PRODUCT SPECIFICATION SHEET
BELZONA 1151
FN10017

BELZONA®
Repair • Protect • Improve

GENERAL INFORMATION

Product Description:
A two-component, semi-paste grade material based on a silicon-steel alloy blended within high molecular weight reactive polymers and oligomers. The system is designed for rebuilding shallow pitting in metal substrates up to 6mm deep. Ideally suited to be overcoated with **Belzona 1321** (Ceramic S-Metal). Also used as a high strength structural adhesive for bonding or for creation of irregular load bearing shims with good electrical insulation characteristics. For use in Original Equipment Manufacture or repair situations.

Application Areas:
When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system is ideally suited for application to the following:

- Centrifugal and turbine pumps
- Propellers
- Bow thrusters
- Heat exchangers, water box ends, division bars and tube sheets
- Butterfly and gate valves
- Kort nozzles
- Pipework

APPLICATION INFORMATION

Working Life
Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 30 minutes.

Cure Time
Allow to solidify for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Volume Capacity
74.9 in^3 (1227 cm^3)/3kg unit
24.95 in^3 (409 cm^3)/kg

Base Component	
Appearance	Paste
Colour	Dark grey
Gel strength at 77°F (25°C)	>150 g/cm HF
Density	2.7 - 2.9 g/cm^3

Solidifier Component	
Appearance	Liquid
Colour	Blue
Density	1.0 - 1.1 g/cm^3

Mixed Properties	
Mixing Ratio by Weight (Base : Solidifier)	10.8 : 1
Mixing Ratio by Volume (Base : Solidifier)	4 : 1
Mixed Form	Semi-paste
Slump Resistance	nil at 0.25 inch (6mm)
Mixed Density	2.39-2.49 g/cm^3
VOC content (ASTM D2369 / EPA ref. 24)	0.05% / 1.33 g/L

The above application information serves as introductory guide only. For full application details including the recommended application procedure/technique, refer to the Belzona IFU which is enclosed with each packaged product.

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ABRASION

Taber
When determined in accordance with ASTM D4060, the sliding Taber abrasion resistance will be:

Dry (CS17 Wheels)
27 mm^3 loss per 1,000 cycles (7 day cure at 20°C/68°F)

Wet (H10 Wheels)
802 mm^3 loss per 1,000 cycles (7 day cure at 20°C/68°F)

ADHESION

Tensile Shear
When tested in accordance with ASTM D1002, to grit blasted substrate with 3-4 mil (75-100 micron) profile, typical values will be:
Mild steel 2,800 psi (19.3 MPa)

COMPRESSIVE PROPERTIES

Compressive Strength
When determined in accordance with ASTM D695 typical values will be: 13,790 psi (95.1 MPa)

CORROSION PROTECTION

Corrosion Resistance
Once fully cured, will show no visible signs of corrosion after 5,000 hours exposure in the ASTM B117 salt spray cabinet.

ELONGATION & TENSILE PROPERTIES

When determined in accordance with ASTM D638, typical values will be:

	Cure temperature
Tensile Strength	
6,203 psi (42.77 MPa)	68°F (20°C)
6,836 psi (47.13 MPa)	212°F (100°C)
Elongation	
1.08%	68°F (20°C)
1.07%	212°F (100°C)
Young's Modulus	
0.93x10^6 psi (6,412 MPa)	68°F (20°C)
0.93x10^6 psi (6,399 MPa)	212°F (100°C)

HARDNESS

Shore D
When determined in accordance with ASTM D2240, typical values will be:
88 68°F (20°C) cure

Barcol Hardness
The Barcol hardness, when determined in accordance with ASTM D2583, will typically be:

	Ambient cure (68°F/20°C)	Post cure (140°F/60°C)
Barcol 934-1	17	20
Barcol 935	86	91

HEAT RESISTANCE

Heat Distortion Temperature (HDT)
Tested to ASTM D648 (264 psi fibre stress), typical values will be:
ambient cure 111°F (44°C)
post cure 189°F (87°C)

Service Temperature Limits
For many typical applications, the product will be suitable for use at the following service temperatures:

Type of Service	Temperature
Lower temperature limit	-40 °C (-40 °F)
Upper temperature limit (dry)	75 °C (167 °F)
Upper temperature limit (wet)	60 °C (140 °F)

Dry Heat Resistance
The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 392°F (200°C).

SHELF LIFE

Separate base and solidifier components shall have a shelf life of 5 years from date of manufacture when stored in their original unopened containers between 41°F (5°C) and 86°F (30°C).

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WARRANTY

This product will meet the performance claims stated herein when material is stored and used as instructed in the Belzona Information For Use leaflet. Belzona ensures that all its products are carefully manufactured to ensure the highest quality possible and are tested strictly in accordance with universally recognized standards (ASTM, ANSI, BS, DIN, ISO, etc.). Since Belzona has no control over the use of the product described herein, no warranty for any application can be given.

AVAILABILITY AND COST

Belzona 1151 is available from a network of Belzona Distributors throughout the world for prompt delivery to the application site. For information, consult the Belzona Distributor in your area.

MANUFACTURER / SUPPLIER

Belzona Limited,
Claro Road, Harrogate,
HG1 4DS, UK

Belzona Inc.
14300 NW 60th Ave,
Miami Lakes, FL, 33014, USA

HEALTH AND SAFETY

Prior to using this material, please consult the relevant Safety Data Sheets.

TECHNICAL SERVICE

Complete technical assistance is available and includes fully trained Technical Consultants, technical service personnel and fully staffed research, development and quality control laboratories.

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