Belzona 1814

FN10238

BELZONA®
Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO BLAST CLEANED SURFACES

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 e.g. methyl ethyl ketone (MEK).

b) Select an abrasive to give the necessary standard of cleanliness and a minimum depth of profile of 3 mils (75 microns). Use only an angular abrasive.

c) Blast clean the metal surface to achieve the following standard of cleanliness:

ISO 8501-1 Sa 2½ very thorough blast cleaning
American Standard near white finish SSPC SP 10
Swedish Standard Sa 2½ SIS 05 5900

d) After blasting, metal surfaces should be coated before any oxidation of the surface takes place.

SALT CONTAMINATED SURFACES

Metal surfaces that have been immersed for any periods in salt solutions e.g. sea water, should be blasted to the required standard, left 24 hours to allow any ingrained salts to sweat to the surface and then washed prior to a further brush blast to remove these. This process may need to be repeated to ensure complete removal of salts.

WHERE BELZONA® 1814 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

When mixing a full 30 kg unit, due to the bulk and stiffness of the materials it is recommended that a mechanical mixer is used, as described below:

1. Empty the entire contents of solidifier into the base unit and mix thoroughly together using a paddle mixer to achieve a uniform material free of any streakiness before transferring to the mixer drum.
   Alternatively, empty entire contents of base and solidifier into a mechanical mixer drum e.g. Daines mixer and mix thoroughly together to achieve a uniform material free of any streakiness.

2. Once a uniform material has been achieved, gradually add the contents of aggregate into the mixer drum. Allow the mixer to run until homogenous consistency is achieved.

NOTES:

1. MIXING AT LOW TEMPERATURE

To ease mixing when the material temperature is below 5°C (41°F), warm the Base and Solidifier units until the contents attain a temperature of 20 - 25°C (68 - 77°F).

2. WORKING LIFE

From the commencement of mixing, **Belzona® 1814** must be used within the times shown below:

Temperature	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
Use all material within	70 min	60 min	50 min	40 min

3. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 1814** combine base and solidifier first, then add aggregate. Mix ratio as follows:

	Base	Solidifier	Aggregate
Parts by weight	2.40	1	9.65
Parts by volume	2	1	5

4. VOLUME CAPACITY OF MIXED BELZONA® 1814

427 cm^3 (26 cu.in.) per kg.

3. APPLYING BELZONA® 1814

FOR BEST RESULTS

Do not apply when:

i) The temperature is below 5°C (41°F) or the relative humidity is above 90%.
ii) Rain, snow, fog or mist is present.
iii) There is moisture on the metal 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® 1814** directly onto the prepared surface with the plastic applicator or appropriate tool. When applied at 3 mm (0.12 in.) thickness the theoretical coverage rate of 30 kg unit will be approximately 4.27 m^2 (46 sq.ft.). When applied at 6 mm (0.25 in.) thickness the theoretical coverage rate of 30 kg unit will be approximately 2.14 m^2 (23 sq.ft.).

b) Press down firmly to remove entrapped air and to ensure maximum contact with the surface.

c) Contour the **Belzona® 1814** to the correct profile with the plastic applicator or appropriate tool.

NOTE: Overhead applications of **Belzona® 1814** direct to the substrate may be challenging. Alternative Belzona® 1800 series products may be more suitable for large overhead surfaces.

CLEANING
Mixing and application tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. Methyl ethyl ketone (MEK).

4. COMPLETION OF THE MOLECULAR REACTION

Allow **Belzona® 1814** to solidify as below before subjecting it to the conditions indicated.

Temperature	Movement or use involving no loading	Light loading	Full mechanical or thermal loading
10°C /50°F	32 hrs	5 days	14 days
20°C /68°F	12 hrs	24 hrs	7 days
30°C /86°F	10 hrs	16 hrs	4 days
40°C /104°F	6 hrs	12 hrs	2 days

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

POST-CURE
Post-cure may be necessary or desirable to facilitate faster cure and quicker return to service. If required, **Belzona® 1814** should be allowed to cure un-aided for between 16-24 hours prior to heat exposure. Following this it can be post-cured at a temperature between 50°C/122°F and 100°C/212°F for 1-2 hours using forced air heaters, heat lamps, etc.

5. MACHINING OF SOLIDIFIED BELZONA® 1814

Belzona® 1814 cannot be satisfactorily ground or machined after cure. Every attempt therefore should be made to obtain the required depth of application to avoid unnecessary machining.

6. APPLICATION OF A FURTHER LAYER OF BELZONA® 1814

Where this is required it should be applied as soon as possible after the first layer. Overcoating must occur within 24 hours, irrespective of temperature and humidity.

If the overcoating time of 24 hours is exceeded the surface of **Belzona® 1814** must be flash blasted before applying further **Belzona® 1814.**

7. USE OF BELZONA® 1814 FOR GROUTING OF BELZONA® 9811

Where additional abrasion resistance is required, **Belzona® 9811** alumina tiles can be used in conjunction with **Belzona® 1814.**

a) Select appropriate Belzona adhesive to suit service conditions. The selected Belzona product should be applied in accordance with the relevant IFU and finished flush with the surrounding surface.

b) Apply the **Belzona® 9811** tile mats into the wet Belzona adhesive. Tiles may be bonded mesh side down for temperatures below 60°C (140°F) but must always be bonded mesh side up at higher temperatures. After placing the tile mat onto Belzona adhesive ensure all tiles are firmly bedded into the Belzona. The use of a rubber roller will quickly ensure all tiles are pressed down and in contact with the chosen Belzona adhesive.

c) Once Belzona adhesive is firm enough, if required, the backing mesh can be peeled away and grouting commenced.

NOTE:
Removal of the mesh can leave a slightly rough surface on the tile surface making grouting slightly more difficult together with cleaning of the tiles. This does not in any way impact on the performance of the system, it is purely aesthetic. Alternatively, the remaining adhesive for the backing mesh may be ground or blasted away once the Belzona tile adhesive is hard.

d) Use a thick, 8 - 10mm (0.3 - 0.4”) rubber sheet to press **Belzona® 1814** grout into place and to scrape excess off ensuring the **Belzona® 1814** grout is finished flush with the top of the tiles.

8. STORAGE

Store in a dry environment between 5°C (41°F) and 30°C (86°F).

After prolonged storage or inadvertent storage below 5°C (41°F) the components may feel stiffer than normal. They can be restored by warming to 40°C (104°F).

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

Belzona products are manufactured under an ISO 9001 Registered Quality Management System

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