BELZONA 1341N Product Specification Sheet

FN10030

1. PRODUCT NAME

Belzona® 1341N
(Supermetalglide)



A drinking water certified 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
Tube sheets

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	2 : 1
Mixing ratio by volume	3 : 2
Density	1.42-1.46 g/cm³

• 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).

• 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)	70 minutes
59°F (15°C)	50 minutes
68°F (20°C)	35 minutes
77°F (25°C)	25 minutes
86°F (30°C)	16 minutes

• Coverage rate
To achieve the correct film thickness of 10 mils (250 microns), a practical coverage rate of 19.5 sq.ft (1.8 sq.m) per 750g unit should be obtained or 130 sq.ft (12 sq.m) per 5kg.

• Volume capacity
The volume capacity of mixed **Belzona® 1341N** is 31.73 in³ / 750g or 212 in³ (3.475 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	52 mm³
Dry	6 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:

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)

100°C cure	
Mild steel	3,250 psi (22.4Pa)

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)

• Cathodic disbondment
When tested in accordance with ASTM G8 typical values obtained will be Class B.

• 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 mm³/hour.

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

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

Water
Sea water
Inorganic salt solutions
10% sodium hydroxide

For specific chemical resistance data please refer to product data M502.

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

6,900 psi (47.6MPa)	ambient cure
8,500 psi (58.6MPa)	post cure

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

5,900 psi (40.7MPa)	ambient cure
6,400 psi (44.1MPa)	post cure

• ***Hardness:***
Shore D
The Shore D hardness of the material tested to ASTM D2240 is typically:

Ambient cure	73
Post cure	79

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

Ambient cure	108 seconds
Post cure	125 seconds

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

Ambient cure	63
Post cure	75

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

111°F (44°C)	ambient cure
160°F (71°C)	post cure

• ***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 ASTM D256 typical values obtained will be:

68°F (20°C) cure	1 ft.lb./in (54 J/m)
212°F (100°C) cure	1.15 ft.lb./in (62 J/m)

• ***Potable Water Approval***
Belzona® 1341 bearing the **NSF** mark is listed for contact with drinking water subject to the following restrictions. For use on distribution line pumps of >4 inch diameter with a minimum daily output of 4800 gallons/ft² of coated pump surface For use on tanks of >100,000 gallons.

• ***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

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® 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.

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.

11. APPROVALS/ ACCEPTANCES
NSF
U.S.D.A.
INGERSOLL RAND
SULZER PUMPS
SPP LTD.
SSW PUMP SERVICES
AURORA PUMPS

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Repair • Protect • Improve

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