

PRODUCT SPECIFICATION SHEET

BELZONA 1131

FN10018



GENERAL INFORMATION

Product Description:

A two component paste grade system used to create low friction surfaces subject to intermittent contact and where specific loads are low. Based on a silicon steel alloy blended with graphite and high molecular weight reactive polymers and oligomers. When cured, the material is fully machinable and possesses self-lubricating properties and surface porosity.

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:

- Sleeves
- Slideways
- Bushings
- Low friction surfaces
- Shafts

APPLICATION INFORMATION

Working Life

Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 15 minutes.

Cure Time

Cure times will vary depending on the ambient conditions and will be reduced for thicker sections and extended for thinner applications. Consult the Belzona IFU for specific details.

Volume Capacity

34.2 in³ (561 cm³) per kg.

Base Component

Appearance	Paste
Colour	Dark grey
Gel strength at 68°F (20°C)	150 - 350 g/cm QH
Density	1.84 - 1.90 g/cm ³

Solidifier Component

Appearance	Paste
Colour	Black
Gel strength at 68°F (20°C)	80 - 160 g/cm QV
Density	1.42 - 1.46 g/cm ³

Mixed Properties

Mixing Ratio by Weight (Base : Solidifier)	4 : 1
Mixing Ratio by Volume (Base : Solidifier)	3 : 1
Mixed Form	Paste
Peak Exotherm Temperature	279 - 307°F (137 - 153°C)
Time to Peak Exotherm	20 - 28 mins.
Slump Resistance	nil at 1.0 inch (25mm)

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

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

H10 Wheels (Wet) 1022 mm³ loss per 1000 cycles
 CS17 Wheels (Dry) 61 mm³ loss per 1000 cycles

ADHESION

Tensile Shear

When tested in accordance with ASTM D1002, using degreased mild steel strips, grit blasted to a 3-4 mil (75 micron) profile, typical values will be:

3,020 psi (20.8 MPa) 68°F (20°C) cure
 3,000 psi (20.7 MPa) 212°F (100°C) cure

Pull Off Adhesion

When tested in accordance with ASTM D4541/ISO4624, the pull off strength from grit blasted steel will be typically:
 1915 psi (13.2 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.

* For a more detailed description of chemical resistance properties, refer to relevant Chemical Resistance chart.

COMPRESSIVE PROPERTIES

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

Compressive Strength

6,980 psi (48.1 MPa) 41°F (5°C) cure
 12,030 psi (82.9 MPa) 68°F (20°C) cure
 14,690 psi (101.3 MPa) 212°F (100°C) cure

FLEXURAL PROPERTIES

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

Flexural Strength

5,465 psi (37.7 MPa) 41°F (5°C) cure
 8,860 psi (61.1 MPa) 68°F (20°C) cure
 11,335 psi (78.1 MPa) 212°F (100°C) cure

HARDNESS

Shore D & Barcol Hardness

The Shore D and Barcol hardness, when determined in accordance with ASTM D2240 and ASTM D2583, will typically be:

	Ambient cure (68°F/20°C)	Post cure (212°F/100°C)
Shore D	81	85
Barcol 935	79	82

HEAT RESISTANCE

Heat Distortion Temperature (HDT)

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

124°F (51°C) 68°F (20°C) cure
 190°F (88°C) 212°F (100°C) cure

Service Temperature Limits

For many typical applications, the product will be suitable for use at the following service temperatures:

Type of Service	Temperature
Lower temperature limit	-40 °C (-40 °F)
Upper temperature limit (dry)	75 °C (167 °F)
Upper temperature limit (wet)	60 °C (140 °F)

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

When tested to ASTM D256 the Izod impact strength (notched) is typically:

0.316 ft.lb./in. (17 J/m) 68°F (20°C) cure
 0.724 ft.lb./in. (39 J/m) 24 hr. 212°F (100°C) cure

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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APPROVALS/ACCEPTANCES

The material has received recognition from organizations worldwide including:

U.S.D.A.

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 1131 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 Polymerics Ltd.
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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