

PRODUCT SPECIFICATION SHEET

BELZONA 3411

FN10153



GENERAL INFORMATION

Product Description:

A two-component solvent-free peelable system, used for encapsulating flanges and bolt fastenings to protect against moisture and prevent corrosion. Used in conjunction with **Belzona 8411** to achieve an optimum level of corrosion protection and to allow easy access to bolts and flanges in the event of required maintenance.

Application Areas:

When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system is ideally suited for application to steel flanges, fastenings and pipe sections.

APPLICATION INFORMATION

Belzona 3411**Application Method**

Brush

Coverage Rates

The theoretical coverage rate to achieve the correct minimum two coat system thickness of 60 mil (1500 microns) is 4.4 sq.ft (0.4 m²)/kg.

Working Life

The working life will vary according to the temperature and humidity. At 68°F/20°C and 50% relative humidity, the usable life of mixed material will typically be 90 minutes. Consult the Belzona IFU for specific details.

Cure Time

Cure times will vary depending on the ambient conditions. At 68°F/20°C and 50% relative humidity the cure time will typically be 3 hours. Consult the Belzona IFU for specific details.

Belzona 8411**Application Method**

Non-pressurised spray pump
Brush

Coverage Rates

The theoretical coverage rate at 5 mil (125 microns) is 43 sq.ft. (4.0 m²) per 0.5 liter unit.

Drying Time

Drying times will vary depending on the ambient conditions. At 68°F/20°C the drying time will typically be 60 minutes. Consult the Belzona IFU for specific details.

Base Component

Appearance:

Colour:

Density:

Thixotropic liquid

Beige or Grey

1.67 - 1.69 g/cm³

Solidifier Component

Appearance:

Density:

Clear, colorless liquid

0.95 - 0.99 g/cm³

Mixed Properties

Density:

Sag Resistance (BS 5350-B9):

VOC content (ASTM D2369 / EPA ref. 24):

1.60 - 1.64 g/cm³

>1250 µm / >50 mils

2.80% / 45.31 g/L

Mix Ratio (Base : Solidifier)

18 : 1 (pbw)

Properties

Appearance:

Colour:

Density:

VOC content (ASTM D2369 / EPA ref. 24):

Opaque liquid

Brown

0.84 - 0.86 g/cm³

57.62% / 489.77 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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CHEMICAL ANALYSIS

The mixed **Belzona 3411** has been independently analyzed for halogens, heavy metals, and other corrosion-causing impurities, with the following results:

Analyte	Total Concentration (ppm)
Fluoride	8
Chloride	10
Bromide	ND (<23)
Sulfur	12
Nitrite	5
Nitrate	8
Zinc	3.4
Antimony, Arsenic, Bismuth, Cadmium, Lead, Tin, Silver, Mercury, Gallium and Indium	ND (<3.0)

ND : Not Detected

CORROSION RESISTANCE

The combined system of **Belzona 3411** and **Belzona 8411** demonstrates excellent resistance to corrosion (no rusting or blistering) when exposed for 1000 hours in the salt spray cabinet operating to ASTM B117.

DRY HEAT RESISTANCE

The coating will exhibit no significant degradation when exposed to dry heat at temperatures up to 140°F/60°C.

ELONGATION

When tested to ASTM D412 (Die C) the elongation will typically be:

(i)	Reinforced with Belzona 9311	24%
(ii)	Unreinforced	66%

FLEXIBILITY

Maintains flexibility down to -8°F (-22°C) passing ASTM D522 mandrel test at minimum 3.2mm diameter.

HARDNESS

When tested to ASTM D2240 the Shore A hardness will typically be 60 at 68°F/20°C.

PEEL ADHESION

When tested in accordance with ASTM D429, typical 90° peel adhesion values achieved when the material is used in conjunction with the designated surface will be:

Manually prepared carbon steel (ISO 8501-1 St 2)	>6.6 pli (118 kg/m)
Manually prepared solvent-free epoxy paint	>6.4 pli (114 kg/m)
Manually prepared solvent-borne polyurethane paint	>6.4 pli (114 kg/m)

TEAR STRENGTH

When tested to ASTM D624 (Die C) the tear strength will typically be:

(i)	Reinforced with Belzona 9311	100 pli (1830 kg/m)
(ii)	Unreinforced	21 pli (380 kg/m)

TENSILE STRENGTH

When tested to ASTM D412 (Die C) the tensile strength will typically be:

(i)	Reinforced with Belzona 9311	670 psi (4.6 MPa)
(ii)	Unreinforced	410 psi (2.8 MPa)

SHELF LIFE

Separate base and solidifier components shall have a shelf life of 2 years from date of manufacture when stored in their original unopened containers between 32°F (0°C) and 86°F (30°C).

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WARRANTY

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 recognised 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 3411 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 Material Safety Data Sheets.

MANUFACTURER

Belzona Polymerics Ltd.
Claro Road, Harrogate,
HG1 4DS, UK

Belzona Inc.
2000 N.W. 88th Court,
Miami, Florida, USA, 33172

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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