

# PRODUCT SPECIFICATION SHEET

## BELZONA 1511

FN10036



### GENERAL INFORMATION

**Product Description:**

A two component high temperature paste grade system for rebuilding metals damaged by erosion-corrosion. When cured, the material is durable yet fully machinable. The product has been specifically designed for use with Belzona High Temperature coatings. 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:**

Rebuilding erosion-corrosion and/or repairing welds, etc., prior to application of Belzona High Temperature coatings.

### APPLICATION INFORMATION

**Working Life**

Will vary according to temperature. At 68°F (20°C) the usable life of mixed material is 40 minutes.

**Cure Time**

Allow to cure for at least 24 hours above 18°C before putting into service. The system is designed to post cure in service. This procedure is suitable for applications where operating temperature will be achieved gradually.

**NOTE:**

Surface temperature should be above 65°F (18°C) throughout the curing period.

**Volume Capacity**

19.3in<sup>3</sup> (317cm<sup>3</sup>)/kg.

**Base Component**

Appearance	Paste
Color	Dark gray
Gel strength at 77°F (25°C)	>280 g/cm QH
Density	3.36 - 3.40 g/cm <sup>3</sup>

**Solidifier Component**

Appearance	Paste
Color	Light gray
Gel strength at 77°F (25°C)	>80 g/cm QV
Density	2.23 - 2.27 g/cm <sup>3</sup>

**Mixed Properties**

Mixing Ratio by Weight (Base : Solidifier)	6 : 1
Mixing Ratio by Volume (Base : Solidifier)	4 : 1
Mixed Form	Paste
Slump Resistance	nil at 0.5 inch (1.27 cm)
Mixed Density	3.15 g/cm <sup>3</sup>

*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

After post curing at 100°C the Taber abrasion resistance with 1 kg load is typically:

H10 Wheels (Wet)	572 mm <sup>3</sup> loss per 1000 cycles
CS17 Wheels (Dry)	23 mm <sup>3</sup> loss per 1000 cycles

### ADHESION

#### Tensile Shear

When tested in accordance with ASTM D1002, using degreased mild steel, grit blasted to a 3-4 mil profile, typical values will be:

2,100 psi (14.5 MPa)	<b>Cure temperature</b> 68°F (20°C)
1,900 psi (13.1 MPa)	212°F (100°C)
1,650 psi (11.4 MPa)	356°F (180°C)
1,660 psi (11.4 MPa)	<b>Cure/test temperature</b> 212°F (100°C)
550 psi (3.8 MPa)	356°F (180°C)

#### Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength from grit blasted steel will be typically:

3870 psi (26.7 MPa)	68°F (20°C) cure
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### COMPRESSIVE PROPERTIES

The compressive strength when determined in accordance with ASTM D695, is typically:

15,950 psi (110.0 MPa)	<b>Cure temperature</b> 68°F (20°C)
25,450 psi (175.5 MPa)	212°F (100°C)
22,180 psi (153.0 MPa)	356°F (180°C)
10,760 psi (74.2 MPa)	<b>Cure/test temperature</b> 212°F (100°C)
5,920 psi (40.8 MPa)	356°F (180°C)

### CORROSION PROTECTION

#### Corrosion Resistance

Will show no visible signs of corrosion after 5,000 hours exposure in the ASTM B117 salt spray cabinet.

### FLEXURAL PROPERTIES

The flexural strength when determined in accordance with ASTM D790, will be typically:

9,710 psi (66.9 MPa)	<b>Cure temperature</b> 68°F (20°C)
9,860 psi (68.0 MPa)	212°F (100°C)
10,000 psi (68.9 MPa)	356°F (180°C)
5,510 psi (38.0 MPa)	<b>Cure/test temperature</b> 212°F (100°C)
3,620 psi (25.0 MPa)	356°F (180°C)

### HARDNESS

#### Barcol

When determined in accordance with ASTM D2583, will typically be:

93	<b>Cure temperature</b> 68°F (20°C)
96	212°F (100°C)
98	302°F (150°C)

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

Tested to ASTM D648 (264 psi fiber stress), typical values obtained will be:

136°F (58°C)	<b>Cure temperature</b> 68°F (20°C)
277°F (136°C)	212°F (100°C)
428°F (220°C)	356°F (180°C)

#### Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 428°F (220°C).

### IMPACT RESISTANCE

#### Impact Strength

The impact strength (reverse notched) when tested to ASTM D256 is typically:

0.67 ft.lb./in. (36 J/m)	<b>Cure temperature</b> 68°F (20°C)
0.69 ft.lb./in. (37.5J/m)	212°F (100°C)
0.8ft.lb./in.(43J/m)	356°F (180°C)

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### SHELF LIFE

Separate base and solidifier components shall have a shelf life of at least 5 years when stored between 32°F (0°C) and 86°F (30°C).

### WARRANTY

Belzona guarantees 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 further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognised 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 1511** 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

Belzona Polymerics Ltd.  
Claro Road, Harrogate,  
HG1 4DS, UK

Belzona Inc.  
2000 N.W. 88<sup>th</sup> Court,  
Miami, Florida, USA, 33172

### HEALTH AND SAFETY

Prior to using this material, please consult the relevant Material 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.

The technical data contained herein is based on the results of long term tests carried out in our laboratories and to the best of our knowledge is true and accurate on the date of publication. It is however subject to change without prior notice and the user should contact Belzona to verify the technical data is correct before specifying or ordering. No guarantee of accuracy is given or implied. We assume no responsibility for rates of coverage, performance or injury resulting from use. Liability, if any, is limited to the replacement of products. No other warranty or guarantee of any kind is made by Belzona, express or implied, whether statutory, by operation of law or otherwise, including merchantability or fitness for a particular purpose.

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ISO 9001:2008  
Q 09335  
ISO 14001:2004  
EMS 509612

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