Belzona 2111

(D & A HI-BUILD 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® 2111.** 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.**

b) **CONDITIONING**

Immediately, apply a thin, even coat of **Belzona® 2911** (Elastomer QD Conditioner) or **Belzona® 2921** (Elastomer GP Conditioner) onto the surface. A brush should be used as a stipple to ensure a practical coverage rate of 13 sq.ft (1.25 m^2) per unit, on steel and most metallic 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® 2111.** 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 below when applied to a steel surface.

These times may be extended when applied to rubber substrates.

Conditioner	Touch Dry	Max. Overcoating
Belzona® 2911	30 min	4 hours
Belzona® 2921	2 hours	8 hours

Under no circumstances should application of **Belzona® 2111** take place after the maximum overcoating time.

NOTE: Belzona® 2911 has an 18 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.

When using **Belzona® 2111** 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** or **Belzona® 2921** applied as outlined in section 1 (b).

Application of **Belzona® 2111** 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).

WHERE BELZONA® 2111 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

Both Base and Solidifier components must remain sealed until the application stage.

a) Empty the entire contents of the Base container into the mixing bowl provided.

b) Shake the Solidifier container. Pour the contents over the Base in the mixing unit.

c) Immediately mix together for at least 2 minutes and allow to stand until a gel forms (see table below). Do not mix the material after this stage. Use all material within the times shown in the table below.

Temperature	41°F(5°C)	59°F(15°C)	77°F(25°C)	86°F(30°C)
Time to gel formation	10 min.	6 min.	3 min.	2 min.
Use all material within	25 min.	20 min.	12 min.	6 min.

N.B. These times are taken from the commencement of mixing.

NOTES:

1. **VOLUME CAPACITY OF MIXED BELZONA® 2111**
   28.5 cu.in. (468 cm^3) per 500 g unit.

2. **COVERAGE RATE**
   1.95 sq.ft. (0.183 m^2) per unit at a thickness of 100 mil (2500 microns).

3. APPLYING THE BELZONA® 2111

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 **Belzona® 2111** with the plastic spatula or applicator provided.

b) Contour the **Belzona® 2111** to the correct profile with the plastic applicator provided.

c) Smooth out contours to obtain the desired finish. For optimum results, apply the complete unit as quickly as possible. Once the material is spread as a thin film, the workable life is extended slightly to allow a more uniform finish to be obtained.

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

4. COMPLETION OF THE MOLECULAR REACTION

Allow **Belzona® 2111** 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	6 hours	3 days	5 days
50°F/10°C	4 hours	2 days	3½ days
59°F/15°C	3 hours	2 days	3 days
68°F/20°C	2 hours	1 day	2½ days
77°F/25°C	1½ hours	1 day	2 days
86°F/30°C	1 hour	1 day	1½ days

These times are for a thickness of approximately 0.10ins (2.5 mm); they will be reduced for thicker sections and extended for thinner sections.

5. STORAGE

Store in a dry environment at a temperature between 41°F (5°C) and 77°F (25°C).

Inadvertent storage of **Belzona® 2100** Base below 41°F (5°C) may result in partial solidification. If this occurs, the material can be restored to its normal form by resealing the container and warming to between 104°F (40°C) and 122°F (50°C) for three hours in a well ventilated, dry area.

6. OVERCOATING

Application of subsequent layers of **Belzona® 2111** can be carried out up to 3 days after the previous application without need of any surface treatment other than removal of contamination.

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

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