

# Belzona 2121

FN10180 (D & A HI-COAT ELASTOMER)



## 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, 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® 2121**. 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<sup>2</sup>) 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® 2121**. 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. These times may be extended when applied to rubber substrates.

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

Under no circumstances should application of **Belzona® 2121** 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® 2121** 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® 2121** 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® 2121 SHOULD NOT ADHERE

Brush on **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.**

- Thoroughly mix the Solidifier.
- Transfer the entire contents of both Base and Solidifier containers into the mixing bowl.
- Immediately mix together for at least 3 minutes and use all material within the times shown in the table below:-

Temperature	50°F (10°C)	68°F (20°C)	86°F (30°C)	104°F (40°C)
Use all material within	21 min.	12 min.	10 min.	8 min.

#### VOLUME CAPACITY OF MIXED BELZONA® 2121

27.7 cu.in. (454 cm<sup>3</sup>) per 520g unit.

### 3. APPLYING BELZONA® 2121

#### 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.

Recommended number of coats	2
Target thickness 1 <sup>st</sup> coat	20 mils (500 microns)
Target thickness 2 <sup>nd</sup> coat	20 mils (500 microns)
Minimum total DFT	36 mils (800 microns)
Maximum total DFT	Only limited by sag resistance
Theoretical coverage rate 1 <sup>st</sup> coat	9.4 sq.ft. (0.91m <sup>2</sup> )/520g unit
Theoretical coverage rate 2 <sup>nd</sup> coat	9.4 sq.ft. (0.91m <sup>2</sup> )/520g unit
Theoretical coverage rate to achieve minimum recommended system thickness	6.1 sq.ft. (0.57m <sup>2</sup> )/520g unit

#### PRACTICAL COVERAGE RATES

Appropriate loss factors must be applied to the above coverage rates. In practice, many factors influence the actual coverage rate achieved. On rough surfaces such as pitted steel the practical coverage rate will be reduced. Application at low temperatures will also reduce practical coverage rates further.

- a) Apply the **Belzona® 2121** to the conditioned surface with a stiff bristled brush or the plastic applicator provided.
- b) Apply a second coat of **Belzona® 2121** as above following the overcoating instructions in Section 6.

#### NOTES:

##### 1. DIFFERENTIATION BETWEEN LAYERS

**Belzona® 2121** is available in red and black, to facilitate application and to prevent misses. In service the colour of the applied product may change.

##### 2. CLEANING

Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. MEK. Brushes, injection guns 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® 2121** to solidify as below before subjecting it to the conditions indicated:

	Movement (no loading)	Light loading	Full mechanical loading	Immersion in chemicals
50°F (10°C)	4 hours	16 hours	48 hours	96 hours
68°F (20°C)	2 hours	8 hours	24 hours	60 hours
86°F (30°C)	1½ hours	6 hours	20 hours	48 hours
104°F (40°C)	1 hour	4 hours	16 hours	36 hours

### 5. STORAGE

Store in a dry environment between 41°F (5°C) and 86°F (30°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 3 hours in a well ventilated, dry area.

### 6. OVERCOATING

Application of subsequent layers of **Belzona® 2121** can be carried out up to 3 days after the previous application without need of any surface treatment other than removal of contamination.

Aged or weathered **Belzona® 2121** should be prepared and Conditioned as described for flexible surfaces in Section 1 above.

## HEALTH & SAFETY INFORMATION

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

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