

PRODUCT SPECIFICATION SHEET

BELZONA 4151

FN10006



GENERAL INFORMATION

Product Description:

A concrete protection system for the treatment of surfaces exposed to chemical attack and abrasion. Also for grouting and bonding. A two component clear amber resin system with excellent adhesion to masonry and metallic surfaces. Provides a tough seamless coating suitable for heavy duty dust proofing or protection from chemicals.

APPLICATION INFORMATION

Working Life

Will vary according to temperature. At 77°F (25°C), use all mixed material within 12 minutes.

Coverage Rate

Film thickness and coverage rate will vary with porosity and profile of the substrate. Each 4.95 kg unit will give a practical coverage rate of 167 sq.ft. (15.5 sq.m.).

Cure Time

Allow to solidify for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Volume Capacity

272 cu. in. (4455 cm³)/4.95 kg unit.
55 cu. in. (900 cm³)/kg.

Base Component

| | |
|------------|------------------------------|
| Appearance | Clear Liquid |
| Colour | Light amber |
| Viscosity | 3.6-4.8 poise at 77°F (25°C) |
| Density | 1.16 g/cm ³ |

Solidifier Component

| | |
|------------|------------------------------|
| Appearance | Clear Liquid |
| Colour | Amber |
| Viscosity | 0.5-1.5 poise at 77°F (25°C) |
| Density | 1.02 g/cm ³ |

Mixing Ratio

For mixing small quantities the mixing ratio of the components is:-

| | |
|-------------------|---------|
| Base : Solidifier | |
| by weight: | 2.3 : 1 |
| by volume: | 2 : 1 |

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

When tested in accordance with ASTM D4060 with a 1kg load, typical loss per 1,000 cycles is:

| | |
|-------------------|---------------------|
| Wet (H10 wheels) | 890 mm ³ |
| Dry (CS17 wheels) | 18 mm ³ |

ADHESION

Tensile Shear

The tensile shear adhesion to steel when tested in accordance with ASTM D1002 is typically 2,620 psi (18.1 MPa).

Positest Dolly Pull-Off (ASTM D4541)

| | |
|-------------------|-----------------------|
| Dry concrete | 900 psi (6.21 MPa)* |
| Damp concrete | 900 psi (6.21 MPa)* |
| Dry brick | 1730 psi (11.93 MPa)* |
| Damp brick | 1690 psi (11.66 MPa)* |
| Dry quarry tiles | 1470 psi (10.14 MPa)* |
| Damp quarry tiles | 1430 psi (9.86 MPa)* |

*cohesive failure within substrate

CHEMICAL RESISTANCE

Belzona 4151 is resistant to a broad range of chemicals including: alkalis, hydrocarbons, detergent solutions, mineral and lubricating oils, salts 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 | Proportional Limit | Youngs Modulus |
|-------------|----------------------|--------------------|----------------------------|
| 68°F/20°C | 81.8 MPa | 70.5 MPa | 1,348.1 MPa |
| cure & test | 11,867 psi | 10,232 psi | 1.96 x 10 ⁵ psi |

ELONGATION & TENSILE PROPERTIES

When determined in accordance with ASTM D638, typical values will be:

| | Cure temperature |
|----------------------------------------------------------------|------------------|
| Tensile Strength 7,201 psi (49.65 MPa) | 68°F (20°C) |
| Elongation 4.03% | 68°F (20°C) |
| Young's Modulus 4.06x10 ⁵ psi (2,798 MPa) | 68°F (20°C) |

FLEXURAL PROPERTIES

Flexural Strength

The flexural strength of the material when tested to ASTM D790 is typically:

10,150 psi (70.0 MPa).

HEAT RESISTANCE

Heat Distortion Temperature (HDT)

Tested in accordance with ASTM D648 (264 psi fibre stress) is typically 106°F (41°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).

For many applications the product is suitable down to -40°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 |
|-------------|---------------------------------------|---------------------------------|
| 68°F/20°C | 28.9 KJ/m ² | 26.6 KJ/m ² |
| cure & test | 290.3 J/m | 338.8 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 4151 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

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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