Belzona 2311

FN10057 **(SR ELASTOMER)**

BELZONA®
Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

a) **SURFACE PREPARATION**

(i) Metallic Surfaces

Remove all loose surface contamination and degrease with **Belzona® 9111** (Cleaner/Degreaser) or any other effective cleaner which does not leave a residue e.g. methyl ethyl ketone (MEK).

Grit blast to a minimum 3 mil (75 microns) profile. Where blasting is not practical, thorough mechanical grinding may be considered, except for applications involving tensile loads, such as expansion joints, and all applications involving immersion and/or fluid flow.

(ii) Flexible Surfaces (e.g. rubbers)

NOTE: Belzona® 9111 can draw processing oils and waxes to the surface of some rubbers, particularly when new, which then impairs adhesion of **Belzona® 2311.** Test for this on a small area. If, on rubbing with a rag moistened with **Belzona® 9111,** a greasy film appears, the surface should not be degreased, but simply abraded.

Undercut fine edges with a sharp knife and scuff the surface with a rotary wire brush or suitable roughing tool.

Brush away loose contamination and degrease again with **Belzona® 9111.**

(iii) Concrete Surfaces

Remove all paint, tar and any other coatings.

Any surface to which **Belzona® 2311** is to be applied must be clean, firm and dry. Wash old concrete down with detergent to remove oil, grease and dust. Use clean water to wash away the detergent.

Allow new concrete to cure for a minimum of 28 days or until the moisture content is below 6% using a Protimeter.

Blast clean, or mechanically scarify the surface to remove all loose material and surface laitance.

(iv) GRP & Existing Belzona Surfaces

When using **Belzona® 2311** to coat GRP surfaces, the surface must be abraded using mechanical sanding equipment, followed by conditioning as below.

When using **Belzona® 2311** to overcoat a surface which has been treated with a **Belzona® 1000** Series product (except **Belzona® 1221** (Super E-Metal), the **Belzona® 1000** Series product must first be allowed to fully cure, the surface prepared as outlined in section 1 (a) (i), and **Belzona® 2911**, **Belzona® 2921** or **Belzona® 2941** applied as outlined in section 1 (b).

Application of **Belzona® 2311** over **Belzona® 1221** can be carried out up to 4 hours after the application of **Belzona® 1221** without the need of any surface treatment other than removal of contamination. When overcoating **Belzona® 1221** after this time, the surface should be abraded, followed by conditioning as in Section 1 (b).

b) **CONDITIONING**

All surfaces must be Conditioned before applying **Belzona® 2311**.

Please see table below for guidance on the recommended Conditioner based on the substrate type and service conditions:

Substrate Type & Service Conditions	Possible Conditioner Choice		
	Belzona® 2911	**Belzona® 2921**	**Belzona® 2941**
Metallic surfaces in wet/immersed environments	×	×	✓
Metallic surfaces in dry environments	✓	✓	✓
Flexible surfaces e.g., Rubber in wet/immersed environments	✓	✓	×
Flexible surfaces e.g., Rubber in dry environments	✓	✓	×
Concrete surfaces in wet/immersed environments	×	×	✓
Concrete surfaces in dry environments	✓	✓	✓
GRP and other Belzona coatings in wet/immersed environments	✓	✓	✓✓
GRP and other Belzona coatings in dry environments	✓	✓	✓

× - Not suitable for use
✓ - Suitable for use
✓✓ - Best recommendation

Apply a thin, even coat of **Belzona® Conditioner** onto the surface. A brush should be used as a stipple.

Practical coverage rate:
Belzona® 2941 19.8 sq.ft. (1.83 sq.m) per unit, on metallic substrates.
Belzona® 2911 and **Belzona® 2921,** 13 sq.ft. (1.25 m²) per unit, on smooth substrates. On well roughened rubber substrates this could be reduced by as much as 50%.

The Belzona® Conditioner must be touch dry before overcoating with **Belzona® 2311.** This will depend on the Belzona® Conditioner selected, prevailing temperature, relative humidity and substrate.

At 68°F (20°C) and 50% relative humidity, the touch dry state will be achieved after the times given when applied to a steel surface.

Conditioner	Touch Dry	Max. Overcoating
Belzona® 2911	45 mins	24 hours
Belzona® 2921	75 mins	
Belzona® 2941	8 hours	

NOTE:

i) Relative humidity should be between 30 & 90% and surface temperature at least 5°F (3°C) above dew point during the application and drying of the Conditioner.
ii) At lower temperatures and humidity, a longer drying time is required.
iii) These times may be extended when applied to rubber substrates.
iv) If in doubt leave Conditioner longer to dry but under no circumstances should maximum overcoat time be exceeded.

NOTE: Belzona® 2911 has an 18 month shelf life and **Belzona® 2921 & Belzona® 2941** have a 24 month shelf life from date of manufacture when stored at 41 - 77°F (5 - 25°C) and must be used before the stated "use by" date.

WHERE BELZONA® 2311 SHOULD NOT ADHERE
Brush on a thin layer of **Belzona® 9411** (Release Agent) and allow to dry for 15 - 20 minutes before proceeding to step 2.

2. COMBINING THE REACTIVE COMPONENTS

N.B. All application tools and equipment should be readily to hand as, from the commencement of mixing, the material will solidify within minutes.

a) Cut off one end of both the Base and Solidifier sachets as close as possible to the seal.
b) Using the straight edge of a mixing spatula or another suitable mixing tool squeeze out the contents onto a suitable working surface.
c) Mix the two components thoroughly to achieve a uniform material free of any streakiness.

NOTES:
1. WORKING LIFE
From the commencement of mixing, **Belzona® 2311** must be used within the times shown below:

Temperature	41°F (5°C)	59°F (15°C)	77°F (25°C)
Use all material within	6 min.	4 min.	2 min.

2. VOLUME CAPACITY OF MIXED BELZONA® 2311
4.1 cu.in. (66.5 cm³) per 75 g unit.

3. APPLYING THE BELZONA® 2311

FOR BEST RESULTS
Do not apply when:-
(i) The temperature is below 41°F(5°C) or the relative humidity is above 90%.
(ii) Rain, snow, fog or mist is present.
(iii) There is moisture on the surface or is likely to be deposited by subsequent condensation.
(iv) The working environment is likely to be contaminated by oil /grease from adjacent equipment or smoke from kerosene heaters or tobacco smoking.

a) Apply the **Belzona® 2311** to the prepared surface with the plastic applicator or spatula provided. Press down firmly to remove entrapped air and to ensure maximum contact with the surface.
b) Immediately contour the **Belzona® 2311** to the correct profile with the plastic applicator. Alternatively, press a sheet of polyethylene on to the **Belzona® 2311** and remove it once the **Belzona® 2311** has cured.

CLEANING
Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. Methyl ethyl ketone (MEK). Application tools should be cleaned using a suitable solvent such as **Belzona® 9121,** MEK, acetone or cellulose thinners.

4. REINFORCING THE BELZONA® 2311

Stipple **Belzona® 9341** (Reinforcing Tape) into the uncured **Belzona® 2311**. Overcoat with further **Belzona® 2311**.

5. COMPLETION OF THE MOLECULAR REACTION

Allow **Belzona® 2311** to solidify as below before subjecting it to the conditions indicated:

	Movement or use involving no loading or immersion	Full mechanical or thermal loading	Immersion in chemicals
41°F/ 5°C	60 minutes	4 hours	2 days
50°F/10°C	40 minutes	2 hours	1½ days
59°F/15°C	30 minutes	1½ hours	1 day
68°F/20°C	25 minutes	1 hour	18 hours
77°F/25°C	20 minutes	50 minutes	15 hours
86°F/30°C	15 minutes	40 minutes	12 hours

6. OVERCOATING

Application of subsequent layers of **Belzona® 2311** can be carried out up to 24 hours after the previous application without need of any surface treatment other than removal of contamination.

When overcoating aged or weathered **Belzona® 2311** the surface preparation techniques for flexible surfaces described in Section 1 must be followed.

7. STORAGE & TRANSPORTATION

Store in a dry environment at a temperature between 41°F (5°C) and 86°F (30°C).

Prolonged storage of **Belzona® 2311** Base below 50°F (10°C) may result in partial solidification. If this occurs, the material can be restored to its normal form by warming to between 104°F (40°C) and 122°F (50°C) for 3 hours in a well ventilated, dry area.

HEALTH & SAFETY INFORMATION
Please read and make sure you understand the relevant Safety Data Sheets.

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

BELZONA®
Repair • Protect • Improve