

PRODUCT SPECIFICATION SHEET

BELZONA 5813

FN10215



GENERAL INFORMATION

Product Description:

A two-component, solvent free, ESD epoxy coating system applied by Brush or Spray to impart electrostatic control properties to a variety of substrates as well as providing excellent barrier coating properties.

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:

- Electronics
- Storage tanks
- Floors
- Internal and external pipework
- Steel and concrete piling
- Work benches and shelving
- Chemical containment areas

APPLICATION INFORMATION

Working Life

Will vary according to temperature. At 68°F (20°C) the usable life of mixed material is 1 hour 30 minutes.

Coverage Rate

The Belzona 5813 should be applied in 2 coats to achieve a minimum thickness of 16 mils (400 microns).
The theoretical coverage rate at 16 mils (400 microns) is 27ft² (2.5m²)/liter.
Refer to the Instructions for Use for practical coverage rate guidelines.

Cure Time

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

Base Component

Appearance: Viscous liquid
Color: Black
Density: 1.65 - 1.70 g/cm³

Solidifier Component

Appearance: Clear mobile liquid
Color: Dark brown
Density: 1.00 - 1.04 g/cm³

Mixed Properties

Mix by Weight (Base : Solidifier) 5 : 1
Mix by Volume (Base : Solidifier) 3 : 1
Mixed Density: 1.46- 1.50 g/cm³
Sag resistance (BS 5350-B9): 625 µm / 24mils
VOC content (ASTM D2369/EPA ref. 24) 3.92% / 58.0 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.

PRODUCT SPECIFICATION SHEET

BELZONA 5813

FN10215



ADHESION

Tensile Shear

When tested in accordance with ASTM D1002, using metal substrates, grit blasted to a 3-4 mil (75-100 micron) profile, typical values will be:

	2,470 psi (17.0 MPa)	72°F/ 22°C cure & test
Aluminum	2,620 psi (18.1 MPa)	212°F/100°C cure & 72°F/ 22°C test
	2,740 psi (18.9 MPa)	72°F/ 22°C cure & test
Blasted steel	2,910 psi (20.1 MPa)	212°F/100°C cure & 72°F/ 22°C test

Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength will be typically:

Blasted steel	4,430 psi (30.5 MPa)	72°F/ 22°C cure & test
	4,960 psi (34.2 MPa)	212°F/100°C cure & 72°F/ 22°C test
Dry concrete	>800 psi (5.5 MPa)*	72°F/ 22°C cure & test
	>800 psi (5.5 MPa)*	212°F/100°C cure & 72°F/ 22°C test

*Cohesive failure within substrate

COMPRESSIVE STRENGTH

Compressive strength

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

	9,200 psi (63.4 MPa)	72°F/ 22°C cure & test
	14,170 psi (97.7 MPa)	212°F/100°C cure & 72°F/ 22°C test

Compressive modulus

When tested at 72°F/22°C in accordance with ASTM D695, typical values obtained will be:

	1.0 x 10 ⁵ psi (689 MPa)	72°F/ 22°C cure & test
	1.5 x 10 ⁵ psi (10034 MPa)	212°F/100°C cure & 72°F/ 22°C test

ELECTRICAL PROPERTIES

Surface Resistivity

The surface resistivity of the cured coating applied to the following substrates and tested in accordance with ANSI/ESD S7.1 / ASTM F-150 will typically be:

Concrete	10 ⁶ -10 ⁸ ohm/square
Steel	10 ⁵ -10 ⁷ ohm/square

FLEXURAL PROPERTIES

Flexural Strength

When tested to ASTM D790 typical values obtained will be:

3,600 psi (24.8 MPa)	72°F/ 22°C cure & test
4,220 psi (29.1 MPa)	212°F/100°C cure & 72°F/ 22°C test

Flexural Modulus

When tested to ASTM D790 typical values obtained will be:

1.2 x 10 ⁵ psi (827 MPa)	72°F/ 22°C cure & test
1.5 x 10 ⁵ psi (1034 MPa)	212°F/100°C cure & 72°F/ 22°C test

HARDNESS

Shore D

When tested to ASTM D2240 the Shore D hardness is typically:

84	72°F/ 22°C cure & test
87	212°F/100°C cure & 72°F/ 22°C test

Koenig Pendulum

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

118 seconds	72°F/ 22°C cure & test
145 seconds	212°F/100°C cure & 72°F/ 22°C test

HEAT RESISTANCE

Heat Resistance

For many typical applications the material is suitable for continuous immersion in aqueous solutions up to 122°F (50°C). Please consult Belzona representative for additional advice where immersed applications will operate close to 122°F (50°C).

Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 320 °F (160°C).

For many applications, the product is suitable down to -40°F (-40°C).

CHEMICAL RESISTANCE

The material will demonstrate excellent resistance to a broad range of chemicals. For a more detailed description of chemical resistance properties, refer to relevant Chemical Resistance chart.

PRODUCT SPECIFICATION SHEET

BELZONA 5813

FN10215



IMPACT STRENGTH

The Izod impact strength (reversed notched) of the material when tested in accordance with ASTM D256 is typically:

2.66 ft.lb./in ² (5.6 KJ/m ²)	72°F/ 22°C cure & test
2.28 ft.lb./in ² (4.8 KJ/m ²)	212°F/100°C cure & 72°F/ 22°C test

IMMERSION RESISTANCE

Atlas Cell

When tested in accordance with NACE TM 0174 the coating will exhibit no rusting (ASTM D610 rating 10) or blistering (ASTM D714 rating 10) after 6 months immersion in de-ionized water at 104°F(40°C) or 4 months at 122°F (50°C).

Seawater Immersion

When tested in accordance with ISO 2812-2, no blistering, rusting, cracking or delamination was observed after 6 months immersion in seawater at 122°F (50°C).

TENSILE PROPERTIES

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

Tensile Strength (Maximum)	1455 psi (10.0 MPa)	72°F/ 22°C cure & test
	1540 psi (10.6 MPa)	212°F/100°C cure & 72°F/ 22°C test
Elongation	3.31%	72°F/ 22°C cure & test
	2.73%	212°F/100°C cure & 72°F/ 22°C test
Young's Modulus	2.8 x 10 ⁵ psi (1930 MPa)	72°F/ 22°C cure & test
	3.6 x 10 ⁵ psi (2482 MPa)	212°F/100°C cure & 72°F/ 22°C test

SHELF LIFE

Separate base and solidifier components shall have a shelf life of 3 years from date of manufacture when stored in their original unopened containers between 32°F (5°C) and 86°F (30°C).

APPLICATION INFORMATION

Belzona guarantees 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 further guarantees that all its products are carefully manufactured to ensure the highest quality possible and 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 5813 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

Belzona Polymerics Ltd.
Claro Road Harrogate HG1
4DS United Kingdom

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. Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

Copyright © 2021 Belzona International Limited. Belzona® is a registered trademark.

Belzona products are manufactured under an ISO 9001 Registered Quality Management System