

# PRODUCT SPECIFICATION SHEET

## BELZONA 4331

FN10085



### GENERAL INFORMATION

#### Product Description:

A high performance, two-component barrier coating optimised for resistance to hot organic acids, such as acetic acid, but with excellent resistance to a broad range of other chemicals.

#### Application Areas:

When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system, which isolates concrete and metal substrates from deteriorating chemical environments, is ideally suited for application to:

- Acid retaining walls
- Chemical drains and channels
- Chemical transfer and holding areas
- Pump bases
- Pump casings
- Tank pads
- Walkways (with non-slip aggregate incorporated)
- Tanks

### APPLICATION INFORMATION

#### Cure Time

Allow to solidify for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Note: Below 59°F (15°C), solidification times will be significantly extended and the resultant chemical resistance capability of the **Belzona 4331** will be reduced.

For optimum results, **Belzona 4331** should be forced cured at 180°F (80°C) for 4 hours. This will ensure the very best chemical resistance.

#### Coverage Rate

Theoretical coverage rate of a 1.5kg unit is 21.0 sq.ft. (1.95m<sup>2</sup>) at the recommended thickness of 20 mils (500 micron) per coat.

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

#### Volume Capacity

59.5 cu.in. (975 cm<sup>3</sup>) per 1.5 kg unit.

#### Base Component

Appearance	Thixotropic liquid
Color	Red
Gel Strength	150 g/cm <sup>3</sup>
Density	1.58 g/cm <sup>3</sup>

#### Solidifier Component

Appearance	Clear Liquid
Color	Amber
Density	1.05 g/cm <sup>3</sup>

#### Mixed Properties

Mixing Ratio by Weight (Base : Solidifier)	10.75 : 1
Mixing ratio by Volume (Base : Solidifier)	7.16 : 1
Density	1.52 g/cm <sup>3</sup>
Sag Resistance	> 50 thou
Time to Peak Exotherm at 68°F (20°C)	28 minutes
Peak Exotherm Temperature	320°F (160°C)
Useable Life at 77°F (25°C)	20 minutes

*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.*

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### ADHESION

#### Tensile Shear

When tested in accordance with ASTM D1002 adhesion to grit blasted steel will typically be:

2300 psi (15.9 MPa)

#### Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength from grit blasted steel will typically be:

4770 psi (32.9 MPa)

### CHEMICAL RESISTANCE

**Belzona 4331** has been formulated for optimum resistance to hot organic acids up to 194°F (90°C).

It is recommended that all proposed applications are checked with TKL at Harrogate or Miami for suitability before proceeding.

### COMPRESSIVE PROPERTIES

#### Compressive Strength

The compressive yield strength of the material when tested to ASTM D695 is typically:

10,400 psi (71.7 MPa).

### FLEXURAL PROPERTIES

#### Flexural Strength

The flexural strength of the material when tested to ASTM D790 is typically:

6500 psi (44.8 MPa).

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

When tested in accordance with ASTM D648 under 264 psi fiber stress, typical results obtained using different cure schedules are as follows:

Cure Schedule	HDT Value
68°F (20°C)	142°F (61°C)
122°F (50°C)	187°F (86°C)
212°F (100°C)	217°F (103°C)
302°F (150°C)	225°F (124°C)

#### Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 410°F (210°C).

For many applications the product is suitable down to -40°F (-40°C).

#### Wet Heat Resistance

Suitable for service at temperatures up to 140°F (60°C) but refer to chemical resistance data for chemical contact limitations.

### SHELF LIFE

Separate base and solidifier components shall have a shelf life of 3 years from date of manufacture when stored in their original unopened containers between 32°F (0°C) and 86°F (30°C).

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### WARRANTY

Belzona guarantees 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 further guarantees that all its products are carefully manufactured to ensure the highest quality possible and tested strictly in accordance with universally recognised 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 4331** 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 Material Safety Data Sheets.

### MANUFACTURER

Belzona Polymerics Ltd.  
Claro Road, Harrogate,  
HG1 4DS, UK

Belzona Inc.  
2000 N.W. 88<sup>th</sup> Court,  
Miami, Florida, USA, 33172

### 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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