



BELZONA® 1221 (SUPER E-METAL)

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO CLEAN, FIRM, DRY AND WELL ROUGHENED SURFACES

- 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 e.g. methyl ethyl ketone (MEK). Use a flame to sweat out oil from deeply impregnated surfaces.
- Roughen surfaces by blast cleaning, deeply scoring or grinding.
- Finally degrease again. Use clean rags to avoid spreading contamination.

PLUGGING ALL LEAKS

Leakages may be temporarily plugged with lead wool, cork or wooden plugs during surface preparation and application of **Belzona® 1221**.

WHERE BELZONA® 1221 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

- Cut off one end of both the Base and Solidifier sachets as close as possible to the seal.
- Using the straight edge of a mixing spatula or other suitable mixing tool squeeze out the entire contents of the sachets onto the **Belzona®** Working Surface provided.
- Mix the two components thoroughly to achieve a uniform material free of any streakiness.

1. WORKING LIFE

From the commencement of mixing, **Belzona® 1221** 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	5 min.	4 min.	3 min.

2. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 1221** use:

- 1 part Base to 1 part Solidifier by volume
- 2 parts Base to 1 part Solidifier by weight

3. VOLUME CAPACITY OF MIXED BELZONA® 1221

- 33.5 cu.in. (550 cm³) per kg.
- 4.2 cu.in. (67 cm³) per 125gm. unit

3. APPLYING BELZONA® 1221

FOR BEST RESULTS

Do not apply when:

- The temperature is below 41°F (5°C) or the relative humidity is above 90%.
- Rain, snow, fog or mist is present.
- There is moisture on the metal surface or is likely to be deposited by subsequent condensation.
- The working environment is likely to be contaminated by oil/grease from adjacent equipment or smoke from kerosene heaters or tobacco smoking.

FOR REPAIRING

- Spread the **Belzona® 1221** on to the **Belzona® 9341** (Reinforcement Tape).
- Apply the bandage to the area to be repaired with the coated side adjacent to the substrate.

In the case of pipes, wrap tightly round several times so that the **Belzona® 1221** is forced through to the outside of the **Belzona® 9341**.

- Apply a final coat of **Belzona® 1221** on top of the **Belzona® 9341**.

FOR REBUILDING

- a) Apply the **Belzona® 1221** directly on to the prepared surface with the plastic applicator or spatula provided.

Press down firmly to fill all cracks, remove entrapped air, and ensure maximum contact with the surface.

- b) Contour the **Belzona® 1221** to the correct profile or alternatively allow to cure and then machine down.

CLEANING

Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. Methyl ethyl ketone (MEK). Brushes, injection guns, spray equipment and any 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® 1221** to solidify as below subjecting it to the conditions indicated.

Temperature	Movement or use involving no loading or immersion	Machining and/or light loading	Full mechanical or thermal loading	Immersion in chemicals
41°F/ 5°C	17 mins.	60 mins.	120 mins.	48 hours
50°F/10°C	16 mins.	50 mins.	100 mins.	36 hours
59°F/15°C	15 mins.	45 mins.	90 mins.	30 hours
68°F/20°C	14 mins.	40 mins.	75 mins.	24 hours
77°F/25°C	13 mins.	35 mins.	60 mins.	20 hours
86°F/30°C	12 mins	30 mins.	45 mins.	16 hours

These times are for a thickness of approximately 0.25 inch (6 mm); they will be reduced for thicker sections and extended for thinner sections.

5. APPLICATION OF A FURTHER LAYER OF BELZONA® 1221

Where this is required, it should be applied no longer than 4 hours after application of the first layer when the ambient temperature is 41 - 86°F (5 - 30°C).

After the maximum overcoating time has elapsed, the solidified **Belzona® 1221** must be roughened before applying further **Belzona® 1000 Series** products, or application of **Belzona® 2000 Series** products.

6. APPLICATION OF BELZONA® 1000 SERIES PRODUCTS TO BELZONA® 1221

If a repair involves overcoating of **Belzona® 1221** by other **Belzona® 1000 Series** products, the surface of the **Belzona® 1221** must be allowed to cure to a stage where its surface can be suitably roughened prior to application of other **Belzona® 1000 Series** products.

Do not attempt to apply other **Belzona® 1000 Series** products to **Belzona® 1221** using a "wet on wet" method.



BELZONA® 1221 IS APPROVED FOR CONTACT WITH POTABLE WATER SUBJECT TO THE FOLLOWING RESTRICTIONS:

For tank and distribution line use - no greater than 10% of surface area.

Certified to
ANSI/NSF 61

For residential use - no greater than 150 sq. in. per residence.

HEALTH & SAFETY INFORMATION

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

All descriptions are based on the results of long term tests carried out in our laboratories and are believed to be true and accurate. No condition or warranty is given covering the results from the use of our products in any particular case, whether the purpose is disclosed or not, and we cannot accept liability if the desired results are not obtained.

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Printed in England Publication No. 09-7-01

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BS EN ISO 9002 : 1994
Certificate No. Q09335



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