Belzona 5111

(CERAMIC CLADDING)

BELZONA®
Repair • Protect • Improve

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

A. STEEL AND OTHER FERROUS SURFACES

i) **Surface Preparation**
Thoroughly clean steel contaminated by chemicals using a high pressure water wash. Steel contaminated by oil, grease, etc., must first be thoroughly washed down with **Belzona® 9121** (Universal Thinners). Blast clean the steel to be treated with **Belzona® 6111** (Liquid Anode) to ensure electrical contact between the steel and the **Belzona® 6111.**

Blast clean the metal surface to achieve the following minimum standard of cleanliness:
ISO 8501-1 Sa2½ very thorough blast cleaning
American Standard - near white finish SSPC-SP-10
Swedish Standard - Sa2½ SIS 05 5900

The selection of abrasive grit is dependent upon the condition of the steel and recovery conditions. Abrasives can be either metallic or non-metallic and when cleaning to the required standard, a profile depth of 2 - 3 mil (50 - 75 microns) should be obtained.

ii) **Mixing of Belzona® 6111**
Belzona® 6111 is a two component material - Base and Solidifier. Immediately after blast cleaning the steel surface (see Surface Preparation), prepare the **Belzona® 6111** for application by first stirring the Base component to achieve an even consistency. Slowly add the entire contents of the Solidifier tin, stirring all the time until complete mixing is achieved.

iii) **Application of First Coat Belzona® 6111**
(for spray details see overleaf)
Apply with a clean, good quality, short bristled brush, ensuring that all edges, crevices and bolt heads are evenly coated. In order to achieve the required dry film thickness, the average practical coverage rate shown overleaf should not be exceeded.

iv) **Application of Second Coat Belzona® 6111**
This should be carried out after a minimum of 16 hours and no longer than 5 days after application of the first layer. Once again, to achieve the required dry film thickness the average practical coverage rate shown overleaf should not be exceeded.

B. CEMENTITIOUS AND NON-FERROUS METALLIC SURFACES

i) **Surface Preparation**
Ensure that the surface to be treated is CLEAN, FIRM and DRY. Remove lichens, moss, ALL existing paint and crumbling surface materials by stiff brushing and scraping. Badly contaminated surfaces should be sterilized with a fungicidal wash. Remove oil and grease with a detergent solution.

Remove any chemical contaminants with copious amounts of fresh cold water.

Remove high spots on plaster or concrete by mechanical abrasion and then sweep clear all dust.

MECHANICALLY ABRADE ALL SURFACES.

Ensure the moisture content of the wall is less than 6% (for concrete) or 12% (for plaster).

Allow newly applied plaster to dry out until the moisture content is below 12% using a Protimeter.

Whenever applying **Belzona® 5111** to previously untreated plaster a stabilizing coat of wallpaper size must first be applied.

Roughen non-ferrous, metallic surfaces by blast cleaning or mechanical abrasion. This preparation should completely remove all surface oxide deposits and leave a rough surface.

Application of **Belzona® 5911** (Ceramic Conditioner) should be made before any surface corrosion takes place.

ii) **Mixing of Belzona® 5911**
After preparing the surface, add the entire contents of the Solidifier tin to the Base material. Stir thoroughly until the material is an even consistency and apply within 8 hours as after this time the material will begin to solidify.

iii) **Application of Belzona® 5911 - 1 coat**
Apply only with a clean, good quality bristle brush at an even thickness. As a guide to achieving the correct film thickness the approximate average coverage rate (see Technical Data) should be achieved. Allow to dry (see over) before proceeding with the **Belzona® 5111.**

2. OVERCOATING WITH BELZONA® 5111

i) **Mixing of Belzona® 5111**
Add the entire contents of the Solidifier tin to the Base material. Stir thoroughly until the material is an even consistency and apply within 8 hours as after this time the material will begin to solidify.

ii) **Application of Belzona® 5111**
Apply only with a clean, good quality bristle brush at an even thickness. As a guide to achieving the correct film thickness the approximate average coverage rate (see Technical Data) should be achieved.

iii) **Application of Second Coat of Belzona® 5111 (only for surfaces treated with Belzona® 6111)**

Immediately the first coat is hard dry (see Technical Data), the second coat of **Belzona® 5111** can be applied. This should be applied in the same manner as the first coat.

NOTES:

1. BELZONA® GRIP SYSTEM

To give a non-slip safety surface on concrete floors, suitable for light pedestrian foot traffic **ONLY, Belzona® 9221** (Surefoot Aggregate) can be sprinkled lightly into the **Belzona® 5911** while this first layer is still wet. The System should be completed by application of the **Belzona® 5111** top coat as normal to seal in the **Belzona® 9221.** The density of application of the **Belzona® 9221** should be from 0.5 kgs to 1 kg per 26 m² (260 sq.ft.) of floor area.

2. TOXICITY

Once the system is applied and has cured as recommended, then the resultant coating is non-toxic.

3. HEAT RESISTANCE

Dry Heat Maximum 200°C

Wet Heat Not recommended under permanent immersion, but satisfactory in splashing and spillage situations up to 140°F (60°C)

4. APPLICATION LIMITS

Do not apply when the ambient, or surface temperature is below 41°F (5°C) or above 86°F (30°C).

5. STORAGE STABILITY

When the seal on any of the Solidifier components has been broken the contents should be used within two months. During this period the cap must be replaced after use.

6. SPRAYING

It is recommended that the **Belzona® 5911** is always applied by brush. The **Belzona® 6111** and **Belzona® 5111,** however, can be sprayed :

Dilution with up to 5% by volume of **Belzona® 9121** for **Belzona® 6111** and 20% by volume of **Belzona® 9121** for **Belzona® 5111** may be required to achieve the correct viscosity for spray application. A typical spray set up is:

DeVilbiss JGA 50-1 gun, No. 30 air cap EX fluid needle and tip. Spraying pressure 40 - 50 psi (2.8 - 3.5 kg/sq.cm.) with 9.7 cu.ft./ min. (0.27 cu.metre/min.) air supply or equivalent. Adequate ventilation and exhaust facilities must be provided at all times.

7. THINNING

Under cold or windy conditions, thinning with up to 20% by volume of **Belzona® 9121** may be required to achieve the correct average coverage rate and thickness.

8. CLEANING

Immediately after use all equipment must be cleaned with **Belzona® 9121.** It is not satisfactory to simply soak brushes and equipment in **Belzona® 9121**, since the products continue to harden chemically even when immersed.

9. TECHNICAL DATA

	Belzona® 6111	**Belzona® 5911**	**Belzona® 5111**
Colour	Grey or Blue	White or Grey	White or Grey
Finish	Matt	Matt	Very high gloss
Mixing Ratio	Base : Solidifier	Base : Solidifier	Base : Solidifier
By Volume	3.5 : 1	5 : 1	2.25 : 1
By Weight	12.5 : 1	6.7 : 1	3.3 : 1
Usable Life After Mixing at 20°C	2 days	8 hours	8 hours
Apply By	Brush or spray	Brush	Brush or spray
Number of Coats	2	1	2 ferrous surfaces 1 non-ferrous surfaces
Film Thickness per Coat			
Wet	76 microns (3 mils)	125 microns (5 mils)	70 microns (2¾ mils)
Dry	38 microns (1½ mils)	38 microns (1½ mils)	38 microns (1½ mils)
Touch Dry	10 - 15 mins.	2 hours	6 hours
Hard Dry for Overcoating	16 hours	8 hours	8 hours
Maximum Overcoating			
Time (1)	5 days	2 days	2 days
Full Cure	7 days	7 days	7 days
Average Practical Coverage Rates (2)			
Steel	3.6 m²/kg	-	14.0 m² (151 sq.ft.)/litre
Aluminium	-	8.0 m² (86 sq.ft.)/litre	14.0 m² (151 sq.ft.)/litre
New Asbestos	-	7.5 m² (81 sq.ft.)/litre	12.0 m² (130 sq.ft.)/litre
Smooth Concrete	-	6.0 m² (65 sq.ft.)/litre	11.0 m² (119 sq.ft.)/litre
Plaster	-	6.0 m² (65 sq.ft.)/litre	12.0 m² (130 sq.ft.)/litre
Smooth Brick	-	6.0 m² (65 sq.ft.)/litre	10.0 m² (108 sq.ft.)/litre

NOTES:

(1) If the maximum overcoating time is exceeded then the surface should be lightly sanded and loose dust removed, before applying the following coat.

(2) Coverage Rates will depend on the roughness, porosity and profile of the surface, together with the method of application and skill of the applicator. The above figures are given as a guide only.

HEALTH & SAFETY INFORMATION

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

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