PRODUCT SPECIFICATION SHEET
BELZONA 3211
FN10220

BELZONA®
Repair • Protect • Improve

GENERAL INFORMATION

Product Description:
A formulated water based styrene acrylic emulsion polymer used in conjunction with a polymer bonded glass reinforcing sheet (**Belzona 9321**) to create seamless water and weatherproofing of all types of insulation and cladding materials. The system is flexible, water and weather resistant but also micro-porous allowing moisture from within the substrate to evaporate.
The material also offers fire resistance and obtained a classification result of C s2 d0 in accordance with EN 13501-1.

Application Areas:
When applied as detailed in the Belzona Instructions for Use (IFU), the system is ideally suited for application to the following:

Protection of insulation on:

- Pipes
- Flange covers
- Bulk storage tanks
- Roof repair and protection
- Air conditioning ducting
- Boilers
- Heat exchangers
- Valve boxes
- Pressure vessels
- Tank base sealing

APPLICATION INFORMATION

Drying Time
Applied under good drying conditions, will be water resistant within 60 minutes of application. Under cool or humid conditions, this time will be extended. The product should not be applied when the relative humidity is above 90% or the surface temperature is below 41°F (5°C).

Coverage Rates
Apply the first coat of **Belzona 3211** incorporating **Belzona 9321** sheet to a dry film thickness of 10 mil (250 microns). Apply the second coat of **Belzona 3211** to a dry film thickness of 6.0 mil (150 microns). Refer to the IFU for a guide to practical coverage rates.

Properties

Appearance	Thixotropic liquid
Colour	White
Odour	Styrene acrylic
Viscosity	1.7 - 3.7 poise at 77°F (25°C)
Density	1.46 - 1.51 g/cm³
Solids:	
by weight	72 - 76%
by volume	57 - 62%
Solvent	Water
Flash point	None

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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ACCELERATED WEATHERING RESISTANCE

After 1000 hours ISO 11341 UV exposure typical values for the system tested in accordance with ASTM D412 (Die C) and ASTM D624 will be:

Elongation (ASTM D412)

Unreinforced	51%
Reinforced Crosswise	3.7%
Reinforced Lengthwise	4.7%

Tensile Strength (ASTM D412)

Unreinforced	600 psi (4.14 N/mm^2)
Reinforced Crosswise	2435 psi (16.8 N/mm^2)
Reinforced Lengthwise	2261 psi (15.6 N/mm^2)

Tear Strength (ASTM D624)

Unreinforced	95 pli (17 N/mm)
Reinforced Crosswise	305 pli (53 N/mm)
Reinforced Lengthwise	183 pli (32 N/mm)

ELONGATION & TENSILE PROPERTIES

Elongation
The elongation of the system after 7 days cure at 68°F (20°C) when tested in accordance with ASTM D412 will typically be:

Unreinforced	40%
Reinforced Crosswise	2.4%
Reinforced Lengthwise	1.2%

Tensile Strength
The tensile strength of the system after 7 days at 68°F (20°C) when tested in accordance with ASTM D412 will typically be:

Unreinforced	328 psi (2.3 N/mm^2)
Reinforced Crosswise	5275 psi (36.4 N/mm^2)
Reinforced Lengthwise	3900 psi (26.9 N/mm^2)

FIRE RESISTANCE

When tested in accordance with ISO 11925-2 (SFI) and EN 13823 (SBI) and certified in accordance with EN 13501-1, the system achieved a classification of C s2 d0.

HEAT RESISTANCE

For many applications the product is suitable for service temperature up to 212°F (100°C).

TEAR STRENGTH

The Tear Strength of the system after 7 days at 68°F (20°C) when tested in accordance with ASTM D624 will typically be;

Unreinforced	75 pli (13 N/mm)
Reinforced Crosswise	324 pli (57 N/mm)
Reinforced Lengthwise	304 pli (53 N/mm)

VAPOR RESISTANCE

The vapor resistance of the system after 7 days cure at 68°F (20°C) will typically be:

Unreinforced	1.7 MNs/g
Reinforced	2.0 MNs/g

WATER VAPOR TRANSMISSION/PERMEANCE

When tested in accordance with ASTM E-96, the water vapor transmission after 7 days cure at 68°F (20°C) is typically:

Unreinforced	125.3 g/m^2 over a 24 hour period
Reinforced	99.0 g/m^2 over a 24 hour period

When tested in accordance with ASTM E-96, the water vapor permeability after 7 days cure at 68°F (20°C) is typically:

Unreinforced	10.5 Perms
Reinforced	8.6 Perms

SHELF LIFE

Belzona 3211 shall have a shelf life of 5 years from date of manufacture when stored in 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 3211 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 Polymerics Ltd.
Claro Road, Harrogate,
HG1 4DS, UK

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.

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