

Belzona 5812DW

FN10184



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

ii) CONCRETE SURFACES

Remove all paint, tar and any other coatings.

Any surface to which **Belzona® 5812DW** 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.

2. COMBINING THE REACTIVE COMPONENTS

Transfer the entire contents of the Solidifier container into the Base container. Mix thoroughly together to achieve a uniform material free of any streakiness and then proceed to Section 3 "Applying **Belzona 5812DW**".

When the repairing and resurfacing of the concrete or stonework substrate is required, **Belzona 9241DW** can be incorporated into **Belzona 5812DW** to obtain an approved system for contact with potable water. **Belzona 9241DW** is a NSF/ANSI 61 certified industrial aggregate supplied by Edgar Minerals, Inc.

Note: It is still required to coat the repair area with **Belzona 5812DW** for the protection of the surfaces operating under immersion conditions.

Due to the bulk size and stiffness of the materials it is essential that a mechanical mixer is used to ensure thorough mixing, as described below:

1. Transfer the mixed **Belzona 5812DW** to the mechanical mixer
2. Immediately, and with the mixer running, slowly add **Belzona 9241DW** into the resin mix according to the mixing ratio below. Mix for 10 minutes and then proceed to Section 4 "Applying **Belzona 5812DW/Belzona 9241DW** Mixture".

NOTES:

1. MIXING AT LOW TEMPERATURES

To ease mixing when the material temperature is below 50°F (10°C), warm the Base and Solidifier modules until the contents attain a temperature of 68-77°F (20-25°C).

2. APPLICATION AT LOW TEMPERATURES

Belzona® 5812DW can be applied down to 41°F (5°C) but the product is easier to apply over large areas when the ambient temperature and the surface to be coated are above 50°F (10°C).

The **Belzona 5812DW/9241DW** mixture can be applied when the temperature is anywhere between 41°F (5°C) and 86°F (30°C). Below 41°F (5°C) the material may be too stiff for easy mixing and application. Below 41°F (5°C) the rate of cure is drastically reduced and some external heat source must then be used to promote the full cure. Above 86°F (30°C) the material may be too "fluid" to enable the required thickness, or build up, to be obtained on vertical surfaces.

3. WORKING LIFE

From the commencement of mixing, **Belzona 5812DW** and **Belzona 5812DW/9241DW** mixture must be used within the times shown below.

Temperature	50°F(10°C)	68°F(20°C)	86°F(30°C)
Use all material within	1 hour	30 minutes	20 minutes

4. MIXING SMALL QUANTITIES

For mixing small quantities of **Belzona® 5812DW**:

3 parts Base : 1 part Solidifier by volume

4.7 parts Base : 1 part Solidifier by weight

For mixing **Belzona 5812DW** with **Belzona 9241DW**:

3 parts Base : 1 part Solidifier : 6.8 parts Aggregate by volume

4.7 parts Base : 1 part Solidifier : 18 parts Aggregate by weight

Belzona 9241DW Aggregate may be added to desired consistency not exceeding the maximum as described above.

3. APPLYING BELZONA® 5812DW

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.

Belzona® 5812DW can be applied as 1 and 2 coat systems.

3.1 APPLICATION AS A 1 COAT SYSTEM

Where application conditions require, **Belzona 5812DW** may be applied as a single coat. Apply **Belzona® 5812DW (Grey/Blue)** directly onto the prepared surface with a short bristled brush or rubber squeegee at the recommended coverage rate.

Application to rough or irregular surfaces may reduce this coverage by 20-25%.

3.2. APPLICATION AS A 2 COAT SYSTEM

Apply the first coat of **Belzona 5812DW (Grey/Blue)** as shown in 3.1 and allow to harden for the minimum overcoat time of 3 hours at 72°F (22°C). Immediately after, proceed to apply the second coat. The first coat must not be left longer than 24 hours before overcoating, irrespective of temperature. Should this occur, then the surface should be brush blasted or abraded before applying the second coat.

Coverage rates

Recommended number of coats	2	1
Target thickness 1 st coat	10 mils (250 microns)	18 mils (450 microns)
Target thickness 2 nd coat	10 mils (250 microns)	N/A
Minimum total DFT	16 mils (400 microns)	16 mils (400 microns)
Maximum total DFT	24 mils (600 microns)	18 mils (450 microns)
Theoretical coverage rate 1 st coat	42 ft ² (3.9 m ²)/liter	23 ft ² (2.1 m ²)/liter
Theoretical coverage rate 2 nd coat	42 ft ² (3.9 m ²)/liter	N/A
Theoretical coverage rate to achieve minimum recommended system thickness	27 ft ² (2.5 m ²)/liter	27 ft ² (2.5 m ²)/liter

PRACTICAL COVERAGE RATE

Appropriate loss factors must be applied to the above coverage rates. In practice, many factors influence the actual coverage rate achieved. On rough surfaces such as pitted steel the practical coverage rate will be reduced. Application at low temperatures will also reduce practical coverage rates further.

SPRAY APPLICATION

On suitable areas, **Belzona® 5812DW** may be applied by using heated airless spray. Typical set up would be 63:1 airless spray unit with either in-line heater or trace heated lines capable of raising the product temperature to 122°F (50°C). Solvent must **NOT** be added. Please contact Belzona directly for more specific information.

4. APPLYING BELZONA 5812DW/9241DW MIXTURE

- a) Apply **Belzona 5812DW** directly onto the prepared surface with a short bristled brush to wet out the surface and act as a bonding agent prior to the application of the **Belzona 5812DW/9241DW** mixture.

The recommended wet film thickness is between 8 to 12 mils (200 to 300 microns).

- b) Apply the **Belzona 5812DW/9241DW** mixture onto the prepared and conditioned surface, initially spreading to a general level using normal screeding techniques and then tamp down firmly with the trowel or float to remove entrapped air, compact the mixture, and ensure maximum contact with the surface.
- c) As soon as the **Belzona 5812DW/9241DW** mixture is firm enough, apply **Belzona 5812DW** as a top coat. Please see the below reference:

Temperature	50°F(10°C)	68°F(20°C)
Overcoat Time	60-90 minutes	30-60 minutes

- d) The maximum overcoat time is 24 hours regardless of temperature. After 24 hours, the surface of **Belzona 5812DW/9241DW** must be abraded before further application.

NOTE:**APPLICATION TO VERTICAL SURFACES**

When applying the **Belzona 5812DW/9241DW** mixture to vertical surfaces, the maximum thickness obtainable without sagging is 0.25 in (0.63 cm). However, a thickness of 0.5 in (1.2 cm) on small areas can be achieved without sagging and, if necessary, a piece of polyethylene can be pressed onto the surface to prevent sagging. The polyethylene can be removed when the product has cured.

APPLICATION ON DAMP OR WET SURFACES

Belzona 5812DW can be applied on damp or wet concrete surfaces and act as bonding agent for **Belzona 5812DW/9241DW** mixture. With 75% humidity, the adhesion will be approximately 90% of that obtained on a dry surface.

VOLUME CAPACITY OF BELZONA 5812DW/9241DW MIXTURE

610 in³ (10000 cm³) per 18kg of **Belzona 9241DW** mixed with 4 liters of **Belzona 5812DW**.

COVERAGE RATE OF BELZONA 5812DW/9241DW MIXTURE

18.0 ft² (1.67 m²) at an average thickness of 0.25 in (6 mm) per 18 kg of **Belzona 9241DW** mixed with 4 liters of **Belzona 5812DW**.

NOTES:**1. CLEANING**

Mixing tools should be cleaned immediately after use with **Belzona® 9111** or any other effective solvent e.g. Methyl ethyl ketone (MEK). Brushes and any other application tools should be cleaned using a suitable solvent such as **Belzona® 9121**, MEK, acetone or cellulose thinners.

2. COLOR

Belzona® 5812DW is available in different colors 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.

5. COMPLETION OF THE MOLECULAR REACTION

Belzona 5812DW and **Belzona 5812DW/9241DW** mixture will solidify under cold, damp conditions down to a temperature of 41°F (5°C). However, solidification time is dependent on ambient temperature, the lower the temperature the longer the solidification time.

Allow the **Belzona 5812DW** and **Belzona 5812DW/9241DW** mixture to solidify as below subjecting it to the indicated conditions.

Temperature	Light loading	Full mechanical/ thermal loading or water immersion
40°F/5°C	16 hours	5 days
50°F/10°C	10 hours	3 days
72°F/22°C	5 hours	2 days
86°F/30°C	3 hours	1 day

NOTES: The cured **Belzona® 5812DW** coating should be washed with clean water and the washings discarded prior to service in potable water. The cure condition approved for potable water use is 72°F (22°C) for 2 days.

HEALTH & SAFETY INFORMATION

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

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