PRODUCT SPECIFICATION SHEET
BELZONA 1821
FN10131

GENERAL INFORMATION

Product Description:
A two component fluid grade material based on silicon steel alloy blended within high molecular weight reactive polymers and oligomers. The system is designed for creating positive grip surfaces on machinery and equipment when used to bond Belzona Supergrip or Surefoot aggregate to the surface. Also for casting components where machining is required and 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 provides a durable non-slip surface with excellent adhesion, wear and chemical resistance:

- Tank tops
- Vehicle step-ups
- Conveyor drive drums
- Fork lift grab arms
- Fire escapes
- Loading ramps
- Brake test rollers
- Walkways
- Chequer plate access areas
- Take off and feed rollers

APPLICATION INFORMATION

Working Life
Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 20 minutes.

Coverage Rate
This depends on the choice of aggregate and nature of substrate. As a practical guide a 1kg unit will cover 9.25 sq.ft. (0.86 sq.m.) at a thickness of 20 mil (500 microns).

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

Volume Capacity
29.2 cu.ins. (478 cc)/kg.

Base Component

Appearance	Paste
Color	Dark gray
Density	2.40 - 2.60 g/cm^3

Solidifier Component

Appearance	Mobile liquid
Color	Amber
Density	0.95 - 1.05 g/cm^3

Mixed Properties

Mixing Ratio by Weight (Base : Solidifier)	6.7 : 1
Mixing Ratio by Volume (Base : Solidifier)	2.7 : 1
Mixed Form	Viscous liquid
Peak Exotherm Temperature	259 - 288°F (126 -142°C)
Time to Peak Exotherm	26 - 32 mins
Mixed Density	2.07 - 2.10 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.

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ABRASION

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

CS17 Wheels (Dry)	40 mm^3 loss per 1000 cycles

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:

Aluminum	1,500 psi (10.3 MPa)
Mild steel	3,000 psi (20.6 MPa)

Pull Off Adhesion
When tested in accordance with ASTM D4541/ ISO 4624, the pull off strength will be typically:

Blasted mild steel	2,300 psi (15.9 MPa)
Blasted aluminium	1,800 psi (12.4 MPa)
Manually abraded aluminium	1,900 psi (13.1 MPa)

CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to most commonly found inorganic acids and alkalis at concentrations up to 20%. The material is also resistant to hydrocarbons, mineral oils, lubricating oils and many other commonly found chemicals.

COMPRESSIVE PROPERTIES

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

Compressive Strength
11,300 psi (77.9 MPa)

CORROSION PROTECTION

Corrosion Resistance
Will show no visible signs of corrosion after 5,000 hours exposure in the ASTM B117 salt spray cabinet.

ELONGATION & TENSILE PROPERTIES

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

Elongation
0.659%

Tensile Strength
3057 psi (21.08 MPa) at yield
4090 psi (28.21 MPa) at break

Young's Modulus
$6.53x10^5$ psi (4501 MPa)

FLEXURAL PROPERTIES

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

Flexural Strength
8,900 psi (61.4 MPa)

HARDNESS

Shore D
When determined in accordance with ASTM D2240, typical values will be:
85

HEAT RESISTANCE

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

117°F (47°C)	68°F (20°C) cure
151°F (66°C)	212°F (100°C) cure

Dry Heat Resistance
The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 392°F (200°C).
For many applications the product is suitable down to -40°F (-40°C).

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IMPACT RESISTANCE

Impact Strength
The impact strength when tested to ASTM D256 is typically 1.58ft.lb./in. (85 J/m).

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 32°F (0°C) and 86°F (30°C).

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 1821 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