PRODUCT SPECIFICATION SHEET
BELZONA 1521
FN10037

GENERAL INFORMATION

Product Description:
A two component spray applied high temperature coating system designed to operate under continuous immersion at operating temperatures up to 302°F (150°C). Suitable for steaming out up to 410°F (210°C). Exhibits excellent corrosion resistance at elevated temperatures. Resistant to a broad range of aqueous solutions, hydrocarbons and process chemicals. (Refer to Belzona TKL for specific recommendations). Applied by heated airless spray. 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 return tanks
- Autoclaves
- Regenerators
- Evaporators
- Scrubber units
- Stripper towers
- Oil/gas and oil/water separators
- Distillation units

APPLICATION INFORMATION

Working Life
Will vary according to temperature. At 68°F (20°C) the usable life of a 10 litre unit of mixed material is 40 minutes.

Coverage Rate
The **Belzona 1521** shall be applied to achieve a minimum thickness of 20 mils (500 microns). The theoretical coverage rate at 20 mils (500 microns) is 21.5 sq.ft. (2 m^2)/litre. Refer to the Instructions For Use for practical coverage rate guidelines.

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.*

Base Component

Appearance	Paste
Color	Grey
Density	1.95 -2.05 g/cm^3

Solidifier Component

Appearance	Liquid
Color	Clear
Density	0.93 - 0.95 g/cm^3

Mixed Properties

Mixing Ratio by Weight (Base : Solidifier)	20 : 1
Mixing Ratio by Volume (Base : Solidifier)	9.5 : 1
Mixed Form	Liquid
Sag resistance	nil at 40 mil (1 mm)
Mixed Density	1.8 - 1.9 g/cm^3

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 1521
FN10037

ABRASION

Taber
The Taber abrasion resistance determined in accordance with ASTM D4060 with 1 kg load, H10 Wheels (Wet) is typically:

770 mm^3 loss/1000 cycles — 212°F(100°C) post 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:

	Post cure/ Test temperature	Adhesion
Mild steel	68°F (20°C) 140°F (60°C) 212°F (100°C)	2180 psi (15.03 MPa) 1650 psi (11.38 MPa) 1410 psi (9.72 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:

	Cure temperature
5260 psi (36.27 MPa)	68°F (20°C)
4370 psi (30.13 MPa)	212°F (100°C)

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	**Post cure/Test temperature**
13,520 psi (93.22 MPa)	68°F (20°C)
10,840 psi (74.74 MPa)	212°F (100°C)

ELECTRICAL PROPERTIES

When tested in accordance with ASTM D149, method A, with voltage rise of 2kV/s, typical value will be:
Dielectric strength — 20.1 kV/mm

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 248°F (120°C) and 70 bar pressure followed by decompression over 15 minutes.

FLEXURAL PROPERTIES

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

Flexural Strength	**Post cure/Test temperature**
6170 psi (42.54 MPa)	68°F (20°C)
3910 psi (26.96 MPa)	212°F (100°C)

HARDNESS

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

	Cure temperature
86	68°F (20°C)
86	212°F (100°C)

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

92	68°F (20°C)
95	212°F (100°C)
96	302°F (150°C)

Koenig Pendulum
When tested to ISO 1522 the Koenig damping time will typically be:
126 seconds — 68°F (20°C)

PRODUCT SPECIFICATION SHEET
BELZONA 1521
FN10037

HEAT RESISTANCE

Heat Distortion Temperature (HDT)
Tested to ASTM D648 (264 psi fiber stress), typical values obtained will be:

	Cure temperature
131°F (55°C)	68°F (20°C)
330°F (166°C)	212°F (100°C)
493°F (256°C)	356°F (180°C)

Atlas Cell
When tested in accordance with NACE TM 0174 the coating will exhibit no rusting (ASTM D610 rating 10) or blistering (ASTM D714 rating 10) after 6 months immersion in de-ionized water at 203°F (95°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 coating will resist water and hydrocarbon mixtures at temperatures up to 302°F (150°C). Note: the material is not recommended for dry applications at elevated temperatures.

Dry Heat Resistance
The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 428°F (220°C).

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 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).

PRODUCT SPECIFICATION SHEET
BELZONA 1521
FN10037

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 1521 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. 88th 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.

Belzona products are manufactured under an ISO 9001 Registered Quality Management System