



# **BELZONA® 4251** (E MAGMA RESINS)

## **INSTRUCTIONS FOR USE**

### **1. TO ENSURE AN EFFECTIVE MOLECULAR WELD**

**APPLY ONLY TO CLEAN, FIRM, DRY AND WELL ROUGHENED SURFACES. NOTE THAT IT IS ESPECIALLY IMPORTANT THAT SURFACES ARE DRY OR ADHESION MAY BE COMPROMISED.**

- a) Brush away loose contamination and degrease with a rag soaked in **Belzona® 9111** (Cleaner/ Degreaser) or any other effective cleaner which does not leave a residue, eg. methyl ethyl ketone (MEK).
- b)
  - (i) **Concrete Surfaces**  
Concrete must be structurally sound with a surface free from laitance, oils, paints or other contamination. The surface must be mechanically abraded to expose the aggregate.
  - (ii) **Quarry Tiles**  
Tiles must be firmly bonded and free from contamination. Blast clean to remove hard surface layer, ideally providing a 2 - 3 mil (50 - 75 micron) profile.
  - (iii) **Wood**  
Roughen to produce an open textured surface.
  - (iv) **Steel Surfaces**  
Blast clean, using an angular abrasive, to achieve a clean surface with a minimum depth of profile of 3 mil (75 microns). After blasting, the should be coated before any oxidation takes place.
- c) Brush over the surface again and degrease with **Belzona® 9111**.

### **2. MASKING THE SURFACE TO PROVIDE A NON-SKID PATTERN**

After preparing the surface, lay out masking tape to give the outline of the required grip pattern. This can be varied to suit the type and location of the substrate, and may be in the form of strips, squares or chevrons.

### **3. COMBINING THE REACTIVE COMPONENTS**

**NOTE: Do not commence mixing of the Belzona® 4251 (E Magma Resins) until all surface preparation and masking is complete.**

- a) Transfer the contents of the **Belzona® 4251** Solidifier can and the **Belzona® 4251** Base can to a suitable mixing container.
- b) Mix until a uniform consistency is achieved.

#### **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 68-77°F (20-25°C).

#### **2. WORKING LIFE**

From the commencement of mixing, **Belzona® 4251** must be used within the following times.

| Temperature             | 41°F (5°C) | 59°F (15°C) | 77°F (25°C) | 86°F (30°C) |
|-------------------------|------------|-------------|-------------|-------------|
| Use all material within | 12 min.    | 10 min.     | 8 min.      | 7 min.      |

Provided that the surface to be treated is cool, the working life of **Belzona® 4251** can be extended by initially pouring the mixed material onto the surface, prior to spreading it to the required thickness.

Alternatively, if difficulty is experienced in applying all of the material within its working life, it should be split between two or more operatives to apply.

#### **3. MIXING RATIO**

For mixing small quantities of **Belzona® 4251** use:  
1 part Base to 1 part Solidifier by volume, or  
1 part Base to 1.25 part Solidifier by weight

#### **4. VOLUME CAPACITY OF MIXED BELZONA® 4251**

22.5 cu.in. (368 cm<sup>3</sup>) per 450g unit.

## 4. APPLYING BELZONA® 4251

### FOR BEST RESULTS

#### Do not apply when:-

- (i) The temperature is below 32°F (0°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® 4251** directly on to the prepared surface with a stiff bristled brush or with the plastic applicator provided to give an even film thickness of 12 - 20 mil (300 - 500 microns) dependent on the type of Aggregate used (see Note 2). Keep the **Belzona® 4251** within the limits of the masking tape.
- b) Immediately sprinkle the chosen Belzona® Aggregate into the uncured **Belzona® 4251** to the required density.
- c) Press the Belzona® Aggregate into the **Belzona® 4251** using a wooden block.
- d) Lightly sweep over the system with a brush to remove excess Aggregate, which can be used again.
- e) Remove masking tape immediately to give a neat finish to the application.

### NOTES:

#### 1. UNUSED MATERIAL

Unused product within the mixing container will continue to react generating heat. Hazardous fumes may be created. Where good ventilation cannot be achieved, the container lid, or alternatively, a layer of water should be placed over any unused product in the mixing container. Do not breathe fumes.

#### 2. CHOOSING THE CORRECT GRADE OF BELZONA® AGGREGATE

For maximum grip, or where heavy dirt build-up is likely, use **Belzona® 9211** (Supergrip Aggregate). For pedestrian areas use **Belzona® 9221** (Surefoot White Aggregate). One unit of Aggregate to one unit of **Belzona® 4251** will give a dense coverage.

## 3. PRACTICAL COVERAGE RATE

A full 450g mix should cover the areas quoted below:

| Belzona Aggregate    | Film Thickness               | Coverage Rate on                  |                                   |
|----------------------|------------------------------|-----------------------------------|-----------------------------------|
|                      |                              | Smooth/Non-Porous Surface         | Coarse/Porous Surface             |
| <b>Belzona® 9211</b> | 15 - 20 mil<br>(375 - 500 u) | 8.8sq.ft.<br>0.83 m <sup>2</sup>  | 7.1 sq.ft.<br>0.67 m <sup>2</sup> |
| <b>Belzona® 9221</b> | 12 - 15 mil<br>(300 - 375 u) | 10.3sq.ft.<br>0.98 m <sup>2</sup> | 8.2sq.ft.<br>0.77 m <sup>2</sup>  |

## 4. APPLICATION TO DAMP SURFACES

**Belzona® 4251** should never be applied onto damp surfaces.

## 5. CLEANING

Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent eg. MEK. Brushes, injection guns and other application tools should be cleaned using a suitable solvent such as **Belzona® 9121**, MEK, acetone or cellulose thinners.

## 5. COMPLETION OF THE MOLECULAR REACTION

Allow **Belzona® 4251** to solidify as below before subjecting it to the conditions indicated:

|           | Light pedestrian traffic or loading | Full traffic or loading |
|-----------|-------------------------------------|-------------------------|
| 32°F/ 0°C | 80 mins                             | 3½ hours                |
| 41°F/ 5°C | 70 mins                             | 3 hours                 |
| 50°F/10°C | 60 mins                             | 2½ hours                |
| 59°F/15°C | 50 mins                             | 2 hours                 |
| 68°F/20°C | 40 mins                             | 1½ hours                |
| 77°F/25°C | 30 mins                             | 1 hours                 |

**Note:** The above traffic times are for the **Belzona® 4251** blinded with aggregate.

## 6. AGGREGATE ENCAPSULATION

Encapsulation of the Aggregate in the **Belzona® 4251** is not recommended due to the short working life of the system.

## HEALTH & SAFETY INFORMATION

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

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