Belzona 1111

(SUPER METAL)

BELZONA®
Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO CLEAN, FIRM, DRY AND WELL ROUGHENED 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). Use a flame to sweat out oil from deeply impregnated surfaces.

b) Roughen surfaces by blast cleaning, deeply scoring or grinding.

c) Stabilize cracks by drilling the extremities. Long cracks should be drilled, tapped and bolted every 3-4 inches (77-103 mm).

d) Vee-out all cracks using a rotary file.

e) Finally degrease again. Use clean rags to avoid spreading contamination.

WHERE BELZONA® 1111 SHOULD NOT ADHERE
Brush on a thin layer of **Belzona® 9411** (Release Agent) and allow to dry for 15-20 minutes before proceeding to step 2.

2. COMBINING THE REACTIVE COMPONENTS

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.

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® 1111** must be used within the times shown below.

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

3. MIXING SMALL QUANTITIES
For mixing small quantities of **Belzona® 1111** use:
3 parts Base to 1 part Solidifier by volume
5 parts Base to 1 part Solidifier by weight

4. VOLUME CAPACITY OF MIXED BELZONA® 1111
24.3 cu.in. (398 cm³) per kg.

3. APPLYING BELZONA® 1111

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® 1111** 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) Over cracks, gaps and holes, stipple in **Belzona® 9341** (Reinforcement Tape).

d) Contour the **Belzona® 1111** to the correct profile with the plastic applicator or alternatively allow to cure and then machine down.

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® 1111** to solidify as below subjecting it to the conditions indicated.

Temper-ature	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	2¼ hours	3 hours	1½ days	3 days
68°F/20°C	1¾ hours	2 hours	1 day	2 days
77°F/25°C	1 hour	1½ hours	20 hours	1½ days
86°F/30°C	¾ hour	1 hour	16 hours	1 day

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

5. EFFECTING THE SECONDARY MOLECULAR REACTION

The mechanical properties, heat resistance and chemical resistance of **Belzona® 1111** will be improved by post curing.

After 2 - 4 hours of applying **Belzona® 1111**, post cure the material using forced air heaters, heat lamps, etc. for a minimum of 4 hours at 140-212°F (60-100°C).

Generally, the higher the post cure temperature adopted, the higher the properties attained.

6. APPLICATION OF A FURTHER LAYER OF BELZONA® 1111

Where this is required it should be applied as soon as possible after the first layer and certainly while the first layer is still soft (less than 2 hours at 68°F (20°C).

If the above overcoating time is exceeded the surface of **Belzona® 1111** must be roughened by abrading or flash blasting before applying further **Belzona® 1111.**

HEALTH & SAFETY INFORMATION

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

The technical data contained herein is based on the results of long term tests carried out in our laboratories and to the best of our knowledge is true and accurate on the date of publication. It is however subject to change without prior notice and the user should contact Belzona to verify the technical data is correct before specifying or ordering. No guarantee of accuracy is given or implied. We assume no responsibility for rates of coverage, performance or injury resulting from use. Liability, if any, is limited to the replacement of products. No other warranty or guarantee of any kind is made by Belzona, express or implied, whether statutory, by operation of law or otherwise, including merchantability or fitness for a particular purpose.

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