



BELZONA® 1591

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

METALLIC SURFACES - APPLY ONLY AFTER BLAST CLEANING

- Brush away any loose contamination and remove dirt, oil, grease, etc., with **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 Sa2½ SIS 05 5900
- After blasting, metal surfaces should be coated before any oxidation of the surface takes place.

NOTE: 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.

2. COMBINING THE REACTIVE COMPONENTS

- Ensure material is at a temperature of 20-30°C (68-85°F) to aid mixing and application.
- Transfer approximately a quarter of the contents of the **Belzona® 1591** Solidifier can to the **Belzona® 1591** Base unit.
- Mix until a uniform consistency is achieved.
- Add the remainder of the Solidifier and mix thoroughly to a uniform streak-free material.

NOTES:

1. APPLICATION TEMPERATURE

Belzona® 1591 should not be applied at temperatures below 65°F (18°C).

2. WORKING LIFE

From the commencement of mixing, **Belzona® 1591** must be used within the times shown:

Temperature	65°F (18°C)	75°F (24°C)	85°F (30°C)	105°F (40°C)
Use all material within	55 mins	40 mins	25 mins	12 mins

3. VOLUME CAPACITY OF MIXED BELZONA® 1591

33.1 cu.in. (543 cm³) per kg.

3. APPLYING BELZONA® 1591

FOR BEST RESULTS

Do not apply when:-

- The temperature is below 65°F (18°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® 1591** directly on to the prepared surface with a stiff bristled brush or with the plastic applicator provided at a thickness of 32 - 40 mils (800 - 1000 microns). To achieve the correct film thickness a practical coverage rate of 5.8 sq.ft. (0.54 m²) per kilogram unit should be obtained.

Ensure maximum thickness of 48 mil (1200 micron) is not exceeded.

TO ACHIEVE A UNIFORM COATING

- Apply the coating in one operation without interruption.
- In the area being treated by one unit of material, first "stripe coat" detail areas such as brackets, edges, corners and welds. Use a brush or applicator to initially wet out the substrate before building up to the full coating thickness over the complete area designated for that unit of material.

- c) Use a wet film thickness gauge to regularly check that the correct film thickness is being achieved.
- d) Finish application with a brush to obtain uniform coverage.
- e) Ensure adequate lighting is available to prevent misses.

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 has hardened, carry out a thorough visual inspection to confirm freedom from pinholes and misses, and to identify any possible mechanical damage.
- c) Where wet sponge testing is being used as an aid to confirm continuity of the coating, care should be taken to ensure that the surface is thoroughly wetted out by repeated passage of the sponge tester over the surface. The addition of a wetting agent such as detergent to the water used on the sponge will also assist.
- d) Spark testing can be carried out to confirm coating continuity. A DC voltage of 3,500 volts is recommended to confirm that minimum coating thickness of 32 mil (800 microns) has been achieved.

REPAIRS

Any misses, pinholes or mechanical damage found in the coating should be repaired by brush blasting or abrading the surface to produce a frosted appearance prior to cleaning the surface and application of further material as detailed above.

CLEANING

Mixing tools should be **cleaned immediately after use** with **Belzona® 9111** or any other effective solvent e.g. MEK. Brushes, injection guns, spray equipment and 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

Either allow to cure for at least 24 hours above 18°C before putting into service. The system is designed to post cure in service.

This procedure is suitable for applications where operating temperature will be achieved gradually.

Or alternatively, allow the coating to harden at ambient temperature as above. Post cure using wet heat (steam) for at least 4 hours at the operating temperature of the equipment or for at least 6 hours at 120°C.

This procedure should be adopted for any application where immediate exposure to a hot aggressive environment will occur.

NOTE:

Surface temperature should be above 65°F (18°C) throughout the curing period.

HEALTH & SAFETY INFORMATION

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

All descriptions are based on the results of long term tests carried out in our laboratories and are believed to be true and accurate. No condition or warranty is given covering the results from the use of our products in any particular case, whether the purpose is disclosed or not, and we cannot accept liability if the desired results are not obtained.

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Belzona® 1591 - Instructions For Use - (Page 2)

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