Belzona 1321

(CERAMIC S-METAL)

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

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. The soluble salt contamination of the prepared substrate, immediately prior to application, should be less than 30mgs/m².

ii) SURFACES ALREADY REBUILT WITH BELZONA® 1311 (CERAMIC R-METAL)

a) If overcoating takes place within 2 hours, no further surface preparation is required.

b) After this maximum overcoating time has elapsed roughen the **Belzona® 1311** preferably by brush blasting before applying **Belzona® 1321.**

2. COMBINING THE REACTIVE COMPONENTS

Transfer the entire contents of the Solidifier can into the Base module. Mix thoroughly together to achieve a uniform material free of any streakiness.

1. MIXING AT LOW TEMPERATURES

To ease mixing when the material temperature is below 41°F (5°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® 1321** must be used within the times shown below.

Temperature	41°F (5°C)	59°F (15°C)	77°F (25°C)	86°F (30°C)
Use all material within	2 hours	1 hour	30 min.	20 min.

3. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 1321** use:
4 parts Base to 1 part Solidifier by volume
11 parts Base to 1 part Solidifier by weight

4. VOLUME CAPACITY OF MIXED BELZONA® 1321

25.7 cu.in. (425 cm³) per kg.

3. APPLYING BELZONA® 1321

FOR BEST RESULTS
Do not apply when:

i) The temperature is below 41°F (5°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) Apply the **Belzona® 1321** directly on to the prepared surface with a stiff bristled brush or with the plastic applicator provided.

To achieve the correct film thickness of 10 - 15 mils (250 - 375 microns), a practical coverage rate of 11 sq. ft (1 m²) per kg unit should be obtained.

b) As soon as possible after application of the first coat, apply a further coat of **Belzona® 1321** as in (a) above. This time will be 1 - 2 hours at 68°F (20°C). The first coat must not be left longer than 6 hours before overcoating, irrespective of temperature. Should this occur, then the surface should be brush blasted or abraded before commencing application.

COLOR
Belzona® 1321 is available in blue and gray 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.

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® 1321** to solidify as below subjecting it to the conditions indicated.

Temper-ature	Movement or use involving no loading	Machining and/or light loading	Full mechanical/ thermal loading or water immersion	Chemical contact
41°F/ 5°C	12 hours	18 hours	7 days	10 days
50°F/10°C	8 hours	12 hours	3 days	5 days
59°F/15°C	5½ hours	9 hours	2 days	3 days
68°F/20°C	4 hours	6 hours	1½ days	2 days
77°F/25°C	3½ hours	4½ hours	24 hours	1½ days
86°F/30°C	2 hours	3 hours	18 hours	1 day

5. MACHINING

Belzona® 1321 is extremely difficult to machine down by turning, using conventional or carbide tipped tools. However, it can be machined using diamond tipped tool.

Alternatively it can be machined by grinding, but this should be carried out as soon as possible after the solidified times shown.

6. FINAL SOLIDIFICATION OF BELZONA® 1321

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".

A final physical check can be made as precaution by taking a metal object and tapping the surface of the **Belzona® 1321.** Any partially solidified or soft spots will give a dull tone in relation to the metallic tone offered by solidified **Belzona® 1321.**

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

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

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