Belzona 1812
FN10040  (CERAMIC CARBIDE FP)

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

Transfer the entire contents of the Base and Solidifier modules on to the Belzona® Working Surface. Mix together for at least 2 minutes and use all material within the times shown in the table below.

a) Transfer the entire contents of the Base and Solidifier modules on to the Belzona® Working Surface. Mix thoroughly together to achieve a uniform material free of any streakiness.

b) 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 to achieve a uniform material free of any streakiness.

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.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>59°F (15°C)</th>
<th>77°F (25°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use all material within</td>
<td>45 min.</td>
<td>20 min.</td>
</tr>
</tbody>
</table>

3. MIXING SMALL QUANTITIES
For mixing small quantities of Belzona® 1812 use:
4 parts Base to 1 part Solidifier by volume
4.5 parts Base to 1 part Solidifier by weight

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 0.125 in. (3 mm) thickness each 2 kg unit will cover approximately 3.20 sq.ft. (0.298 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.

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4. COMPLETION OF THE MOLECULAR REACTION

Allow Belzona® 1812 to solidify as below before subjecting it to the conditions indicated.

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

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

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).