

Product Specification Sheet

Belzona 1814

FN10218



General Information

Product Description:

A three-component system (comprising base, solidifier and aggregate) for repairing and protecting surfaces against abrasive attack. The product is based on high molecular weight polymers and oligomers incorporating abrasion resistant ceramic aggregates. This material may be applied up to 0.5 inch (12.7 mm) thickness onto horizontal and vertical surfaces.

Application Areas:

The system protects the substrate from abrasive attack and is ideally suited for application to:

- Pipe elbows
- Screw conveyors
- Chutes and hoppers
- Centrifuges
- Agitators
- Slurry pumps

Application Information

Application Methods: Applicator, spatula

Working Life: Will vary according to the temperature. Consult IFU for details. At 68°F (20°C) the usable life of mixed material will typically be 60 minutes.

Cure Times:

The cure time is dependent on ambient conditions. Allow to cure for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Coverage Rate: When applied at 0.12 inch (3 mm) thickness, the theoretical coverage rate will be 46 sq.ft. (4.27 sq.m.) per 30kg unit. When applied at 0.25 inch (6 mm) thickness, the theoretical coverage rate will be 23 sq.ft. (2.14 sq.m.) per 30 kg unit.

Volume Capacity: 26 in³/ kg (427 cm³/ kg)

Base Component

Appearance	Opaque thixotropic paste
Colour	White
Density	1.05 – 1.09 g/cm ³
Gel strength	60 - 100 g/cm

Solidifier Component

Appearance	Clear liquid
Colour	Amber
Density	1.00 – 1.04 g/cm ³
Viscosity	3.6 – 3.9 Poise at 72°F (22°C)

Aggregate Component

Appearance	Pre-wetted granular powder
Colour	Black
Density (bulk)	2.13 – 2.21 g/cm ³

Mixed Properties

Mixing Ratio by Weight (Base : Solidifier: Aggregate)	2.36 : 1 : 9.65
Mixing Ratio by Volume (Base : Solidifier: Aggregate)	2 : 1 : 5
Mixed Density	2.34 g/cm ³
Slump Resistance	>0.5 inch (12.7mm)
VOC content (ASTM D2369 / EPA ref.24)	0.14% / 2.96 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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Abrasión

Taber

When tested in accordance with ASTM D4060 (1-kg load), the sliding abrasion will typically be:

H10 Wheels (Wet)

114 mm ³ loss per 1000 cycles	68°F (20°C)
95 mm ³ loss per 1000 cycles	194°F (90°C)

CS17 Wheels (Dry)

10 mm ³ loss per 1000 cycles	68°F (20°C)
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Adhesion

Pull off adhesion

When tested in accordance with ASTM D4541/ISO 4624, the pull-off adhesion of Belzona 1814 applied onto steel samples blasted and cured under the conditions stated below for 7 days will typically be:

3540 psi (24.4 MPa)	68°F (20°C)
5223 psi (36.0 MPa)	194°F (90°C)

Tensile Shear

When tested in accordance with ASTM D1002, the tensile shear of Belzona 1814 applied onto steel samples blasted and cured under the conditions stated below for 7 days will typically be:

2121 psi (14.6 MPa)	68°F (20°C)
3303 psi (22.8 MPa)	194°F (90°C)

Compressive Properties

When tested in accordance with ASTM D695, the compressive properties of samples cured under the conditions stated below for 7 days will typically be:

Compressive Strength

8775 psi (60.5 MPa)	68°F (20°C)
11699 psi (80.7 MPa)	194°F (90°C)

Compressive Modulus

2.92 x 10 ⁵ psi (2010.9 MPa)	68°F (20°C)
1.50 x 10 ⁵ psi (1034.9 MPa)	194°F (90°C)

Flexural Properties

When tested in accordance with ASTM D790, the flexural strength and strain-at-break of samples cured under the conditions stated below for 7 days will typically be:

Flexural Strength

3865 psi (26.7 MPa)	68°F (20°C)
8559 psi (59.0 MPa)	194°F (90°C)

Flexural Modulus

7.97 x 10 ⁵ psi (5495.9 MPa)	68°F (20°C)
1.03 x 10 ⁶ psi (7114.2 MPa)	194°F (90°C)

Impact Resistance

Izod Pendulum

When tested in accordance with ASTM D256, the impact resistance of samples cured under the conditions stated below for 7 days will typically be:

Un-notched:

1.27 ft·lb/in ² (2.67 kJ/m ²)	68°F (20°C)
2.23 ft·lb/in ² (4.69 kJ/m ²)	194°F (90°C)

Notched:

0.92 ft·lb/in ² (1.94 kJ/m ²)	68°F (20°C)
1.20 ft·lb/in ² (2.53 kJ/m ²)	194°F (90°C)

Heat Resistance

Glass Transition Temperature (T_g)

When tested to ISO 11357, T_g of samples cured at the conditions stated below for 7 days will typically be:

144°F (62 °C)	68°F (20°C)
178°F (81 °C)	194°F (90°C)

Shelf Life

Separate base and solidifier components shall have a shelf life of five (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

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 (IFU) leaflet.

Belzona further guarantees that all its products are carefully manufactured to ensure the highest quality possible and 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 1814 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/Supplier

Belzona Limited
Claro Road
Harrogate HG1 4DS
United Kingdom

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

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. Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

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