

# PRODUCT SPECIFICATION SHEET

## BELZONA 1821

FN10131



### GENERAL INFORMATION

#### Product Description:

A two component fluid grade material based on silicon steel alloy blended within high molecular weight reactive polymers and oligomers. The system is designed for creating positive grip surfaces on machinery and equipment when used to bond Belzona Supergrip or Surefoot aggregate to the surface. Also for casting components where machining is required and 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 provides a durable non-slip surface with excellent adhesion, wear and chemical resistance:

- Tank tops
- Vehicle step-ups
- Conveyor drive drums
- Fork lift grab arms
- Fire escapes
- Loading ramps
- Brake test rollers
- Walkways
- Chequer plate access areas
- Take off and feed rollers

### APPLICATION INFORMATION

#### Working Life

Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 20 minutes.

#### Coverage Rate

This depends on the choice of aggregate and nature of substrate. As a practical guide a 1kg unit will cover 9.25 sq.ft. (0.86 sq.m.) at a thickness of 20 mil (500 microns).

#### Cure Time

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

#### Volume Capacity

29.2 cu.ins. (478 cc)/kg.

#### Base Component

Appearance Paste  
Color Dark gray  
Density 2.40 - 2.60 g/cm<sup>3</sup>

#### Solidifier Component

Appearance Mobile liquid  
Color Amber  
Density 0.95 - 1.05 g/cm<sup>3</sup>

#### Mixed Properties

Mixing Ratio by Weight (Base : Solidifier) 6.7 : 1  
Mixing Ratio by Volume (Base : Solidifier) 2.7 : 1  
Mixed Form Viscous liquid  
Peak Exotherm Temperature 259 - 288°F (126 -142°C)  
Time to Peak Exotherm 26 - 32 mins  
Mixed Density 2.07 - 2.10 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

The Taber abrasion resistance determined in accordance with ASTM D4060 with 1 kg load is typically:  
CS17 Wheels (Dry) 40 mm<sup>3</sup> loss per 1000 cycles

### ADHESION

#### Tensile Shear

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

Aluminum 1,500 psi	(10.3 MPa)
Mild steel 3,000 psi	(20.6 MPa)

#### Pull Off Adhesion

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

Blasted mild steel	2,300 psi (15.9 MPa)
Blasted aluminium	1,800 psi (12.4 MPa)
Manually abraded aluminium	1,900 psi (13.1 MPa)

### CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to most commonly found inorganic acids and alkalis at concentrations up to 20%. The material is also resistant to hydrocarbons, mineral oils, lubricating oils and many other commonly found chemicals.

### COMPRESSIVE PROPERTIES

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

**Compressive Strength**  
11,300 psi (77.9 MPa)

### CORROSION PROTECTION

#### Corrosion Resistance

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:

**Elongation**  
0.659%

#### Tensile Strength

3057 psi (21.08 MPa) at yield  
4090 psi (28.21 MPa) at break

#### Young's Modulus

6.53x10<sup>5</sup> psi (4501 MPa)

### FLEXURAL PROPERTIES

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

**Flexural Strength**  
8,900 psi (61.4 MPa)

### HARDNESS

#### Shore D

When determined in accordance with ASTM D2240, typical values will be:  
85

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

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

117°F (47°C)	68°F (20°C) cure
151°F (66°C)	212°F (100°C) cure

#### 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).

For many applications the product is suitable down to -40°F (-40°C).

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### IMPACT RESISTANCE

#### Impact Strength

The impact strength when tested to ASTM D256 is typically 1.58ft.lb./in. (85 J/m).

### SHELF LIFE

Separate base and solidifier components should 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 1821** 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

Manufactured under an ISO 9000  
Registered Quality Management System

