

Coating for the Protection of Process Equipment Operating at Elevated Temperatures



Belzona 1593 is a high-temperature coating suitable for equipment operating in continuous immersion in aqueous and hydrocarbon systems at temperatures up to 160°C (320°F). It provides excellent long-term corrosion resistance and withstands a wide range of chemicals.

This material has a 24-hour overcoat window allowing applications to be effectively and quickly completed, with downtime kept to a minimum. Its ambient temperature curing mechanism with full in-service cure allows for a rapid turnaround and return to service.

This solvent-free material is proven to outperform conventional Vinyl Ester Glass Flake (VEGF) coatings in terms of mechanical strength and adhesion, and exhibits reduced shrinkage and VOC emissions. This high-performance coating is also resistant to steam-out processes up to 210°C (410°F) and rapid depressurisation.

TECHNICAL DATA	Mixing ratio (base:solidifier)	11 : 1 by weight	5.6:1 by volume	
	Working life	45 minutes at 20°C (68°F)		
	Shelf life	3 years		
	Dry heat resistance	220°C (428°F)		
	Adhesion (tensile shear) mild steel	20 MPa (2,900 psi) at 20°C (68°F) cure	12.3 MPa (1,790 psi) at 160°C (320°F) cure	
	Compressive strength	57.1 MPa (8,280 psi) at 20°C (68°F) cure	34.6 MPa (5,010 psi) at 160°C (320°F) cure	
	Coverage rate	1.1 m ² (11.84 ft ²) /kg at 500 microns (20 mils)		
	Heat distortion temperature	49°C (120°F) at 20°C (68°F) cure	168°C (334°F) at 100°C (212°F) cure	234°C (453°F) at 160°C (320°F) cure
	Abrasion resistance	H10 - 1,042 mm ³ wet	CS17 - 17.4 mm ³ dry	

CURE TIMES	Temperature	10°C (50°F)	20°C (68°F)	30°C (85°F)	40°C (105°F)
	Time until inspection	42 hours	20 hours	8 hours	4 hours
	Time until full service	10 days	72 hours	30 hours	9 hours
	Time until dry post cure (if required)	42 hours	20 hours	8 hours	4 hours
	Time until wet post cure (if required)	4 days	40 hours	14 hours	7 hours

*Please visit the [product page](#) and consult the Product Specification Sheet (PSS) and Instructions for Use (IFU) for the latest technical data.



**VERY HIGH HEAT
DISTORTION
TEMPERATURE**



**EROSION-
CORROSION
RESISTANT**



HIGH ADHESION



**REDUCED
DOWNTIME**

Key Benefits:

- **Simple and safe to use**

Belzona 1593 is easy to mix and apply without specialist tools. This coating is safe to apply in confined spaces, reducing health and safety risks.

- **Excellent resistance to corrosion and chemicals**

This coating provides long-term corrosion resistance even under immersed conditions at high temperatures.

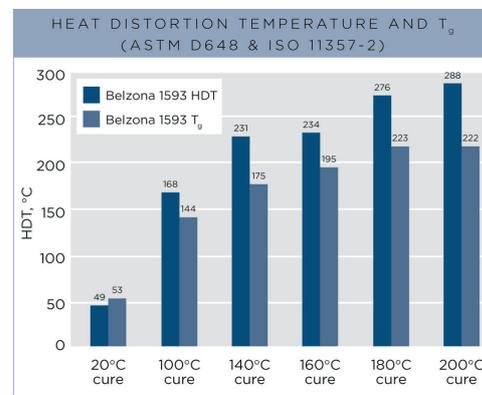
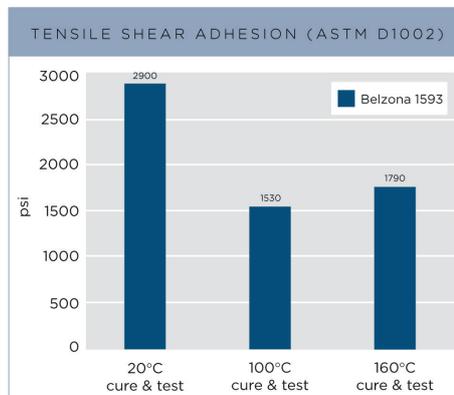
- **Immersed, high temperature operation**

The material is designed to operate under immersed conditions in aqueous and hydrocarbon systems up to 160°C (320°F)

- **Minimised downtime**

Downtime is reduced due to Belzona 1593's post-cure mechanism activated at service temperatures.

Test Data:



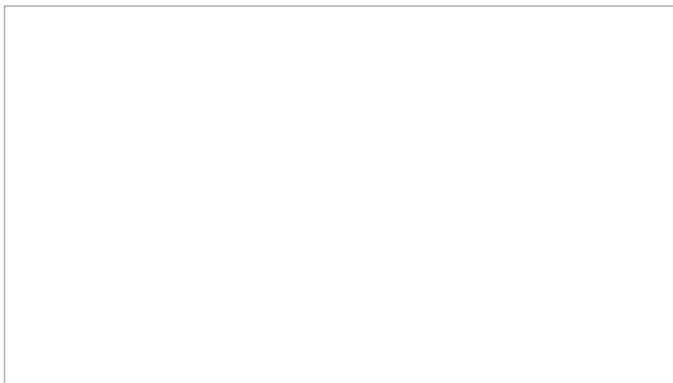
Application Areas:

- Boiler vessels
- Condensers
- Heat exchangers
- Flare knock-out vessels and evaporators
- Separators



The light colours of Belzona 1593 allow easy visual inspection in vessels.

For more information, please contact your local Belzona representative:



QUALITY PRODUCTS - TECHNICAL SUPPORT

Belzona products are manufactured under an ISO 9001 Registered Quality Management System.

Belzona has a global distribution network of over 140 Distributors operating in 120 countries. Local support is provided by a trained Technical Consultant who will diagnose the problem, recommend the solution and provide 24-hour, on-site application supervision and advice.