

Belzona 1811

FN10039 (CERAMIC CARBIDE)



INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO BLAST CLEANED 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).
- 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.
- 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
- 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® 1811 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

- Mixing **Belzona® 1811** 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.

- Mixing **Belzona® 1811** 20 kg unit.

When using the 20 kg. unit of **Belzona® 1811**, use the plastic bowl and module provided, to measure out workable amounts of material. A ratio of 1 orange bowl of Base to 1 black module 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 TEMPERATURE

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® 1811** must be used within the times shown below.

Temperature	41°F (5 °C)	50°F (10 °C)	68°F (20 °C)
Use all material within	3 hours	120 min	60 min

3. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 1811** use:

	Base	Solidifier
Parts by volume	4	1
Parts by weight	8.5	1

4. VOLUME CAPACITY OF MIXED BELZONA® 1811

28 cu.in. (459 cm³) per kg.

3. APPLYING BELZONA® 1811

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.

- Apply the **Belzona® 1811** directly on to the prepared surface with the plastic applicator or spatula provided. Applied at 0.25 in. (6 mm) thickness each 2 kg unit will cover approximately 1.64 sq.ft. (0.154 m²).
- Press down firmly to remove entrapped air and to ensure maximum contact with the surface.
- Contour the **Belzona® 1811** 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® 1811** to solidify as below 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	24 hours	36 hours	7 days	14 days
50°F/10°C	16 hours	24 hours	5 days	10 days
59°F/15°C	12 hours	18 hours	4 days	7 days
68°F/20°C	8 hours	12 hours	3 days	5 days
77°F/25°C	6 hours	8 hours	2 days	3 days
86°F/30°C	3 hours	4 hours	1 ½ days	2 days

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

POST CURE

The mechanical properties, heat resistance and chemical resistance of **Belzona® 1811** may be improved by post curing.

Once the **Belzona® 1811** 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® 1811

Belzona® 1811 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® 1811

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® 1811** must be flash blasted before applying further **Belzona® 1811**.

HEALTH & SAFETY INFORMATION

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

The technical data contained herein is based on the results of long term tests carried out in our laboratories and to the best of our knowledge is true and accurate on the date of publication. It is however subject to change without prior notice and the user should contact Belzona to verify the technical data is correct before specifying or ordering. No guarantee of accuracy is given or implied. We assume no responsibility for rates of coverage, performance or injury resulting from use. Liability, if any, is limited to the replacement of products. No other warranty or guarantee of any kind is made by Belzona, express or implied, whether statutory, by operation of law or otherwise, including merchantability or fitness for a particular purpose.

Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

Copyright © 2022 Belzona International Limited. Belzona® is a registered trademark.

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

