

# PRODUCT SPECIFICATION SHEET

## BELZONA 1341N

FN10030



### GENERAL INFORMATION

#### Product Description:

A drinking water certified two component coating system for improving the efficiency of fluid handling systems and protecting metals from the effects of erosion-corrosion. Also used as a high strength structural adhesive for bonding or for creation of irregular load bearing shims with good electrical insulation characteristics. For use in Original Equipment Manufacture or repair situations.

#### Application Areas:

When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system is ideally suited for application to the following:

- Pumps
- Valves
- Tube sheets
- Heat exchangers
- Water tanks
- Water boxes
- Pipes

### APPLICATION INFORMATION

#### Working Life

Will vary according to temperature. At 68°F (20°C) the working life will be 35 minutes.

#### Limitations of Use

**Belzona 1341N** should not be used at temperatures below 50°F (10°C). Where material has been stored below this temperature, warm the Base and Solidifier units until they attain a temperature of 68-77°F (20-25°C).

#### Cure Time

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

#### Volume Capacity

212 in<sup>3</sup> (3.475 litres)/5kg unit  
31.73 in<sup>3</sup> (520cm<sup>3</sup>)/750g unit  
42.4 in<sup>3</sup> (695 cm<sup>3</sup>)/kg

#### Coverage rate

**Belzona 1341N** should be applied as a two coat system at a recommended average thickness of 10 mil (250 µm) per coat. At the minimum recommended two coat system thickness of 16 mil (400 µm), the theoretical coverage rate will be 18.9 ft<sup>2</sup> (1.76m<sup>2</sup>)/kg.

#### Base Component

Appearance Thixotropic paste  
Colour Grey or Blue  
Density 1.58-1.63 g/cm<sup>3</sup>

#### Solidifier Component

Appearance Clear liquid  
Colour Clear  
Density 1.17-1.19 g/cm<sup>3</sup>

#### Mixed Properties

Mixing ratio by weight 2 : 1  
Mixing ratio by volume 3 : 2  
Density 1.42-1.46 g/cm<sup>3</sup>  
VOC content (ASTM D2369 / EPA ref. 24) 2.77% / 39.9 g/L

*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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### ABRASION

#### Taber

The Taber abrasion resistance determined in accordance with ASTM D4060 with 1 kg load is typically:

H10 Wheels (Wet)	52 mm <sup>3</sup> loss per 1000 cycles
CS17 Wheels (Dry)	6 mm <sup>3</sup> loss per 1000 cycles

### ADHESION

#### Tensile Shear

When tested in accordance with ASTM D1002, on grit blasted substrate, typical values will be:

	68°F (20°C) cure
Mild steel	2,500 psi (17.2MPa)
Stainless steel	2,780 psi (19.2MPa)
Copper	2,230 psi (15.4MPa)
Aluminum	1,570 psi (10.8MPa)

	212°F (100°C) cure
Mild steel	3,250 psi (22.4MPa)

#### Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength from grit blasted steel will be typically:  
4030 psi (27.8MPa)

### CAVITATION RESISTANCE

When tested to a modified version of ASTM G32 using stationary specimens at 20KHz frequency and 50 microns amplitude a typical volume loss will be 12 mm<sup>3</sup>/hour.

### CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to most commonly found inorganic acids and alkalis at concentrations up to 10%. The material is also resistant to hydro-carbons, mineral oils, lubricating oils and many other commonly found chemicals.

\* For a more detailed description of chemical resistance properties, refer to relevant Chemical Resistance chart.

### COMPRESSIVE PROPERTIES

When determined in accordance with ASTM D695, typical values will be:

	Compressive Strength	Proportional Limit	Youngs Modulus
68°F/20°C cure & test	53.1 MPa 7,705 psi	45.2 MPa 6,561 psi	1,269.0 MPa 1.84 x 10 <sup>5</sup> psi
212°F/100°C cure & 68°F/20°C test	95.7 MPa 13,877 psi	67.0 MPa 9,718 psi	1,425.3 MPa 2.07 x 10 <sup>5</sup> psi

### ELONGATION & TENSILE PROPERTIES

When determined in accordance with ASTM D638, typical values will be:

	Cure temperature
<b>Tensile Strength</b>	
2,944 psi (20.30 MPa)	68°F (20°C)
4,155 psi (28.65 MPa)	212°F (100°C)
<b>Elongation</b>	
1.13%	68°F (20°C)
1.36%	212°F (100°C)
<b>Young's Modulus</b>	
6.23x10 <sup>5</sup> psi (4,297 MPa)	68°F (20°C)
6.27x10 <sup>5</sup> psi (4,322 MPa)	212°F (100°C)

### FLEXURAL PROPERTIES

When determined in accordance with ASTM D790, typical values will be:

	Cure temperature
<b>Flexural Strength</b>	
5,900 psi (40.7MPa)	68°F (20°C)
6,400 psi (44.1MPa)	212°F (100°C)

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### HARDNESS

#### Shore D

When determined in accordance with ASTM D2240, typical values will be:

73	<b>Cure temperature</b> 68°F (20°C)
79	212°F (100°C)

#### Barcol

When determined in accordance with ASTM D2583, will typically be:

63	68°F (20°C)
75	212°F (100°C)

#### Koenig Pendulum

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

108 seconds	68°F (20°C)
125 seconds	212°F (100°C)

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

Tested to ASTM D648 (264 psi fibre stress), typical values obtained will be:

111°F (44°C)	<b>Cure temperature</b> 68°F (20°C)
160°F (71°C)	212°F (100°C)

#### Heat Resistance

For many typical applications the material is suitable for continuous immersion in aqueous solutions up to 140°F (60°C). The material will be stable under dry conditions up to 392°F (200°C) and down to -40°F (-40°C).

### IMPACT RESISTANCE

#### Izod Pendulum

Izod impact strength, when determined in accordance with ASTM D256, will typically be:

	Reversed notched Izod Impact Strength	Un-notched Izod Impact Strength
68°F/20°C cure & test	3.5 KJ/m <sup>2</sup>	5.0 KJ/m <sup>2</sup>
212°F/100°C cure & 68°F/20°C test	36.9 J/m	63.5 J/m
	5.0 KJ/m <sup>2</sup>	5.7 KJ/m <sup>2</sup>
	52.5 J/m	71.3 J/m

### POTABLE WATER APPROVAL

#### NSF/ANSI/CAN 61

Tested and certified by WQA against NSF/ANSI/CAN 61.



Note: **Belzona 1341N** has been found to meet the extraction limits of NSF/ANSI/CAN 600. For product use restrictions, visit [www.wqa.org](http://www.wqa.org)

### PUMP EFFICIENCY ENHANCEMENT

The **Belzona 1341N** system has been shown to be capable of bringing about an increase in pump efficiency of up to 7% in independent tests carried out by the National Engineering Laboratory, East Kilbride, Glasgow, Scotland, test number 0230 432/88 BEM/01 and the Aurora Pump Company, North Aurora, Illinois, test number 0789089/1089037.

### THERMAL EXPANSION

When tested in accordance with ASTM E228 typical values obtained will be:

74.7 ppm/°C

### SHELF LIFE

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).

### APPROVALS/ACCEPTANCES

The material has received recognition from organizations worldwide including:

NSF/ANSI/CAN 61  
U.S.D.A.  
INGERSOLL RAND  
SULZER PUMPS  
SPP LTD.  
SSW PUMP SERVICES  
AURORA PUMPS

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### 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 1341N** 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.

### MANUFACTURER / SUPPLIER

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

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

### HEALTH AND SAFETY

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

### 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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