

# Fatigue Resistant Structural Adhesive



Belzona 7311 is a fatigue resistant adhesive, optimised for structural bonding applications requiring high mechanical strength, cleavage and shear resistance. It is ideally suited for bonding applications subjected to cyclic and repeated load.

As a specially designed adhesive, it offers an alternative to mechanical fastenings/fixings and is a viable alternative to welding, eliminating any need for hot work, making it a safe, high-performance solution which is suitable for dry and wet service up to 60°C (140°F).

With a high amount of performance data available from the development and testing of Belzona 7311, customers can perform finite element analysis (FEA) and model bonded assemblies. This allows clients to simulate the stresses the adhesive will experience in service to satisfy themselves that the solution performs against real world forces it will be subjected to in use.

ADHESION ON GRIT BLASTED MILD STEEL	Temperature	20°C (68°F)	60°C (140°F)
	Cleavage (ASTM D1062)	360 N/mm (2,060 pli)	330 N/mm (1,880 pli)
	Tensile Shear (ASTM D1002)	33.4 MPa (4,840 psi)	31.2 MPa (4,520 psi)
	Pull-off Adhesion (ASTM D4541)	37.9 MPa (5,500 psi)	33.7 MPa (4,890 psi)
	Fatigue Resistance (ISO 9664) at 30Hz	Survives 1,000,000 cycles at a stress of 8.46 MPa (1,230 psi) with an alternating amplitude of ±4.79 MPa (694 psi)	
MECHANICAL PROPERTIES	Tensile Strength (ASTM D638)	37.0 MPa (5,360 psi)	30.7 MPa (4,450 psi)
	Flexural Strength (ASTM D790)	59.2 MPa (8,580 psi)	52.0 MPa (7,540 psi)
	Shear Strength (ASTM D5379)	25.8 MPa (3,740 psi)	18.4 MPa (2,670 psi)

CURE TIMES	Temperature	5°C (41°F)	10°C (50°F)	20°C (68°F)	40°C (104°F)	60°C (140°F)
	Working life	2 hours	80 minutes	40 minutes	20 minutes	10 minutes
	Minimum self-supporting time	24 hours	18 hours	6 hours	2 hours	20 minutes
	Time to achieve at least 50% adhesive strength	48 hours	24 hours	6 hours	2 hours	30 minutes
	Time to achieve full adhesive strength	28 days	21 days	48 hours	4 hours	1 hour

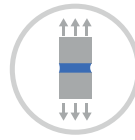
For complete and most up-to-date performance data please consult the Product Specification Sheet (PSS)



RESISTANCE TO CYCLIC FATIGUE



NO HOT WORK



EXCELLENT ADHESION



HIGH RESISTANCE TO PEEL/CLEAVAGE FORCES

## Key Benefits:

- Resistance to cyclic fatigue
- Excellent adhesion to metallic substrates
- High resistance to peel/cleavage forces
- Data package for engineering design
- Suitable for service between -30°C (-22°F) and 60°C (140°F)
- Solvent free
- Hi-build paste structure
- No specialist tools required for application
- No hot work required

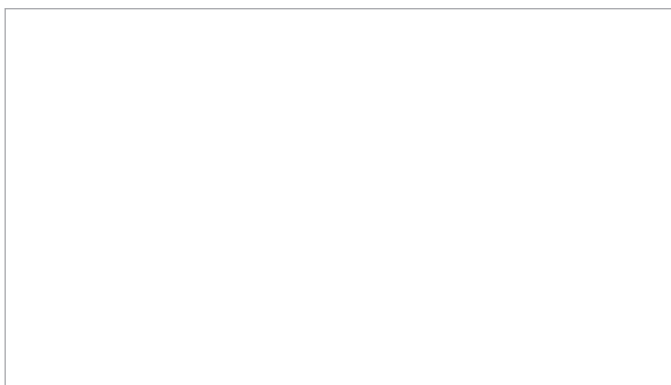


## Application Area Examples

- Equipment Support Brackets
- Handrails on Steel Substrates
- Staircases/Ladders
- Plate Bonding
- Vessel Furniture: Internal and External



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.