BELZONA 1341
FN10028

Product Specification Sheet

1. PRODUCT NAME
Belzona® 1341 (Supermetalglide)
A 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.

2. MANUFACTURER
Belzona Polymerics Ltd.,
Claro Road, Harrogate,
HG1 4DS, England.

Belzona Inc.,
2000 N.W. 88 Court,
Miami, Florida 33172, U.S.A.

3. PRODUCT DESCRIPTION
A two component system specifically designed to improve the efficiency of fluid handling equipment and to protect all metals from the effects of erosion-corrosion.

Applications
Pumps
Heat exchangers
Water boxes
Valves
Water tanks
Pipes

4. TECHNICAL DATA
Base component

Appearance	Thixotropic paste
Color	Gray or Blue
Density	1.58-1.63 g/cm³

Solidifier component

Appearance	Clear liquid
Color	Clear
Density	1.17-1.19 g/cm³

Mixed properties

Mixing ratio by weight	100 : 70
Mixing ratio by volume	1 : 1
Density	1.39 g/cm³
Viscosity at 45°C	2,000cps

• Limitations of Use
Belzona® 1341 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).

• Shelf life
Separate Base and Solidifier components shall have a shelf life of at least 3 years when stored between 32°F (0°C) and 86°F (30°C).

• Working life
Will vary according to temperature.

Temperature	Working life
50°F (10°C)	90 minutes
59°F (15°C)	60 minutes
68°F (20°C)	45 minutes
77°F (25°C)	30 minutes
86°F (30°C)	20 minutes

• Coverage rate
To achieve the correct film thickness of 10 mils (250 microns), a practical coverage rate of 13 sq.ft (1.2 sq.m) per 500g unit should be obtained or 130 sq.ft (12 sq.m) per 5kg.

• Volume capacity
The volume capacity of mixed **Belzona® 1341** is 220 in³ (3.6 litres) / 5kg.

• Cure time
Allow to cure for the times shown in the chart below before subjecting it to the conditions indicated.

5. PHYSICAL/MECHANICAL PROPERTIES
Determined after 7 days cure at 68°F (20°C).

• Abrasion resistance
Taber
The sliding abrasion resistance using Taber Abraser using H10/CS17 wheels and 1kg load is typically:

Wet	22 mm³
Dry	10 mm³

Loss per 1000 cycles

• Adhesion
Tensile shear
When tested in accordance with ASTM D1002 using degreased strips, grit blasted to a 3-4 mil (75 micron) profile, typical values obtained will be:

Mild steel	3,300 psi (22.75 MPa)
Stainless steel	3,300 psi (22.75 MPa)
Copper	2,900 psi (20.0 MPa)
Aluminum	2,200 psi (15.17 MPa)

CURE TIMES

TEMPERATURE	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)
Movement or use involving no loading	24 hours	12 hours	8 hours	7 hours	6 hours
Movement or use involving light loading	48 hours	24 hours	16 hours	14 hours	12 hours
Full mechanical/thermal loading or water immersion	14 days	7 days	3 days	2½ days	2 days
Immersion in chemicals	21 days	10 days	7 days	6 days	5 days

Pull Off Adhesion
When tested in accordance with ASTM D 4541/ ISO 4624, the pull off strength from grit blasted steel will be typically:
4960 psi (34.20 MPa)

• 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 29 mm^3/hour.

• Chemical resistance
Once fully cured, the material will demonstrate excellent resistance to the following chemicals:

40% Sodium hydroxide
25% Ammonia
Ethylene glycol
Diethyl ether
Petrol
Methylated spirit

For specific chemical resistance data please refer to product data M510.

• Compressive strength
When tested in accordance with ASTM D695 typical values obtained will be:

Ambient cure	8,800 psi (60.67 MPa)
Post cure	10,010 psi (69.64 MPa)

• Electrical properties
Dielectric Strength
When tested in accordance with ASTM D149 typical values obtained will be:
208 volts/mil (8320 volts/mm).

Dielectric Constant
When tested in accordance with ASTM D150 typical values obtained will be:
6.89 at 1 MHz
7.22 at 1000Hz

Dissipation Factor
When tested in accordance with ASTM D150 typical values obtained will be:
< 0.0002 at 1MHz
0.0050 at 1000Hz

Volume Resistivity
When tested in accordance with ASTM D257 typical values obtained will be:
> 1.85 x 10^{14}ohm.cm

Surface Resistivity
When tested in accordance with ASTM D257 typical values obtained will be:
> 2.3 x 10^{13}ohm

• Flexural strength
When tested in accordance with ASTM D790 typical values obtained will be:

68°F (20°C) cure	6,850 psi (47.23 MPa)
212°F (100°C) cure	10,110 psi (69.71 MPa)

• Flexural modulus
When tested in accordance with ASTM D790 typical values obtained will be:
5.80 x 10^5 psi (4000 MPa)

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

Ambient cure	149 seconds
Post cure	162 seconds

Barcol
Tested to ASTM D2583 the Barcol hardness will be typically:

Ambient cure	72
Post cure	81

• Heat distortion temperature
When tested in accordance with ASTM D648 typical values obtained will be:

Ambient cure	113°F (45°C)
Post cure	169°F (76°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 strength
When tested in accordance with D256 typical values obtained will be:

68°F (20°C) cure	40 J/m
212°F (100°C) cure	58 J/m

• Pump Efficiency Enhancement
The **Belzona® 1341** 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.

6. SURFACE PREPARATION AND APPLICATION PROCEDURES
For proper technique, refer to the Belzona Instructions For Use leaflet which is enclosed with each packaged product.

7. AVAILABILITY AND COST
Belzona® 1341 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.

8. WARRANTY
Belzona guarantees this product will meet the performance claims stated herein when material is stored and used as instructed in the Belzona Instructions 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 recognized standards (ASTM, ANSI, BS, DIN, etc.). Since Belzona has no control over the use of the product described herein, no warranty for any application can be given.

9. TECHNICAL SERVICES
Complete technical assistance is available and includes fully trained Technical Consultants, technical service personnel and fully staffed research, development and quality control laboratories.

10. HEALTH AND SAFETY
Prior to using this material, please consult the Material Safety Data Sheet provided with each packaged product.

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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Repair • Protect • Improve

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