

# PRODUCT SPECIFICATION SHEET

## BELZONA 1392

FN10035



### GENERAL INFORMATION

#### Product Description:

A two-component high temperature coating system resistant to water, aqueous solutions and hydrocarbons up to a temperature of 248°F (120°C). Designed specifically to provide erosion corrosion protection in acid contaminated water/hydrocarbon systems. 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:

- Condensate extraction pumps
- Heat exchanger barrels
- Scrubber units
- Condensate return tanks
- Oil/gas and oil/water separators
- Calorifiers
- Evaporators
- Autoclaves
- Distillation units

### APPLICATION INFORMATION

#### Working Life

Will vary according to temperature. At 68°F (20°C) the usable life of mixed material is 35 minutes.

#### Cure Time

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

*\* In certain instances it may be advantageous to post cure material prior to putting into service where chemical contact is involved. Refer to Belzona for specific recommendations.*

#### Limitations of Use

**Belzona 1392** should not be applied at temperatures below 59°F (15°C).

#### Volume Capacity

26.8 cu.in. (439 cm<sup>3</sup>)/kg.

#### Coverage Rate

To achieve the target film thickness of 18 mils (450 microns) per coat a practical coverage rate of 9.4 sq.ft. (0.87 m<sup>2</sup>) per kilogram unit should be obtained.

#### Base Component

Appearance	Paste
Color	Gray or Red
Density	2.36 - 2.56 g/cm <sup>3</sup>

#### Solidifier Component

Appearance	Liquid
Color	Pale amber
Density	0.91 - 0.95 g/cm <sup>3</sup>

#### Mixed Properties

Mixing Ratio by Weight (Base : Solidifier)	20 : 1
Mixed Form	Liquid
Sag Resistance	nil at 50 mil (1.25 mm)
Mixed Density	2.28 g/cm <sup>3</sup>

*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.*

# PRODUCT SPECIFICATION SHEET

## BELZONA 1392

FN10035



### ABRASION

#### Taber

The Taber abrasion resistance determined in accordance with ASTM D4060 with 1 kg load is typically:  
H10 Wheels (Wet)  
145 mm<sup>3</sup> loss per 1000 cycles 212°F (100°C) cure

### ADHESION

#### Tensile Shear

When tested in accordance with ASTM D1002, using degreased strips, grit blasted to a 3-4 mil profile, typical values will be:

68°F (20°C) cure	212°F (100°C) cure
2,630 psi (18.13 MPa)	2,530 psi (17.44 MPa)

#### Pull Off Adhesion

When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength from grit blasted steel will be typically:  
2720 psi (18.75 MPa) 68°F (20°C) cure  
3690 psi (25.44 MPa) 212°F (100°C) cure

### CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to a wide range of 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**  
14,800 psi (102.04 MPa) 68°F (20°C) cure  
19,290 psi (133.00 MPa) 212°F (100°C) cure

### EXPLOSIVE DECOMPRESSION

When tested to NACE TM 0185, using a seawater/hydrocarbon test fluid, the coating will exhibit no blistering after a 21 day immersion period at 212°F (100°C) and 100 bar pressure followed by decompression over 15 minutes.

### FLEXURAL PROPERTIES

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

**Flexural Strength**  
7,560 psi (52.12 MPa)

### HARDNESS

#### Shore D

When determined in accordance with ASTM D2240, typical values will be:  
84 68°F (20°C) cure  
87 212°F (100°C) cure

#### Barcol

When determined in accordance with ASTM D2583, will typically be:  
86 68°F (20°C) cure  
94 212°F (100°C) cure

#### Koenig Pendulum

When tested to ISO 1522 the Koenig damping time of the ambient cured coating will typically be  
152 seconds 68°F (20°C) cure  
150 seconds 212°F (100°C) cure

### HEAT RESISTANCE

#### Heat Distortion Temperature (HDT)

Tested to ASTM D648 (264 psi fiber stress), typical values obtained will be:  
118°F (49°C) when cured at 68°F (20°C),  
257°F (125°C) when post cured at 212°F (100°C)  
390°F (199°C) when post cured at 356°F (180°C).

#### Atlas Cell

When tested in accordance with NACE TM 0174 the coating will exhibit no blistering or rusting (ASTM D714 rating 10; ASTM D610 rating 10) after 12 months immersion in both 5% Sulphuric acid and 5% Hydrochloric acid at 194°F (90°C).

#### Steam-out Resistance

Once fully cured the coating will exhibit no blistering, cracking or delamination after 96 hours exposure to pressurised steam at 410°F (210°C).

#### Wet Heat Resistance

The material will resist water and pressurised steam at temperatures up to 248°F (120°C).

#### Dry Heat Resistance

The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 446°F (230°C).

# PRODUCT SPECIFICATION SHEET

## BELZONA 1392

FN10035



### IMPACT RESISTANCE

#### Impact Strength

The impact strength (reverse notched) when tested to ASTM D256 is typically:

0.46 ft.lbs./in (25 J/m)  
0.68 ft.lbs./in (37 J/m)

68°F (20°C) cure  
212°F (100°C) cure

### THERMAL PROPERTIES

#### Low Temperature Thermal Shock

Coated steel panels will exhibit no blistering, cracking or delamination after multiple cycles of rapid cooling from 212°F (100°C) to -76°F (-60°C).

#### Thermal Cycling

When tested in accordance with section 9 of NACE TM0304 the coating passed after 252 cycles between +140°F and -22°F (+60°C and -30°C).

### THICK FILM CRACKING

#### Thick Film Cracking

When tested in accordance with Section 12 of NACE TM0104, the coating at three times recommended thickness, exhibited no cracking after 12 weeks immersion in seawater at 104°F (40°C).

### SHELF LIFE

Separate Base and Solidifier components will have a minimum shelf life of 2 years when stored in their original unopened containers between 32°F (0°C) and 86°F (30°C).

### 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 1392** 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

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

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

### HEALTH AND SAFETY

Prior to using this material, please consult the relevant Material 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.

Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

Copyright © 2015 Belzona International Limited. Belzona® is a registered trademark.



ISO 9001:2008  
Q 09335  
ISO 14001:2004  
EMS 509612

Manufactured under an ISO 9000  
Registered Quality Management System

