

PRODUCT SPECIFICATION SHEET

BELZONA 1811

FN10039



GENERAL INFORMATION

Product Description:

A two component system 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 from 1/4 inch (6 mm) to unlimited thickness onto horizontal or vertical surfaces.

Application Areas:

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

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

APPLICATION INFORMATION

Working Life

Will vary according to temperature. At 68°F (20°C) the usable life of mixed material is 60 minutes.

Cure Time

Will be reduced for thicker sections and extended for thinner applications. At a thickness of approximately 1/4 in. (6 mm), allow to solidify for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Coverage Rate

Each 1 kg applied at 1/4 inch (6 mm) thickness will cover approximately 0.82 sq.ft. (0.077 sq.m.).

Volume Capacity

28 cu.ins. (459 cc) per kg.
56 cu.ins. (917 cc) per 2kg unit.
560 cu.ins. (9.17 litre) per 20kg unit.

Base Component

Appearance Granular thixotropic paste
Colour Black
Density 2.25 - 2.65 g/cm³

Solidifier Component

Appearance Thixotropic gel
Colour Red
Density 1.08 - 1.12 g/cm³

Mixed Properties

Mixing Ratio by Weight (Base : Solidifier) 8.5 : 1
Mixing Ratio by Volume (Base : Solidifier) 4 : 1
Mixed Density 2.18 g/cm³
Useable Life at 68°F (20°C) 60 mins
at 41°F (5°C) 180 mins
Tack Free Time at 68°F (20°C) 3 hours
at 41°F (5°C) 8 hours
Slump Resistance nil at 0.5 inch (12.7 mm)
VOC content (ASTM D2369 / EPA ref. 24) 0.08% / 1.79 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

The Taber abrasion resistance determined in accordance with ASTM D4060 with 1 kg load is typically:

H10 Wheels (Wet) 90 mm³ loss per 1000 cycles
 CS17 Wheels (Dry) 7 mm³ 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: 2,400 psi (169 kg/cm²)

CHEMICAL RESISTANCE

While specifically designed for dry heat abrasion resistance, 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 Strength	Proportional Limit	Youngs Modulus
68°F/20°C cure & test	72.1 MPa 10,461 psi	60.9 MPa 8,829 psi	1,375.6 MPa 2.00 x 10 ⁵ psi
212°F/100°C cure & 68°F/20°C test	104.4 MPa 15,135 psi	87.7 MPa 12,716 psi	1,698.8 MPa 2.46 x 10 ⁵ psi

FLEXURAL PROPERTIES

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

Flexural Strength

5,400 psi (380 kg/cm²)

HEAT RESISTANCE

Heat Distortion Temperature (HDT)

When tested in accordance with ASTM D648 (264 psi fibre stress), typical values obtained will be:

120 °F (49 °C) 7 day cure at 68 °F (20 °C)
 178 °F (81 °C) 7 day cure at 212 °F (100 °C)

Wet (Slurry) Service Temperature

For many typical wet (slurry) service applications, the product is suitable down from -40 °F (-40 °C) up to 140 °F (60 °C).

Dry Service Temperature

For many typical dry service applications, the product is suitable down from -40°F (-40 °C) up to 176 °F (80 °C).

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).

IMPACT RESISTANCE

Izod Pendulum

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

	Reversed notched Izod Impact Strength	Un-notched Izod Impact Strength
68°F/20°C cure & test	1.8 KJ/m ² 19.6 J/m	1.7 KJ/m ² 21.2 J/m
212°F/100°C cure & 68°F/20°C test	2.9 KJ/m ² 31.3 J/m	2.9 KJ/m ² 34.9 J/m

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 1811 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.

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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