Belzona 5811

(IMMERSION GRADE)

BELZONA®
Repair • Protect • Improve

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.

SALT CONTAMINATED SURFACES
The soluble salt contamination of the prepared substrate, immediately prior to application, shall be less than 30mg/m² (3µg/cm²).

Metal surfaces that have been immersed for any periods in salt solutions e.g. sea water, should be blasted to the required standard, left for 24 hours to allow the ingrained salts to sweat to the surface, then washed prior to a further brush blast to remove these. This process may need to be repeated several times to ensure complete removal of the salts. Salt removal aids are commercially available that will assist and speed salt removal. Contact Belzona for best recommendation.

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.

Temperature	50°F (10°C)	77°F (20°C)	86°F (30°C)
Use all material within	3 hours	2 hours	1¼ hours

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

3. APPLYING BELZONA® 5811

FOR BEST RESULTS
Do not apply when:
(i) The temperature is below 50°F (10°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) **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 6 - 8 hours at 68°F (20°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)**
	DO NOT THIN
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

Recommended number of coats	2
Target thickness 1st coat	10 mils (250 microns)
Target thickness 2nd coat	10 mils (250 microns)
Minimum total DFT	16 mils (400 microns)
Maximum total DFT	Only limited by sag resistance
Practical coverage rate 1st coat	36.5 sq.ft/litre (3.4 m²/litre)
Practical coverage rate 2nd coat	36.5 sq.ft/litre (3.4 m²/litre)
Theoretical coverage rate to achieve minimum recommended system thickness	27 sq.ft/litre (2.5 m²/litre)

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
Spark testing can be carried out on suitable substrates to confirm continuity. A DC voltage of 2,000 volts is recommended to confirm that minimum coating thickness of 16 mils (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.

Temperature	Light loading	Full mechanical/ thermal loading or water immersion	Chemical contact
50°F/10°C	48 hours	14 days	21 days
68°F/20°C	24 hours	5 days	7 days
86°F/30°C	12 hours	2 days	5 days

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 Material Safety Data Sheets.

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Q 09335
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