Belzona 4301

(MAGMA CR1 HI-BUILD)

BELZONA®
Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

APPLY ONLY TO CLEAN, FIRM, DRY AND WELL ROUGHENED SURFACES.

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).

(i) Concrete Surfaces
Mechanically scarify or grit blast the surface to remove existing coatings, laitence and any loose concrete, leaving a coarse profile with the aggregate exposed. Vacuum up any loose dust and proceed to Section 1 "Conditioning".

NOTE:
All porous surfaces such as concrete require to be Conditioned with **Belzona® 4911** (Magma TX Conditioner).

(ii) Metal Surfaces

a) 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.

b) 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

c) After blasting, metal surfaces should be coated before any oxidation of the surface takes place. Proceed to Section 2 "Combining the Reactive Components".

(iii) Glass Surfaces
Frost glass surfaces by either grit blasting or abrading. Brush over the surface again and degrease with **Belzona® 9111** or a suitable alternative. Now proceed to Section 2 "Combining the Reactive Components".

Conditioning
Add the entire contents of **Belzona® 4911** (Magma TX Conditioner) Solidifier to **Belzona® 4911** Base and stir thoroughly until completely mixed. Immediately brush the Conditioner onto the surface to be treated with **Belzona® 4301** not exceeding an area of 12 sq.ft. (1.1 m²) per unit. Brush the **Belzona® 4911** well into the surface using a stiff bristled brush.

Conditioning and overcoating must be completed within the following times:

Temperature	Usable life after mixing	Minimum overcoating time	Maximum overcoating time*
59°F/15°C	55 minutes	Application can commence as soon as conditioning has been completed	6 hours
68°F/20°C	45 minutes		6 hours
77°F/25°C	32 minutes		6 hours
86°F/30°C	20 minutes		6 hours

* If the maximum overcoating time for the **Belzona® 4911** is exceeded, then the cured surface should be abraded prior to the **Belzona® 4301** being applied.

WHERE BELZONA® 4301 SHOULD NOT ADHERE
Brush on a thin layer of **Belzona® 9411** (Release Agent) and allow to dry for 15 - 20 minutes before proceeding.

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.

NOTES:

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® 4301** must be used within the times shown below.

Temperature	59°F (15°C)	77°F (25°C)	86°F (30°C)
Use all material within	35 min	25 min	15 min

3. MIXING SMALL QUANTITIES
For mixing small quantities of **Belzona® 4301** use:
3 parts Base to 1 part Solidifier by volume
3.2 parts Base to 1 part Solidifier by weight

4. VOLUME CAPACITY OF MIXED BELZONA® 4301
44 cu.in. (720 cm³) per kg.

Publication No. 151-03-12

3. APPLYING BELZONA® 4301

FOR BEST RESULTS
Do not apply when:
(i) The temperature is below 59°F (15°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) **Belzona® 4301** can be applied when the temperature of the material, substrate and environment is anywhere between 59°F (15°C) and 86°F (30°C). Below 59°F (15°C), the material will be too stiff for easy mixing and application. Above 86°F (30°C), the material may be somewhat fluid and will have a short usable life.

Reference must also be made to the cure times. Below 59°F (15°C), the rate of cure is drastically reduced and some external heat source must be used to effect full cure.

b) Apply the **Belzona® 4301** directly on to the prepared surface with the plastic applicator provided.

c) Press down firmly to remove entrapped air and to ensure maximum contact with the surface.

d) Contour the **Belzona® 4301** to the correct profile with the plastic applicator.

e) If required, overcoat with **Belzona® 4311** (Magma CR1) as soon as it is possible to do so without disturbing the **Belzona® 4301**.

If overcoating takes place within 4 hours, no further surface preparation is required. After this maximum overcoating time has elapsed, roughen the **Belzona® 4301** before applying the **Belzona® 4311**.

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® 4301** to solidify as below, before subjecting it to the conditions indicated:

Temperature	Movement	Light loading	Full chemical resistance
59°F/15°C	16 hours	48 hours	14 days
68°F/20°C	12 hours	36 hours	7 days
77°F/25°C	8 hours	24 hours	6 days
86°F/30°C	6 hours	20 hours	5 days

NOTE: Below 59°F (15°C) solidification times will be significantly extended and the resultant chemical resistance capability of the **Belzona® 4301** will be reduced.

5. FORCE CURE FOR OPTIMUM CHEMICAL RESISTANCE

Allow **Belzona® 4301** or the combined **Belzona® 4301/4311** system to solidify for a minimum of 12 hours at 68°F (20°C), then force cure the product at 180°F (80°C) for 4 hours to attain maximum chemical resistance properties.

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.

Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

Copyright © 2012 Belzona International Limited. Belzona® is a registered trademark.

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

BELZONA®
Repair • Protect • Improve

Printed in England Publication No. 151-03-12