Belzona 1392

(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.

ii) SURFACES ALREADY REBUILT WITH BELZONA® 1111, BELZONA® 1311 OR BELZONA® 1511

a) Allow the **Belzona® 1111** or **Belzona® 1311** to cure for at least 2 hours and **Belzona® 1511** to cure for at least 6 hours.
b) Carefully flash blast using a moderate blast pressure and fine grit to produce a frosted appearance 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.

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.	25 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	32 mils (800 microns)
Maximum total DFT	Only limited by sag resistance
Practical coverage rate 1st coat	9.4 sq.ft (0.87 m²)/kg
Practical coverage rate 2nd coat	9.4 sq.ft (0.87 m²)/kg
Theoretical coverage rate to achieve minimum recommended system thickness	5.9 sq.ft. (0.55 m²)/kg

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

a) Apply the **Belzona® 1392** directly on to the prepared surface with a stiff bristled brush or with the plastic applicator provided.

b) As soon as possible after application of the first coat, apply a further coat of **Belzona® 1392** as in (a) above.

OVERCOAT TIMES
The **Belzona® 1392** can be overcoated as soon as it is firm enough to do so. At 68°F (20°C) it will be possible to walk on the coating after 6-8 hours, but if access can be gained without walking on the first coat, overcoating can take place after as little as 3-4 hours. The maximum overcoat time is dependent on both temperature and humidity as set out below. After this time the surface must be grit blasted to achieve a frosted appearance with a target profile of 40 microns.

Temperature	<50% Relative Humidity	>50% Relative Humidity
Up to 68°F(20°C)	24 hours	24 hours
Up to 85°F(30°C)	24 hours	18 hours
Up to 104°F(40°C)	12 hours	8 hours

DIFFERENTIATION BETWEEN LAYERS
Belzona® 1392 is available in red and gray, to facilitate application and to prevent misses. In service the colour of the applied product may change.

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. Under no circumstances should high voltage spark testing be used.

REPAIRS
Any misses, pinholes or mechanical damage found in the coating should be repaired by 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). Brushes, injection guns, spray equipment and any 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

Allow **Belzona® 1392** to solidify as below before subjecting it to the conditions indicated.

Substrate temperature	Light loading	Cold water immersion	Hot water immersion*
59°F(15°C)	16 hours	4 days	7 days
68°F(20°C)	8 hours	2½ days	5 days
85°F(30°C)	4 hours	2 days	3 days
104°F(40°C)	3 hours	1½ days	2 days

* In certain instances it may be advantageous to post cure material prior to putting into service where chemical contact is involved. Refer to Belzona® TKL for specific recommendations.

NOTE:
Surface temperature should be above 59°F(15°C) throughout the curing period.

5. FINAL SOLIDIFICATION OF BELZONA® 1392

When time is important and equipment usage is pressing, then by installing forced air heaters and taking steps to contain this heat around the equipment being reclaimed, final solidification time can be as little as 24 hours. Due allowance must be made for "warming up".

If there is any doubt regarding final solidification then
BE SAFE - MAKE MORE TIME.

6. POST CURING TO OBTAIN OPTIMUM HEAT RESISTANCE

Although the heat and chemical resistance of **Belzona® 1392** cured at normal ambient temperatures is good, this can be improved dramatically by elevating the cure temperature.

This can be done prior to putting coated equipment into service by first allowing the coating to harden at ambient temperature for 24 hours prior to force curing at 212°F (100°C). This procedure should be adopted for any application when immediate exposure to a hot aggressive environment will occur.

Alternatively, the coating can be allowed to harden at ambient temperature for the time indicated in the "hot water immersion" column of the "Completion of the molecular reaction" table (see Section 4) and then put into service when any heat involved will advance the cure and enhance the heat resistance. This procedure is suitable for application where operating temperatures will be achieved gradually (<85°F (30°C)/hour).

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

ISO 9001:2008
Q 09335
ISO 14001:2004
EMS 509612
Manufactured under an ISO 9000 Registered Quality Management System

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