IFU INSTRUCTIONS FOR USE

BELZONA® 1311

FN10230 (CERAMIC R-METAL)

1. SURFACE PREPARATION

1.1 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 $2^1/_2$ very thorough blast cleaning
American Standard near white finish SSPC SP 10
Swedish Standard Sa $2^1/_2$ SIS 05 5900

d) After blasting, metal surfaces should be coated before any oxidation of the surface takes place.

1.2 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 20 mgs/m^2.

1.3 AREAS WHERE BELZONA 1311 SHOULD NOT ADHERE

Brush on a thin layer of **Belzona 9411** (Release Agent) and allow it to dry for 15-20 minutes before proceeding to step 2.

2. APPLICATION PROCEDURE

2.1 MIXING

Transfer the entire contents of the Base and Solidifier modules on to the Belzona Working Surface.

Mix thoroughly together to achieve a uniform material free of any streakiness.

For mixing small quantities of **Belzona 1311** use:
3 parts Base to 1 part Solidifier by volume
5 parts Base to 1 part Solidifier by weight

2.2 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).

2.3 WORKING LIFE

From the commencement of mixing, **Belzona 1311** must be used within the times shown below:

Temperature	41 °F (5 °C)	59 °F (15 °C)	77 °F (25 °C)
Use material within	35 min.	25 min.	15 min.

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 are 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.

2.4 VOLUME CAPACITY OF MIXED BELZONA 1311

24.4 in^3/kg (400 cm^3/kg).

2.5 HAND APPLICATION

a) Apply the **Belzona 1311** directly on to the prepared surface with the plastic applicator or spatula provided.
b) Press down firmly to fill all cracks, remove entrapped air, and ensure maximum contact with the surface.
c) Contour the **Belzona 1311** to the correct profile with the plastic applicator.

2.6 OVERCOAT TIME

Whenever possible the **Belzona 1311** should be applied in a single layer to achieve the required thickness.

Best recommendation when overcoating with suitable Belzona products is to allow the **Belzona 1311** to reach the 'Machining and/or light loading' level of cure and then the surface must be roughened by abrading or grit blasting to achieve a frosted appearance with a minimum surface profile of 40 microns before overcoating.

Alternatively, for service not involving immersion with a cold-wall*, **Belzona 1311** can be directly overcoated within 90 minutes at 50°F (10°C), within 60 minutes at 68°F (20°C), or within 30 minutes at 86°F (30°C).

*Please contact Belzona Technical Service directly for clarification, if necessary.

3. CURING AND CLEANING

3.1 CURING

Allow **Belzona 1311** to solidify as below subjecting it to the conditions indicated.

Ambient temperature	Curing Time			
	Movement or use involving no loading or immersion	Machining and/or light loading	Full mechanical or thermal loading	Immersion in chemicals
41 °F (5 °C)	4 hours	6 hours	4 days	5 days
50 °F (10 °C)	3 hours	4 hours	2 days	4 days
59 °F (15 °C)	$2^1/_2$ hours	3 hours	$1^1/_2$ days	3 days
68 °F (20 °C)	$1^3/_4$ hours	2 hours	1 day	2 days
77 °F (25 °C)	1 hour	$1^1/_2$ hours	20 hours	$1^1/_2$ days
86 °F (30 °C)	$^3/_4$ hour	1 hour	16 hours	1 day

These times are for a thickness of approximately 6 mm (0.25 in.); they will be reduced for thicker sections and extended for thinner sections.

3.2 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. MACHINING OF SOLIDIFIED BELZONA 1311

Belzona 1311 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.

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.

BELZONA®
Repair • Protect • Improve