Belzona 1812

FN10040 (CERAMIC CARBIDE FP)

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® 1812 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

a) Mixing **Belzona® 1812** 2 kg unit.

Transfer the entire contents of the Base and Solidifier modules on to the Belzona® Working Surface. Mix thoroughly together for a minimum of 2 minutes to achieve a uniform material free of any streakiness. Ensure all material is used within the times shown in the Working Life table.

b) Mixing **Belzona® 1812** 20 kg unit.

When using the 20 kg. unit of **Belzona® 1812,** use the module provided, to measure out workable amounts of material. 4 measures of Base to 1 measure of Solidifier will give the correct mixing ratio by volume. Transfer these to the Belzona Working Surface. Mix thoroughly together for a minimum of 2 minutes to achieve a uniform material free of any streakiness. Ensure all material is used within the times shown in the Working Life table.

Under no circumstances should complete units be mixed and left to stand, as the large exotherm produced will greatly reduce the usable life of the mixed material.

NOTES:

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

2. WORKING LIFE
From the commencement of mixing, **Belzona® 1812** must be used within the times shown below.

Temperature	59°F (15°C)	77°F (25°C)
Use all material within	45 min.	20 min.

3. MIXING SMALL QUANTITIES
For mixing small quantities of **Belzona® 1812** use:

	Base	Solidifier
Parts by volume	4	1
Parts by weight	4.5	1

4. VOLUME CAPACITY OF MIXED BELZONA® 1812
26.85 cu.ins. (440 cm³) per kg.

3. APPLYING BELZONA® 1812

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 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® 1812** directly on to the prepared surface with the plastic applicator or spatula provided. Applied at 0.118 in. (3 mm) thickness each 2 kg unit will cover approximately 3.23 sq.ft. (0.3 m²).
b) Press down firmly to remove entrapped air and to ensure maximum contact with the surface.

c) Contour the **Belzona® 1812** 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. Methyl Ethyl Ketone (MEK). Brushes 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® 1812** to solidify as below before subjecting it to the conditions indicated.

Temperature	Movement or use involving no loading	Machining and / or light loading	Full mechanical or thermal loading	Contact with chemicals
41°F/ 5°C	18 hours	24 hours	7 days	14 days
50°F/10°C	8 hours	12 hours	5 days	10 days
59°F/15°C	6 hours	9 hours	4 days	7 days
68°F/20°C	4 hours	6 hours	3 days	5 days
77°F/25°C	3 hours	4 hours	2 days	3 days
86°F/30°C	2 hours	3 hours	1½ days	2 days

These times are for a thickness of approximately 0.236 in. (6 mm); they will be reduced for thicker sections and extended for thinner sections.

POST CURE
The mechanical properties, heat resistance and chemical resistance of **Belzona® 1812** may be improved by post curing.

Once the **Belzona® 1812** has reached the 'Movement or use involving no loading' level of cure, it can be post-cured at a temperature between 122 °F (50 °C) and 212 °F (100 °C) for a minimum of 1-2 hours using forced air heaters, heat lamps, etc.

5. MACHINING OF SOLIDIFIED BELZONA® 1812

Belzona® 1812 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® 1812

Where this is required it should be applied as soon as possible after the first layer and certainly while the first layer is still soft (less than 3 hours at 68°F (20°C)).

If the above overcoating time is exceeded the surface of **Belzona® 1812** must be flash blasted before applying further **Belzona® 1812.** Press down firmly to remove entrapped air and to ensure maximum contact with the surface.

7. STORAGE

Store in a dry environment between 50°F (10°C) and 77°F (25°C).
After prolonged storage or inadvertent storage below 41°F (5°C) the components may feel stiffer than normal. They can be restored by warming to 104°F (40°C).

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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