Belzona 5811
FN10159 (IMMERSION GRADE)

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD
   i) METALLIC SURFACES - 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.
   ii) CONCRETE SURFACES
       Remove all paint, tar and any other coatings.
       Any surface to which Belzona® 5811 is to be applied must be clean, firm and dry. Wash old concrete down with detergent to remove oil, grease and dust. Use clean water to wash away the detergent.
       Allow new concrete to cure for a minimum of 28 days or until the moisture content is below 6% using a Protimeter.
       Blast clean, or mechanically scarify the surface to remove all loose material and surface laitance.

2. COMBINING THE REACTIVE COMPONENTS
   Transfer the entire contents of the Solidifier container into the Base container. 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 50°F (10°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® 5811 must be used within the times shown below.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>50°F (10°C)</th>
<th>68°F (20°C)</th>
<th>86°F (30°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use all material within</td>
<td>2 1/2 hours</td>
<td>1 3/4 hours</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

3. MIXING SMALL QUANTITIES
   For mixing small quantities of Belzona® 5811 use:
   3 parts Base to 1 part Solidifier by volume
   5 parts Base to 1 part Solidifier by weight

3. APPLYING BELZONA® 5811
   a) FIRST COAT
      Apply the Belzona® 5811 directly on to the prepared surface with a short bristled brush or rubber squeegee.
   b) SECOND COAT
      As soon as possible after application of the first coat, apply a further coat of Belzona® 5811 as in (a) above. This time will be 5 - 7 hours at 68°F (20°C) and 8 - 10 hours at 50°F (10°C).
      The first coat must not be left longer than 72 hours before overcoating, irrespective of temperature. After this time the surface must be brush blasted to achieve a frosted appearance free of any gloss with a target profile of 40 microns.

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SPRAY APPLICATION
Suitable areas may be coated by spray. Belzona® 5811 must be sprayed using heated airless equipment. Either a single airless pump or plural equipment capable of metering accurately and mixing the two components can be used. See “Instructions for spraying Belzona® solvent free coatings”.

Mix ratio 3:1 by volume
Tip Temperature 104-122°F (40-50°C)
Tip pressure (minimum) 2500 psi (172 bar)
Tip size 17-23 thou (0.43-0.58mm)
Cleaning solvent Belzona® 9121, MEK or Acetone

Only commence mixing once the spray equipment has been assembled and thoroughly tested - see “Instructions for spraying Belzona® solvent free coatings”.

INJECTION
Belzona® 5811 may be applied using pneumatic injection equipment to create load bearing irregular shims.

COVERAGE RATES

<table>
<thead>
<tr>
<th>Recommended number of coats</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target thickness 1st coat</td>
<td>10 mils (250 microns)</td>
</tr>
<tr>
<td>Target thickness 2nd coat</td>
<td>10 mils (250 microns)</td>
</tr>
<tr>
<td>Minimum total DFT</td>
<td>16 mils (400 microns)</td>
</tr>
<tr>
<td>Maximum total DFT</td>
<td>Only limited by sag resistance</td>
</tr>
<tr>
<td>Theoretical coverage rate 1st coat</td>
<td>42 ft²/litre (3.9 m²/litre)</td>
</tr>
<tr>
<td>Theoretical coverage rate 2nd coat</td>
<td>42 ft²/litre (3.9 m²/litre)</td>
</tr>
<tr>
<td>Theoretical coverage rate to achieve minimum recommended system thickness</td>
<td>27 ft²/litre (2.5 m²/litre)</td>
</tr>
</tbody>
</table>

In practice many factors influence the exact coverage rate achieved. On rough surfaces such as pitted steel and concrete the practical coverage rate will be reduced. Application at low temperatures will also reduce practical coverage rates further.

NOTES:
1. 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.

2. COLOR
Belzona® 5811 is available in different colors to facilitate application and to prevent misses. These colors are for identification only and there will be some variation between batches. In service the color of the applied product may change.

3. INSPECTION
a) Immediately after application of each unit, visually inspect for pinholes and misses. Where detected, these should be immediately brushed out.
b) Once the application is complete and the coating is dimensionally stable, carry out a thorough visual inspection to confirm freedom from pinholes and misses, and to identify any possible mechanical damage.
c) Spark testing in accordance with NACE SP0188 can be carried out to confirm coating continuity. A voltage of 2.5kV is recommended to confirm that a minimum coating thickness of 16 mil (400 microns) has been achieved.

4. COMPLETION OF THE MOLECULAR REACTION
Solidification time is dependent on ambient temperature, the lower the temperature the longer the solidification time.

Allow Belzona® 5811 to solidify as below before subjecting it to the conditions indicated.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Light loading</th>
<th>Full mechanical/ thermal loading or water immersion</th>
<th>Chemical contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>50°F/10°C</td>
<td>36 hours</td>
<td>8 days</td>
<td>12 days</td>
</tr>
<tr>
<td>68°F/20°C</td>
<td>18 hours</td>
<td>5 days</td>
<td>7 days</td>
</tr>
<tr>
<td>86°F/30°C</td>
<td>9 hours</td>
<td>2 days</td>
<td>5 days</td>
</tr>
</tbody>
</table>

5. NON-SLIP SURFACES
Belzona® 5811 will solidify to a smooth, hard finish. As such for pedestrian traffic areas, it is strongly recommended that Belzona® Grip Systems Aggregate be broadcast into the Belzona® 5811 immediately after application. The choice and amount of Aggregate will vary with the degree of non-slip desired.

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

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