

# PRODUCT SPECIFICATION SHEET

## BELZONA 5851

FN10104



### GENERAL INFORMATION

**Product Description:**

A single component coating based on a heat activated resin and corrosion resistant inert fillers. When cured, the material is durable and corrosion resistant. The system is specifically designed to be applied to hot surfaces 158 - 302°F (70 - 150°C), and is tolerant of surface preparation.

**Application Areas:**

When applied as detailed in the Belzona Instructions for Use (IFU), the system provides corrosion protection to steelwork covered with thermal insulation.

### APPLICATION INFORMATION

**Working Life**

Cure will not commence until the product is heated, hence the working life of **Belzona 5851** is effectively unlimited.

**Coverage Rate**

Applied at a thickness of 8 mil (200 micron) a theoretical coverage rate of 25 sq.ft. (2.4 m<sup>2</sup>) per kg, per coat, should be achieved.

**Cure Time**

The cure time of **Belzona 5851** is dependent on the substrate temperature. Allow to cure for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

**Volume Capacity**

29 in<sup>3</sup> (476 cm<sup>3</sup>)/kg.

**Mixed Properties**

|                             |                           |
|-----------------------------|---------------------------|
| Appearance                  | Paste                     |
| Colour                      | Grey                      |
| Gel strength at 68°F (20°C) | 100 HF g/cm               |
| Density                     | 2.0-2.2 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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### ADHESION

#### Tensile Shear

When tested in accordance with ASTM D1002, at elevated temperature (212°F/100°C), typical values will be:

2800 psi (19.3MPa) after cure at 212°F (100°C) applied onto clean, ground steel.

2800 psi (19.3MPa) after cure at 212°F (100°C) onto grit-blasted steel (min 75µ profile).

1700 psi (11.7MPa) after cure at 212°F (100°C) applied onto rusty steel prepared to ISO 8501-1 St 2 (wire brushed)

2600 psi (17.9MPa) 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 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    | Proportional Limit      | Youngs Modulus                            |
|-----------------------------------|-------------------------|-------------------------|---|
| 212°F/100°C cure & 68°F/20°C test | 182.1 MPa<br>26,422 psi | 174.8 MPa<br>25,345 psi | 1,952.2 MPa<br>2.83 x 10 <sup>5</sup> psi |
| 302°F/150°C cure & 68°F/20°C test | 193.0 MPa<br>27,997 psi | 184.4 MPa<br>26,744 psi | 1,840.0 MPa<br>2.67 x 10 <sup>5</sup> psi |

### CORROSION RESISTANCE

Will show no visible signs of corrosion after 1,000 hours exposure in the ASTM B117 salt spray cabinet.

### HARDNESS

#### Barcol Hardness

The Barcol hardness, when determined in accordance with ASTM D2583, will typically be:

|              | Post cure (212°F/100°C) | Post cure (302°F/150°C) |
|--------------|-------------------------|-------------------------|
| Barcol 934-1 | 30                      | 31                      |
| Barcol 935   | 85                      | 83                      |

#### Koenig Pendulum

When tested to ISO 1522 the Koenig damping time of the coating will be typically:

70 seconds after 7 days cure at 212°F (100°C)

### HEAT RESISTANCE

#### Heat Distortion Temperature

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

260°F (127°C) after 7 days cure at 212°F (100°C)

#### Heat Resistance

For many typical applications, the product is thermally stable up to 302°F (150°C).

#### Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO 11357 is typically 410°F (210°C).

### IMMERSION RESISTANCE

#### Immersion Resistance

When tested in accordance with ISO 2812-2, the coating, when applied to clean ground or grit blasted steel, will show no signs of failure after 6 months continuous immersion in artificial seawater at 104°F/40°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   |
|-----------------------------------|---------------------------------------|-----------------------------------|
| 302°F/150°C cure & 68°F/20°C test | 1.9 KJ/m <sup>2</sup><br>19.6 J/m     | 1.9 KJ/m <sup>2</sup><br>24.1 J/m |

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### SHELF LIFE

**Belzona 5851** will have a shelf life of 24 months from date of manufacture when stored in original unopened containers at 68°F (20°C). Refrigeration of this product will extend the shelf life.

### 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 5851** 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 60<sup>th</sup> 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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