

PRODUCT SPECIFICATION SHEET

BELZONA 1251

FN10021



GENERAL INFORMATION

Product Description:

A single component heat activated paste grade system based on a silicon steel alloy blended with a heat activated resin. When cured, the material is durable and corrosion resistant.

Application Areas:

When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system is designed to be applied to hot surfaces 158 - 302°F (70 - 150°C), such as under insulation metalwork.

APPLICATION INFORMATION

Working Life

Cure will not commence until the product is heated, hence the working life of **Belzona 1251** is effectively unlimited.

Cure Time

The cure time of **Belzona 1251** is primarily dependent on the heat-cure temperature - consult the Belzona IFU for specific details. The minimum recommended cure temperature for **Belzona 1251** is 158°F (70°C).

N.B. Increased thickness (>1/8in. or 3mm) may require additional heating time.

Volume Capacity

24.5 in³ (401 cm³)/kg.

Mixed Properties

Appearance	Paste
Colour	Dark grey
Gel strength at 77°F (25°C)	>200 g/cm HF
Density	2.4 - 2.5 g/cm ³
VOC content (ASTM D2369 / EPA ref. 24)	0.02% / 0.47 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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ADHESION

Tensile Shear

When tested in accordance with ASTM D1002, typical values will be:

2350 psi (16.2 MPa) after cure at 158°F (70°C) applied onto clean, ground steel.

2475 psi (17.1 MPa) after cure at 212°F (100°C) applied onto clean, ground steel.

3200 psi (22.1 MPa) after cure at 248°F (120°C) applied onto clean, ground steel.

1200 psi (8.3 MPa) after cure at 212°F (100°C) applied onto rusty steel prepared to ISO 8501-1 St 2 (wire brushed)

2100 psi (14.5 MPa) after cure at 212°F (100°C) applied onto rusty steel prepared to ISO 8501-1 St 3 (manually abraded)

CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to many 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	Proportional Limit	Youngs Modulus
158°F / 70°C cure & 68°F/20°C test	100.1 MPa 14,515 psi	90.2 MPa 13,085 psi	1,588.5 MPa 2.30 x 10 ⁵ psi
24 hours 212°F/100°C cure & 68°F/20°C test	91.4 MPa 13,259 psi	80.0 MPa 11,596 psi	1,319.4 MPa 1.91 x 10 ⁵ psi
212°F/100°C cure & 68°F/20°C test	106.8 MPa 15,496 psi	88.0 MPa 12,763 psi	1,517.6 MPa 2.20 x 10 ⁵ psi

CORROSION PROTECTION

Corrosion Resistance

Will show no visible signs of corrosion after 5,000 hours exposure in the ASTM B117 salt spray cabinet.

FLEXURAL PROPERTIES

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

Flexural Strength

8700 psi (60.0 MPa)	after 7 days cure at 158°F (70°C)
7700 psi (53.1 MPa)	after 1 day cure at 212°F (100°C)
9000 psi (62.1 MPa)	after 7 days cure at 212°F (100°C)

HARDNESS

Shore D & Barcol Hardness

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

	Post cure (212°F/100°C)
Shore D	88
Barcol 934-1	39
Barcol 935	97

HEAT RESISTANCE

Heat Distortion Temperature (HDT)

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

221°F (105°C)	after 7 days cure at 158°F (70°C)
243°F (117°C)	after 7 days cure at 212°F (100°C)
226°F (108°C)	after 7 days cure at 302°F (150°C)

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)	105 °C (221 °F)
Upper temperature limit (wet)	90 °C (194 °F)

Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 410°F (210°C).

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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
158°F/70°C cure & 68°F/20°C test	4.2 KJ/m ² 42.3 J/m	4.6 KJ/m ² 57.7 J/m
24 hours 212°F/100°C cure & 68°F/20°C test	3.9 KJ/m ² 41.0 J/m	4.5 KJ/m ² 57.7 J/m
212°F/100°C cure & 68°F/20°C test	3.6 KJ/m ² 36.9 J/m	5.0 KJ/m ² 64.0 J/m

SHELF LIFE

Belzona 1251 will have a shelf life of 24 months from date of manufacture when stored in the original unopened containers at 68°F (20°C). Refrigeration of this product will extend the shelf life.

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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 1251 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 Safety Data Sheets.

MANUFACTURER / SUPPLIER

Belzona Limited,
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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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