Belzona 1392

FN10035 **(CERAMIC HT2)**

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 20mg/m² (2µg/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.

PIT FILLING

All welds should be prepared to NACE SP0178 Grade C or better. Deep pitting and rough welds should be smoothed out with **Belzona® 1511** mixed, applied and overcoated in accordance with the relevant IFU.

2. COMBINING THE REACTIVE COMPONENTS

a) Transfer approximately a quarter of the contents of the **Belzona® 1392** Solidifier can to the **Belzona® 1392** Base unit.
b) Mix until a uniform consistency is achieved.
c) Add the remainder of the Solidifier and mix thoroughly to a uniform streak-free material.

NOTES:

1. APPLICATION TEMPERATURE

Belzona® 1392 should NOT be applied at temperatures below 59°F (15°C).

2. WORKING LIFE

From the commencement of mixing, **Belzona® 1392** must be used within the times shown below.

Temperature	59°F (15°C)	68°F (20°C)	85°F (30°C)	104°F (40°C)
Use all material within	45 mins.	35 mins.	20 mins.	12 mins

3. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 1392** use:
20 parts Base to 1 part Solidifier by weight.

4. VOLUME CAPACITY OF MIXED BELZONA® 1392

26.8 cu. In. (439 cm³) per kg.

3. APPLYING BELZONA® 1392

FOR BEST RESULTS
Do not apply when:

i) The temperature is below 59°F (15°C), over 104°F (40°C) or the relative humidity is above 85%.
ii) The substrate temperature is less than 5°F (3°C) above dewpoint.
iii) Rain, snow, fog or mist is present.
iv) There is moisture on the metal surface or is likely to be deposited by subsequent condensation.
v) The working environment is likely to be contaminated by oil/grease from adjacent equipment or smoke from kerosene heaters or tobacco smoking.

COVERAGE RATES

Recommended number of coats	2
Target thickness 1st coat	18 mils (450 microns)
Target thickness 2nd coat	18 mils (450 microns)
Minimum total DFT	24 mils (600 microns)
Maximum total DFT	Only limited by sag resistance
Theoretical coverage rate 1st coat	10.4 sq.ft (0.97 m²)/kg
Theoretical coverage rate 2nd coat	10.4 sq.ft (0.97 m²)/kg
Theoretical coverage rate to achieve minimum recommended system thickness	7.9 sq.ft. (0.73 m²)/kg

PRACTICAL COVERAGE RATES

Appropriate loss factors must be applied to the above coverage rates. In practice, many factors influence the actual coverage rate achieved. On rough surfaces such as pitted steel the practical coverage rate will be reduced. Application at low temperatures will also reduce practical coverage rates further.

APPLICATION

a) Apply the **Belzona® 1392** directly on to the prepared surface with a stiff bristled brush or with the plastic applicator provided.
b) Before carrying out repairs or applying a second coat, wash the surface of the **Belzona® 1392** with a warm detergent solution to remove any amine bloom that has formed. Rinse with clean water and allow to dry.
c) Grit blast to create a frosted surface free from any gloss with a target profile of 1.5 mils (40 microns). Remove debris and degrease with **Belzona® 9111** or any other effective cleaner which does not leave a residue e.g. MEK.
d) Apply a second coat of **Belzona® 1392** observing the recommended film thickness and coverage rates stated above.

NOTE:

Belzona® 1392 may be applied as a single coat where surface area is small and level and where accurate control of the coating thickness can be maintained. Target coverage should in this case be 5.2 sq.ft. (0.485 m²) /kg to achieve a target thickness of 36 mils (900 microns).

COLOUR
In service, the colour of the applied product may change.

INSPECTION
NOTE
Belzona® 1392 contains ferro-magnetic fillers, therefore, direct measurement of DFT with electromagnetic gauges cannot be carried out. As product is 100% solids, WFT gauge readings taken during application are same as DFT.

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) 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. The addition of a wetting agent such as detergent to the water used on the sponge will also assist. **Under no circumstances should high voltage spark testing be used.**

REPAIRS
Any misses, pinholes or mechanical damage found in the coating should be washed with a warm detergent solution to remove any amine bloom that has formed. Rinse with clean water and allow to dry before grit blasting or abrading the surface to produce a frosted appearance with a target profile of 40 microns and free of any gloss prior to 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. Methyl ethyl ketone (MEK). Application tools should be cleaned using a suitable solvent such as **Belzona® 9121,** MEK, acetone or cellulose thinners.

4. COMPLETION OF THE MOLECULAR REACTION

The coating should be allowed to cure as follows:

Ambient temperature	Time until inspection	Time until full service	Time until post-cure (if required)	
			Dry	Wet
68°F (20°C)	12 hrs	96 hrs	12 hrs	28 hrs
86°F (30°C)	5 hrs	18 hrs	5 hrs	8 hrs
104°F (40°C)	3 hrs	10 hrs	3 hrs	5 hrs

Coated equipment can be transported after the material has achieved the ‘inspection’ level of cure.

Post-cure will generally be unnecessary as the coating will cure sufficiently at ambient temperature with full cure achieved in service.

However, post-cure may be desirable to facilitate faster cure and quicker return to service (see below).

4.1 POST-CURE

If post-cure is desirable, the coating should be heated to between 122°F (50°C) and 212°F (100°C) for a minimum of 1 hour.

The coating should be allowed to cure as detailed in the above table prior to a dry (e.g. hot air) or wet (e.g. steam and liquid media) post-cure. Wet post-cure can typically be achieved during return to service, provided that the temperature ramp rate does not exceed 54°F (30°C) per hour.

4.1.1 POST-CURE FOR CHEMICAL CONTACT

Post-cure requirements for optimal chemical resistance will vary depending on service conditions. For general guidance please refer to the Chemical Resistance Chart (CRC). For specific applications please contact your Belzona representative to discuss requirements.

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

Belzona products are manufactured under an ISO 9001 Registered Quality Management System

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