

# PRODUCT SPECIFICATION SHEET

## BELZONA 1813

FN10041



### GENERAL INFORMATION

#### Product Description:

A two component system consisting of a Base and Solidifier. The product is based on high molecular weight polymers and oligomers incorporating abrasion resistant ceramic aggregates. This material may be applied at thicknesses up to 0.25 inch / 6 mm on horizontal or vertical surfaces. The system protects the substrate from abrasive attack at high temperatures and is resistant to a wide range of chemicals.

#### 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:

- Centrifuges
- Chutes and hoppers
- Deflector screens
- Mixing bowls
- Pipe bends
- Wear plates

### APPLICATION INFORMATION

#### Application Methods

Plastic applicator

#### Application Temperature

Application should only occur in the following temperature range: 50°F/10°C to 104°F/40°C

#### Coverage Rate

When applied at a thickness of 0.125 inch / 3 mm, the theoretical coverage rate will be 1.61 ft<sup>2</sup>/kg or 0.15 m<sup>2</sup>/kg.

#### Cure Time

Cure times will vary depending on the ambient conditions; consult the Belzona IFU for specific details.

#### Mixed Properties

Colour	Green
Density	2.22 g/cm <sup>3</sup>
Tack Free Time	4 hours (68°F/20°C) & 8 hours (50°F/10°C)
Slump	Nil at 0.25 inch / 6 mm
Volume Capacity	27.5 in <sup>3</sup> /kg / 450 cm <sup>3</sup> /kg

#### Mix Ratio (base : solidifier)

3 : 1 (pbv) and 3.84 : 1 (pbw)

#### Overcoat Window

Overcoat times will vary depending on the ambient conditions. At 68°F/20°C, the maximum overcoat time will typically be 8 hours.

#### Working Life

The working life will vary according to the temperature. At 68°F/20°C, the usable life of mixed material will typically be 40 minutes, consult the Belzona IFU for specific details.

*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

Wet sliding abrasion resistance, when determined in accordance with ASTM D4060 using H10 wheels will typically result in:

45 mm<sup>3</sup> loss per 1000 cycles (68°F/20°C cure & test)

#### Grit Impact

The direct impact of 2kg G34 chilled iron grit at 75 psi and a 90° degree angle will typically result in a volume loss of: 11 mm<sup>3</sup> (68°F/20°C cure & test)

### ADHESION

#### Pull Off Adhesion

The PosiTest Dolly Pull Off Strength on 10mm thick grit blasted mild steel, as determined in accordance with ASTM D4541 and ISO 4624, will typically be:

2970 psi / 20.5 MPa (68°F/20°C cure & 68°F/20°C test)  
>3000 psi / >20.7 MPa (212°F/100°C cure & 212°F/100°C test)

#### Tensile Shear

The Tensile Shear Adhesion on grit blasted mild steel, as determined in accordance with ASTM D1002, will typically be:

Cure and Test temperature	Tensile Shear Adhesion
68°F/20°C	2190 psi / 15.1 MPa
212°F/100°C	1910 psi / 13.2 MPa
302°F/150°C	1340 psi / 9.24 MPa

### CHEMICAL RESISTANCE

While specifically designed for dry heat abrasion resistance, **Belzona 1813** exhibits excellent chemical resistance to most commonly found chemical substances including inorganic acids and bases.

### COMPRESSIVE PROPERTIES

When determined in accordance with ASTM D695, typical values will be:

#### Compressive Yield Strength

10840 psi / 74.7 MPa (68°F/20°C cure & 68°F/20°C test)  
7320 psi / 50.5 MPa (212°F/100°C cure & 212°F/100°C test)  
6020 psi / 92.0 MPa (302°F/150°C cure & 302°F/150°C test)

### FLEXURAL PROPERTIES

When determined in accordance with ASTM D790, typical values will be:

#### Flexural Strength

5730 psi / 39.5 MPa (68°F/20°C cure & 68°F/20°C test)  
4720 psi / 32.5 MPa (212°F/100°C cure & 212°F/100°C test)  
3470 psi / 23.9 MPa (302°F/150°C cure & 302°F/150°C test)

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

The HDT when determined in accordance with ASTM D648 will typically be:

Cure temperature	HDT
68°F/20°C	129°F/54°C
212°F/100°C	275°F/135°C
302°F/150°C	370°F/188°C
356°F/180°C	414°F/212°C

#### Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 464°F (240°C).

For many typical applications of dry abrasion, the product is suitable for use up to 392°F / 200°C.

### IMPACT RESISTANCE

#### Izod Pendulum

Notched Izod impact strength, when determined in accordance with ASTM D256, will typically be:

1.54 KJ/m<sup>2</sup> (68°F/20°C cure & 68°F/20°C test)  
2.46 KJ/m<sup>2</sup> (212°F/100°C cure & 68°F/20°C test)  
2.17 KJ/m<sup>2</sup> (302°F/150°C cure & 68°F/20°C test)  
2.18 KJ/m<sup>2</sup> (356°F/180°C cure & 68°F/20°C test)

### SHELF LIFE

Separate Base and Solidifier components will have a minimum shelf life of 5 years when stored in their original unopened containers between 32°F/0°C and 86°F/30°C

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### 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 1813** 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.

### HEALTH AND SAFETY

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

### MANUFACTURER

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

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

### 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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Registered Quality Management System

