

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.

SALT CONTAMINATED SURFACES

The soluble salt contamination of the prepared substrate, immediately prior to application, shall be less than 30 mg/m² (3 µg/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)	68°F (20°C)	86°F (30°C)
Use all material within	2 ½ hours	1¾ hours	1 hour

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

FOR BEST RESULTS

Do not apply when:

- (i) The temperature is below 45°F (7°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 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.

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	DO NOT THIN 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 1 st coat	10 mils (250 microns)
Target thickness 2 nd coat	10 mils (250 microns)
Minimum total DFT	16 mils (400 microns)
Maximum total DFT	Only limited by sag resistance
Theoretical coverage rate 1 st coat	42 ft ² /litre (3.9 m ² /litre)
Theoretical coverage rate 2 nd coat	42 ft ² /litre (3.9 m ² /litre)
Theoretical coverage rate to achieve minimum recommended system thickness	27 ft ² /litre (2.5 m ² /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

- Immediately after application of each unit, visually inspect for pinholes and misses. Where detected, these should be immediately brushed out.
- 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.
- Spark testing in accordance with NACE SP0274 can be carried out to confirm coating continuity. A voltage of 5.0kV 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.

Temperature	Light loading	Full mechanical/thermal loading or water immersion	Chemical contact
50°F/10°C	36 hours	8 days	12 days
68°F/20°C	18 hours	5 days	7 days
86°F/30°C	9 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 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.

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