSION® is the premium grade of the ISO FUSION® range. Combining the commercial benefits of ISO FUSION® glass and the established confidence associated with high voltage testing. Delivering a high grade zero discontinuity coating for optimum protection in specific areas of application.

- **Application:** pH 3-10
- **Type:** 2 coat, 1 fire
- **Thickness:** 200-360 microns
- **Test Regime:** Zero discontinuities at 900V
- **Exceeds quality requirements of EEA 7.20**
- **Meets or exceeds quality requirements of EN ISO 28765:2011***

TRI FUSION® PLUS

TRIFUSION® PLUS finish takes Permastore's acclaimed TRIFUSION® standard to an even higher level, for use in the most extreme of environments. Aggressive chemical and high temperature processes can be considered with this high quality contact surface finish, offering zero discontinuity when tested to 1500 Volts.

- **Application:** pH 1-14
- **Type:** 3 coat, 2 fire
- **Thickness:** 340-500 microns
- **Test Regime:** Zero discontinuities at 1500V
- **Exceeds quality requirements of EEA 7.20**
- **Meets or exceeds quality requirements of EN ISO 28765:2011***

* **Note:** EN ISO 28765:2011 Vitreous and porcelain enamels – Design of bolted steel tanks for the storage or treatment of water or municipal or industrial effluents and sludges, covers both the glass coating requirement and the tank structure design and as such is the first dedicated standard specifically created for the Glass-Fused-to-Steel product applicable for water and wastewater applications.

A Zero Discontinuity policy applies to ISO FUSION® V700, HV ISO FUSION®, TRIFUSION® and TRIFUSION® PLUS for the tests shown.

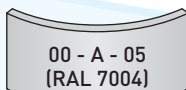
All applications are subject to concentration and temperature considerations. All specifications relate to the contact surfaces only.

A detailed specification is available on request.

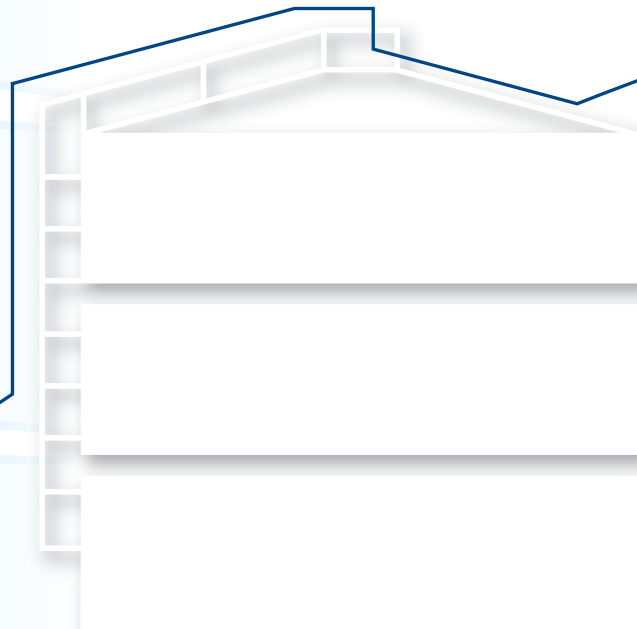
APPLICATION GUIDE

APPLICATION	ISO FUSION® V700	HV ISO FUSION®	TRIFUSION®	TRIFUSION® PLUS	INTERNAL COLOURS
Edible / Vegetable Oils	✓				20 - C - 40 (RAL 5013)
Dry Bulk Solids	✓				
Farm Digesters	✓				
Storm / Fire Water	✓				
Potable Water (NSF / ANSI 61)	✓				
Filter Tanks	✓				
Municipal Sludge Storage (Open Topped)	✓				
Municipal Sludge Treatment (Open Topped)	✓				
Municipal Mesophylic Digester (Liquid Zone)	✓				
Drinking Water (DWI, Reg 31 Approved)		✓			20 - C - 40 (RAL 5013)
Municipal Backwash Effluent		✓			
Municipal Sludge Cake Storage		✓			
Underground / Partially Back Filled Rings			✓		14 - C - 40 (RAL 7009)
Glass-Fused-to-Steel Floors			✓		
Municipal Sludge Storage (Tanks with Roof)			✓		
Municipal Sludge Treatment (Tanks with Roof)			✓		
Industrial Effluent and/or Aeration Process			✓		
Food Process Washings			✓		
Liquid Leachates			✓		
Municipal Mesophylic Digester (Top Ring & Roof)			✓		
Thermophylic Digester (Liquid Zone)			✓		14 - C - 40 (RAL 7009)
Thermophylic Digester (Top Ring & Roof)				✓	
High Temperature Applications				✓	
Aggressive / Chemical Industrial Effluent				✓	

EXTERNAL COLOURS



Further external colours are available on request. All colour identification numbers are the closest visual match only. All panel exteriors are Glass-Fused-to-Steel environmental specification.



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