Belzona 2211

(MP 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® 2211.** 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.

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 m²) 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® 2211.** 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® 2211** 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® 2211** 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® 2211** 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® 2211 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*

Complete mixing is the most important step in the use of **Belzona® 2211.**

a) Transfer the entire contents of the Base and Solidifier containers onto the Belzona® Working Surface.

b) Mix together for at least 3 minutes until the material is of an even color and consistency.

For mixing small quantities of **Belzona® 2211** the mixing ratio is:
3.0 parts Base: 1 part Solidifier by Volume, or
2.3 parts Base: 1 part Solidifier by Weight.
It is important that the mixing ratios are accurately utilized.

(i) Remove the plastic cover from the top of the Base container but make sure it is replaced after measuring out has been completed.

(ii) Apply one portion of Solidifier to the Belzona® Working Surface followed by three equally sized portions of Base.

(iii) Mix as in (b) above.

NOTES:
1. MIXING AT LOW TEMPERATURES
To ease mixing when the material temperature is below 41°F (5°C), warm the Base and Solidifier containers until the contents attain a temperature of 68 - 70°F (20 - 25°C).

2. WORKING LIFE

From the commencement of mixing, **Belzona® 2211** must be used within the times shown below.

Temperature	41°F (5°C)	59°F (15°C)	77°F (25°C)	86°F (30°C)
Use all material within	35 min.	20 min.	13 min.	10 min.

3. VOLUME CAPACITY OF MIXED BELZONA® 2211

28.2 cu.in. (462 cm³) per 550 g unit.

3. APPLYING THE BELZONA® 2211

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® 2211** directly onto 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) Contour the **Belzona® 2211** to the correct profile with the plastic applicator.

CLEANING

Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent, e.g. MEK. Brushes, injection guns, spray equipment and other 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® 2211** to solidify as below before subjecting it to the conditions indicated:

	Movement or use involving no loading or immersion	Light loading	Full mechanical or thermal loading	Immersion in chemicals
41°F/ 5°C	10 hours	18 hours	3 days	9 days
50°F/10°C	6 hours	12 hours	2 days	5 days
59°F/15°C	4 hours	6 hours	1½ days	3 days
68°F/20°C	2 hours	4 hours	1 day	2 days
77°F/25°C	1½ hours	3 hours	18 hours	1.5 days
86°F/30°C	1 hour	2 hours	16 hours	1 day

These times are for a thickness of approximately 0.10 ins (0.25 cm); they will be reduced for thicker sections and extended for thinner sections.

5. STORAGE

Once opened, **Belzona® 2211** should be used as soon as possible. To maximize shelf life (up to 4 weeks at 77°F (25°C)) of partially used product, the Base container should be re-sealed using the plastic overcap provided. A surface skin may result during this period but after removal the remaining material can be used in the normal way.

Containers must be stored in a dry environment at a temperature of not more than 77°F (25°C).

6. OVERCOATING

Application of subsequent layers of **Belzona® 2211** can be carried out up to 3 days after the previous application without need of any surface treatment other than removal of contamination.

Overcoating of aged or weathered **Belzona® 2211** is possible at any time after initial application, provided that the surface preparation techniques for flexible surfaces described in Section 1 are employed.

HEALTH & SAFETY INFORMATION

Please read and make sure you understand the relevant Material Safety Data Sheets.

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