Belzona 2141

FN10051 **(ACR-FLUID ELASTOMER)**

BELZONA® Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

1.1 METALLIC SURFACES

a) Remove all loose surface contamination and degrease with **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 20mgs/m².

1.2 FLEXIBLE SURFACES (e.g. rubbers)

NOTE: Belzona® 9111 can draw processing oils and waxes to the surface of some rubbers, particularly when new, which then impairs adhesion of **Belzona® 2141.**

Test for this on a small area. If, on rubbing with a rag moistened with **Belzona® 9111,** a greasy film appears, the surface should not be degreased, but simply abraded.

Undercut fine edges with a sharp knife and scuff the surface with a rotary wire brush or suitable roughing tool.

1.3 CONCRETE SURFACES.

Remove all paint, tar and any other coatings.

Any surface to which **Belzona® 2141** is to be applied must be clean, firm and dry. Wash old concrete down with detergent to remove oil, grease and dust. Use clean water to wash away the detergent.

Allow new concrete to cure for a minimum of 28 days or until the moisture content is below 6% using a Protimeter.

Blast clean, or mechanically scarify the surface to remove all loose material and surface laitance.

1.4 GRP & EXISTING BELZONA SURFACES.

a) When using **Belzona® 2141** to coat GRP surfaces, the surface must be abraded using mechanical sanding equipment, followed by conditioning as below.

b) When using **Belzona® 2141** to overcoat a surface which has been treated with **Belzona® 1111** or **Belzona® 1311**, the Belzona product must first be allowed to fully cure and the surface abraded followed by conditioning as below.

c) Application of **Belzona® 2141** over **Belzona® 1221** can be carried out up to 4 hours after the application of **Belzona® 1221** without the need of any surface treatment other than removal of contamination. When overcoating **Belzona® 1221** after this time, the surface should be abraded, followed by conditioning as below.

d) When applying the **Belzona® 2141** system over a Belzona coating such as **Belzona® 1341** (not NSF Grade) or **Belzona® 5811** the coating may be overcoated by **Belzona® 2941** once hard and within its overcoat time without further surface preparation. Once beyond the coatings overcoat time it must be flash blasted to produce a minimum 25 micron profile before conditioning.

CONDITIONING

All surfaces must be Conditioned before applying **Belzona® 2141**. Please see table below for guidance on the recommended Conditioner based on the substrate type and service conditions:

Substrate Type & Service Conditions	Possible Conditioner Choice		
	Belzona® 2911	**Belzona® 2921**	**Belzona® 2941**
Metallic surfaces in wet/immersed environments	×	×	✓
Metallic surfaces in dry environments	✓	✓	✓
Flexible surfaces e.g., Rubber in wet/immersed environments	✓	✓	×
Flexible surfaces e.g., Rubber in dry environments	✓	✓	×
Concrete surfaces in wet/immersed environments	×	×	✓
Concrete surfaces in dry environments	✓	✓	✓
GRP and other Belzona coatings in wet/immersed environments	✓	✓	✓✓
GRP and other Belzona coatings in dry environments	✓	✓	✓

× - Not suitable for use
✓ - Suitable for use
✓✓ - Best recommendation

Apply a thin, even coat of **Belzona® Conditioner** onto the surface. A brush should be used as a stipple.

Practical coverage rate :

Belzona® 2941 19.8 sq.ft. (1.83 sq.m) per unit, on metallic substrates.
Belzona® 2911 and **Belzona® 2921,** 13 sq.ft. (1.25 m²) per unit, on smooth substrates. On well roughened rubber substrates this could be reduced by as much as 50%.

The **Belzona® Conditioner** must be completely touch dry before overcoating with **Belzona® 2141.** This will depend on the prevailing temperature, relative humidity, ventilation and substrate. At 68°F (20°C) and 50% relative humidity, the touch dry state will be achieved after the times given when applied to a steel surface.

Conditioner	Touch Dry	Max. Overcoating
Belzona® 2911	45 mins	24 hours
Belzona® 2921	75 mins	
Belzona® 2941	8 hours	

NOTE:

i) Relative humidity should be between 30 & 90% and surface temperature at least 5°F (3°C) above dew point during the application and drying of the Conditioner.

ii) At lower temperatures and humidity, a longer drying time is required.

iii) These times may be extended when applied to rubber substrates.

iv) If in doubt leave Conditioner longer to dry but under no circumstances should maximum overcoat time be exceeded.

SHELF LIFE
Belzona® 2941 & Belzona® 2921 have a 24 month shelf life and **Belzona® 2911** has an 18 month shelf life from date of manufacture when stored at 41 - 77°F (5 - 25°C) and must be used before the stated "use-by" date.

WHERE BELZONA® 2141 SHOULD NOT ADHERE
Brush on **Belzona® 9411** (Release Agent) and allow to dry for 15 - 20 minutes before proceeding to step 2.

2. COMBINING THE REACTIVE COMPONENTS

Both Base and Solidifier components must remain sealed until the application stage.

a) Transfer the entire contents of the Base into the Solidifier container.

b) Immediately mix together for at least 3 minutes and use all material within the times shown in the table below:-

Temperature	59°F (15°C)	77°F (25°C)	86°F (30°C)
Use all material within	25 min	13 min	10 min

VOLUME CAPACITY OF MIXED BELZONA® 2141
682 cm³ (41.6 cu.in.) per 750g unit.

3. APPLYING BELZONA® 2141

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 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.

Where application conditions permit, **Belzona® 2141** can be applied as a single coat but where it is not possible to achieve a uniform coating, the material should be applied as a two coat system.

Apply the **Belzona® 2141** to the conditioned surface with a stiff bristled brush or the plastic applicator provided to achieve the required thickness.

Apply a second coat of **Belzona® 2141** as above following the overcoating instructions in Section 6.

Recommended number of coats	**2**	**1**
Target thickness 1st coat	20 mils (500 microns)	40 mils (1mm)
Target thickness 2nd coat	20 mils (500 microns)	N/A
Minimum total DFT	32 mils (800 microns)	32 mils (800 microns)
Maximum DFT per coat	Only limited by sag resistance	
Theoretical coverage rate 1st coat	14.6sq.ft. (1.36m²)/ 750g unit	7.3sq.ft. (0.68m²)/ 750g unit
Theoretical coverage rate 2nd coat	14.6sq.ft. (1.36m²)/ 750g unit	N/A
Recommended number of coats	**2**	**1**
Theoretical coverage rate to achieve minimum recommended system thickness	9.1sq.ft. (0.85m²)/ 750g unit	9.1sq.ft. (0.85m²)/ 750g unit

CLEANING
Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. MEK. Brushes, injection guns and 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® 2141** to solidify as below before subjecting it to the conditions indicated:

	Movement or use involving no loading or immersion	Full mechanical or thermal loading	Immersion
41°F/ 5°C	12 hours	5 days	10 days
50°F/10°C	8 hours	4 days	7 days
59°F/15°C	6 hours	3 days	6 days
68°F/20°C	4 hours	2 days	5 days
77°F/25°C	3 hours	2 days	4 days
86°F/30°C	2 hours	2 days	3 days

5. OVERCOATING

Application of subsequent layers of **Belzona® 2141** can be carried out typically between a minimum of 2 hours and maximum of 3 days after the previous application without need of any surface treatment other than removal of contamination. **Belzona® 2100** series products should never be applied "Wet on Wet".

Overcoating of aged **Belzona® 2141** is possible at any time after initial application, provided that the surface preparation techniques for flexible surfaces described in Section 1 are employed.

6. STORAGE & TRANSPORTATION

Store in a dry environment between 41°F (5°C) and 86°F (30°C).

Prolonged storage of **Belzona® 2100** Base and **Belzona® 2141** Solidifier below 50°F (10°C) may result in partial solidification. If this occurs, the material can be restored to its normal form by resealing the container and warming to between 104°F (40°C) and 122°F (50°C) for 3 hours in a well-ventilated, dry area.

HEALTH & SAFETY INFORMATION

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

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