



PERMASTORE[®] TANKS & SILOS

worldwide
epoxy containment
solutions



An epoxy product that will look better for longer!

The Company

Permastore has joined forces with AkzoNobel who is a leading global producer of paints and coatings. The result is an innovative, technologically advanced Fusion Bonded Epoxy product, FUSION® V1100, for modular, bolted containment systems. The high-tech RESICOAT® R4-ES used on the internal surface combined with the ultra durable INTERPON® D2525 on the external surface sets the new benchmark within its sector.

Following extensive research, with shared know-how and combined with our considerable experience in Glass-Fused-to-Steel solutions coating technology, we have developed FUSION® V1100 to be an exceptional Fusion Bonded Epoxy coating system, second only in performance to PERMASTORE® Glass-Fused-to-Steel solutions. Permastore use high quality grades of sheet steel which meet or exceed the requirements of relevant tank design standards and applicable International Standards e.g. AWWA D103-09, EN 10025, EN 10149 and ASTM A1011.

With the engineering expertise and experience gained from over 50 years in the global tank and silo industry, you can be assured that the FUSION® V1100 product offers the best quality, high performance Fusion Bonded Epoxy product which is installed with the precision and ease our customers have come to expect and value from the current PERMASTORE® product. Exporting to over 110 countries and supplying in excess of 300,000 durable and cost effectively engineered structures worldwide, Permastore has the knowledge and experience to provide the best possible solution for your specific application. The combination of AkzoNobel's market leading Fusion Bonded Epoxy coating formulation and Permastore's unmatched factory application process has led to the innovative FUSION® V1100 Bonded Epoxy coating.

Permastore operates through an extensive Global Distributor Network, which gives customers the reassurance of highly experienced, trained crews who provide rapid and high quality completion on-site. In addition, having experienced local sales personnel on the ground who speak the language, know the market area and specification requirements and have the necessary expertise to liaise with end customers provides a value-added service to customers.

Designed to be easy and cost effective to container ship anywhere in the world, modular bolted FUSION® V1100 Bonded Epoxy Tanks are an ideal solution in remote locations.


Applications

The proprietary FUSION® V1100 Epoxy coating leads the market within its sector and is suitable for the storage, processing and general containment of a range of liquids. Factory-applied coatings eliminate weather delays typical of site-applied coatings making FUSION® V1100 undoubtedly your best choice to suit your specific application.


The Quality

FUSION® V1100 gives you the assurance and dedication to the highest quality associated with the PERMASTORE® brand. The internal contact surface of every panel is subject to 100% factory inspection and testing at 1100v showing our commitment to zero discontinuities (defect free at test voltage).

The external surface of the panel is inspected using a colorimeter test and the colour checked against standard limits. Panels with a colour outside of these limits will be rejected.



NSF/ANSI 61 – The internal coating holds NSF/ANSI 61 approval for drinking water.



ISO 9001:2008 – Accreditation of Quality Management Systems since 1996 to guarantee consistent customer satisfaction.

The Coating Performance

FUSION® V1100 is the superior, optimum Fusion Bonded Epoxy coating for your containment solution and provides the following features:

Internal Coating – RESICOAT® R4-ES

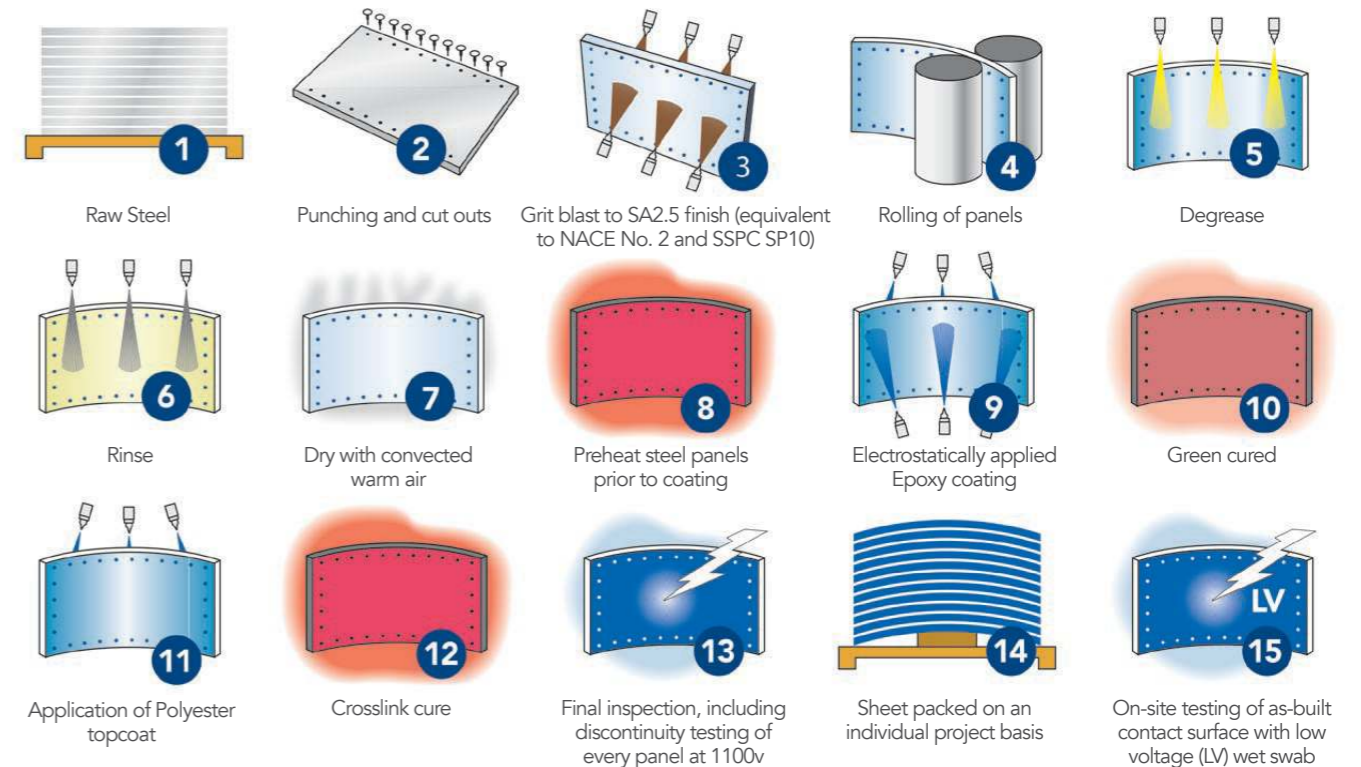
- ▶▶▶ One of the most durable epoxy coatings when compared to other available epoxy products in the market place.
- ▶▶▶ High Voltage Testing carried out on every sheet with zero discontinuities (defect free at test voltage).
- ▶▶▶ The coating holds approval for drinking water regulations such as NSF/ANSI 61 and BS 6920 as well as other regulations in numerous other countries.
- ▶▶▶ Optimum control of the external coating overspray keeps the internal coating compliant with drinking water regulations.
- ▶▶▶ Coating undergoes and has to pass many different types of tests in order to ensure high performance and compliance with our publicly available Quality Standard.
- ▶▶▶ An electrostatically factory-applied powder coating is applied to the internal surface which provides a high quality and consistent uniform finish.
- ▶▶▶ The formulation complies with appropriate controls on substances, including European REACH Regulations, which allows the coating to attain the highest global credentials for safety and environmental performance.

External Coating – INTERPON® D2525

- ▶▶▶ A combination of an epoxy primer and an ultra durable polyester top coat.
- ▶▶▶ A universal testing procedure known as Florida outdoor exposure testing is used to test the external polyester surface ensuring UV resistance as well as colour and gloss durability and consistency in the most intense sunlight conditions. Florida is the internationally recognised and realistic benchmark location for outdoor exposure testing due to its subtropical weathering exposure.
- ▶▶▶ Coating has passed rigorous testing and holds a number of independent approvals. In accordance with ISO 2810, the coating exceeds Qualicoat Class 2 requirements after 3 years Florida outdoor exposure testing and meets AAMA 2604-5 requirements after 5 years Florida outdoor exposure testing.
- ▶▶▶ Coating undergoes and has to pass many different types of tests in order to ensure high performance and compliance with our publicly available Quality Standard.
- ▶▶▶ The formulation complies with appropriate controls on substances, including European REACH Regulations, which allows the coating to attain the highest global credentials for safety and environmental performance.


The Process

To ensure consistent market leading quality is provided to our customers, the Permastore process for FUSION® V1100 Bonded Epoxy tank sheets includes the following essential 15-stage process:



Technical Information

Internal Coating - RESICOAT® R4-ES

Application	Test	RESICOAT® R4-ES	Internal Colour
Dry Film Thickness	Non-Destructive Test	6 - 10 mils / 150 - 250 microns	
Hot water immersion 90 days, 70°C	AWWA C550-05	Pass	
Adhesion after 7 days, 90°C water	ISO 4624	≥16MPa	
Corrosion Resistance	Salt Spray ISO 9227 / ASTM B117	Meets or exceeds industry norms	
Impact Resistance	ASTM G14 3.2mm (1/8 in) steel plate	> 18 Joule	
pH range	-	3 - 13*	
Abrasion Resistance	Abrasion wheel ASTM 4060	CS-17, 1000g, 1000 cycles <40mg	
Hardness	ISO 15184 / ASTM D3363	2H	
Chemical Immersion	50% NaOH, 50% H ₂ SO ₄	2 years no change	
Holiday test	1100v every panel	Discontinuity free (zero defects at test voltage)	

External Coating - INTERPON® D2525

Application	Test	INTERPON® D2525
Dry Film Thickness	Non-Destructive Test	6 – 9 mils / 150 – 230 microns (combination of an epoxy primer and polyester topcoat)
UV Resistance	Florida outdoor exposure testing	5 years
Colour Stability	Florida outdoor exposure testing	5 years
Impact Resistance	ISO 6272	Pass Qualicoat Class 2 Requirements

Standard External Colours. Other colours are available upon request

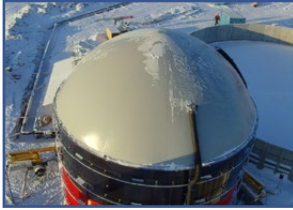


*Note: All applications are subject to concentration and temperature considerations.

Note: The epoxy specification is offered as a cost effective solution to be considered by the process designer for specific applications. In circumstances where commercial factors or ongoing process requirements dictate that future access for inspection and maintenance will be impractical, the process designer should consult with the end user and consider whether cathodic protection should be specified.

Comprehensive Roof, Cover and Ancillary Range

Double Membrane
Dome Roofs



Trough Deck Roofs



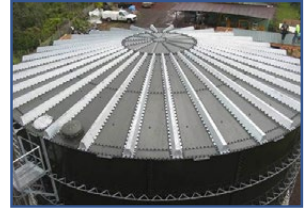
PVC Covers



Geodesic Dome Roofs



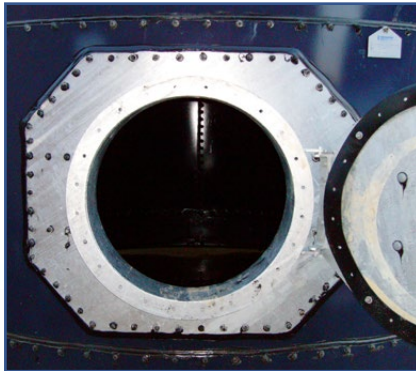
Tapered and External
Beam Roofs



Level Indicators



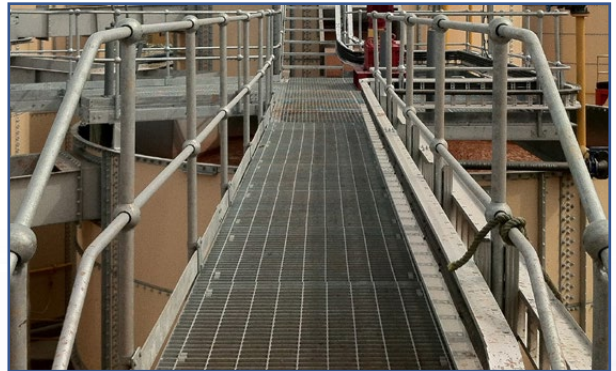
Manways



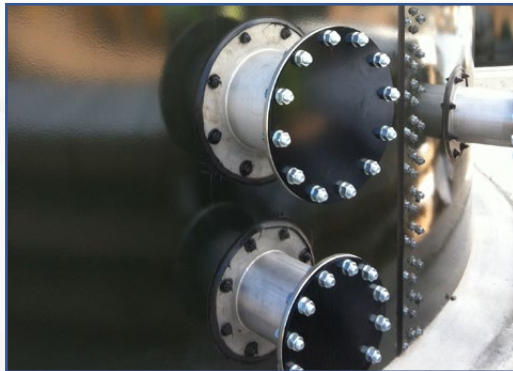
Ladders & Platforms



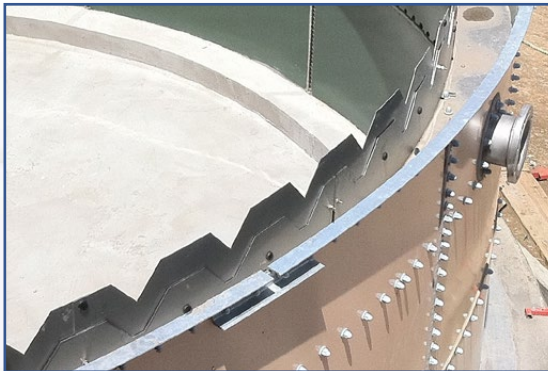
Walkways



Connections



Launders



Viewports



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