# **PRODUCT SPECIFICATION SHEET BELZONA 5111**

FN10128

# **GENERAL INFORMATION**

### Product Description:

A two-part modified urethane, solvent based system for protecting metallic and masonry surfaces against chemical, abrasive and corrosive attack. The system produces a coating of extreme hardness, durability and chemical resistance, yet giving a highly decorative, aesthetically pleasing, nontoxic surface. The material can be applied by brush or spray.

Prior to application of Belzona 5111 there are two kinds of pre-treatment required, dependent on substrate type:

- On steel and other ferrous surfaces apply two coats of Belzona 6111 (Liquid Anode) and two coats of Belzona 5111. 1)
- 2) On cementitious and non-ferrous metallic surfaces apply one coat of Belzona 5911 (Ceramic Conditioner) and one coat of Belzona 5111.

#### **Application Areas:**

-

- All structural steelwork -
- Tanks (external surfaces) -
- Cooling towers Bridges

- Pipes
- APPLICATION INFORMATION

#### Working Life

Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is:

Belzona 5111 8 hours Belzona 5911 8 hours

#### **Coverage Rate**

The coverage rate depends on roughness, porosity, profile and the nature of the substrate. Refer to the Belzona IFU for guidance on practical coverage rates.

#### **Cure Time**

At 77°F (25°C) the mixed materials shall conform to the guidelines in the Belzona IFU.

### **VOC Content**

Belzona	5111	lbs/US gal	g/litre	
Base	White	4.12	494	
	Grey	4.14	497	
Solidifie	r	2.26	271	
Mixed	White	3.54	425	
	Grey	3.56	427	
Belzona	5911	lbs/US gal	g/litre	
Base	White	3.49	419	
Base	White Grey	3.49 3.44	•	
Base Solidifie	Grey		419	
	Grey	3.44	419 413	
Solidifie	Grey r	3.44 3.21	419 413 385	

Belzona 5111 Base Component   Moderately viscous lique     Appearance   Moderately viscous lique     Colour   White or gr     Odour   Solve     Viscosity   4.4 - 6.4 poise at 77°F (25°     Density   Grey     White   1.221 g/cr     Solids by weight   Grey     White   56     Solids by volume   Grey     White   56     Belzona 5111 Solidifier Component   46.2     Appearance   Clear moderately viscous lique     Colour   Pale yello     Odour   Solids by weight     Solids by weight   Solve     Viscosity   1.5 - 3.5 poise at 77°F (25°     Density   Solids by weight     Solids by weight   75.0     Solids by weight   75.0     Solids by volume   75.0     Mixed Components   75.0     Density   Grey   1.14 - 1.16 g/cr     White   1.16 - 1.18 g/cr     Solids by weight   Grey   64.6     White   63.2     Solids by volume   Grey   64.6
AppearanceModerately viscous liquColourWhite or grOdourSolveViscosity4.4 - 6.4 poise at 77°F (25°DensityGreyWhite1.185 g/crWhite1.221 g/crSolids by weightGreyWhite58Solids by volumeGreyWhite58Belzona 5111 Solidifier ComponentAppearanceClear moderately viscous liquColourPale yelloOdourSolveViscosity1.5 - 3.5 poise at 77°F (25°Density1.06 - 1.08 g/crSolids by weight75.0Solids by weight75.0Solids by weight75.0Solids by weight6reyMixed Components70.8DensityGreyWhite1.16 - 1.18 g/crSolids by weightGreyWhite64.2Solids by weightGreySolids by weightGreySolids by weightGreySolids by weightGreySolids by weightGreySolids by weightGreySolids by volume64.2Solids by volumeGreySolids by volume53.8Solids by volume53.8Solids by volumeGreySolids by volume53
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Solids by weight   Grey   60     White   58     Solids by volume   Grey   46.2     White   45.9     Belzona 5111 Solidifier Component   Appearance   Clear moderately viscous liqu     Colour   Pale yello   Solve     Odour   Solve   Viscosity   1.5 - 3.5 poise at 77°F (25°     Density   1.06 - 1.08 g/cr   Solve     Solids by weight   75.0   Solids by volume     Mixed Components   70.8     Density   Grey   1.14 - 1.16 g/cr     White   1.16 - 1.18 g/cr     Solids by weight   Grey   64.6     White   63.2     Solids by volume   Grey   64.6     White   53.6     Solids by volume   Grey   54.6     White   53.8   54.5
White 58   Solids by volume Grey 46.2   White 45.9   Belzona 5111 Solidifier Component 45.9   Appearance Clear moderately viscous liqu   Colour Pale yello   Odour Solve   Viscosity 1.5 - 3.5 poise at 77°F (25°   Density 1.06 - 1.08 g/cr   Solids by weight 75.0   Solids by volume 70.8   Mixed Components 1.14 - 1.16 g/cr   White 1.16 - 1.18 g/cr   Solids by weight Grey   Solids by weight Grey   Solids by weight Grey   Solids by volume 64.2   White 63.2   Solids by volume Grey   White 63.2   Solids by volume Grey   White 53.8
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Belzona 5111 Solidifier Component     Appearance   Clear moderately viscous liqu     Colour   Pale yello     Odour   Solve     Viscosity   1.5 - 3.5 poise at 77°F (25°     Density   1.06 - 1.08 g/cr     Solids by weight   75.0     Solids by volume   70.8     Mixed Components   0     Density   Grey   1.14 - 1.16 g/cr     White   1.16 - 1.18 g/cr     Solids by weight   Grey   64.6     White   63.2     Solids by volume   Grey   64.6     White   63.2     Solids by volume   Grey   53.8
Appearance Clear moderately viscous liquidition   Colour Pale yello   Odour Solve   Viscosity 1.5 - 3.5 poise at 77°F (25°   Density 1.06 - 1.08 g/cr   Solids by weight 75.0   Solids by volume 75.0   Mixed Components 70.8   Density Grey 1.14 - 1.16 g/cr   White 1.16 - 1.18 g/cr   Solids by weight Grey 64.6   White 63.2   Solids by volume Grey 53.8
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Solids by weight Grey 64.6 White 63.2 Solids by volume Grey 53.8
White63.2Solids by volumeGrey53.6
Solids by volume Grey 53.8
White 53.6
Belzona 5911 Base Component
Appearance Viscous free flowing liqu
Colour White or Gr
Odour Solve
Viscosity Grey 6 - 9 poise at 77°F (25°
White 5 - 8 poise at 77°F (25°
Density Grey 1.52 - 1.56 g/cr
White 1.53 - 1.57 g/cr
Belzona 5911 Solidifier Component
Appearance Clear viscous liqu
Colour Water whi
Odour Solve
Viscosity 15 - 25 poise at 77°F (25°
Density 1.15 - 25 poise at 7/1 (251 Density 1.15 - 1.17 g/cr
Mixed Components
Density 1.465 - 1.475 g/cr
Calida hu unight
Solids by weight78.7Solids by volume39.0

The above application information serves as introductory guide only. For full application details including the recommended application procedure/technique, refer to the Belzona IFU which is enclosed with each packaged product.



Walls -

Floors -

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## ABRASION

### Taber

The sliding abrasion resistance when tested in accordance with ASTM D 4060 Using CS17 wheels dry and 1 kg load is 30 mm^3 loss/1000 cycles.

#### Scratch Resistance

Pass 2000 grams, when tested in accordance with BS 3900 Part E2.

# ACCELERATED WEATHERING RESISTANCE

Tested in accordance with BS 3900 Part F3, the system will show no discoloration, loss of gloss, blistering, flaking, rusting or other breakdowns after 3000 hours exposure.

## ADHESION

#### Cross Hatch

When tested to BS 3900 Part E6 on steel is Class "0" (100% pass).

# Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull<br/>off strength from grit blasted steel will be typically:Belzona 5911550 psi (3.79 MPa)Belzona 61111500 psi (10.3 MPa)

# CHEMICAL RESISTANCE

Although not recommended for total immersion applications, the material has excellent resistance to a broad range of chemicals.

# **CORROSION RESISTANCE**

The system demonstrates no rusting, blistering or flaking when exposed to 2000 hours in the salt spray cabinet operating to BS 3900 Part F4.

## EXTENSIBILITY

Tested in accordance with ASTM D522 Conical Mandrel test extensibility is  ${>}34\%.$ 

## OOD CONTACT

### Incidental Food Contact (USDA)

USDA compliant as an Incidental food contact surface.

#### Direct Food Contact (FDA)

Meets extraction requirements as set out in 21 CFR 175.300 (paragraph c) for Water in Condition of Use E (paragraph d). Please contact Belzona for more comprehensive data.

## HARDNESS

## Koenig Pendulum

When tested to ISO 1522 the Koenig damping time of the coating will typically be:

**Cure temp.** 68°F (20°C) 140°F (60°C) 212°F (100°C) Time 116 seconds 139 seconds 151 seconds

# **IMPACT RESISTANCE**

## Impact Resistance

Pass 1/16 inch (1.5 mm) when tested in accordance with BS 3900 Part E3.

# SHELF LIFE

All separate base and solidifier components shall have a shelf life of 5 years from date of manufacture when stored in their original unopened containers between 41°F (5°C) and 86°F (30°C).

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# BELZONA Repair • Protect • Improve

## WARRANTY

This product will meet the performance claims stated herein when material is stored and used as instructed in the Belzona Information For Use leaflet. Belzona ensures that all its products are carefully manufactured to ensure the highest quality possible and are tested strictly in accordance with universally recognized standards (ASTM, ANSI, BS, DIN, ISO, etc.). Since Belzona has no control over the use of the product described herein, no warranty for any application can be given.

# AVAILABILITY AND COST

**Belzona 5111** is available from a network of Belzona Distributors throughout the world for prompt delivery to the application site. For information, consult the Belzona Distributor in your area.

## HEALTH AND SAFETY

Prior to using this material, please consult the relevant Safety Data Sheets.

## MANUFACTURER / SUPPLIER

Belzona Limited, Claro Road, Harrogate, HG1 4DS, UK

Belzona Inc. 14300 NW 60<sup>th</sup> Ave, Miami Lakes, FL, 33014, USA

# TECHNICAL SERVICE

Complete technical assistance is available and includes fully trained Technical Consultants, technical service personnel and fully staffed research, development and quality control laboratories.

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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Belzona products are

manufactured under an ISO 9001 Registered

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