# PRODUCT SPECIFICATION SHEET
# BELZONA 1141
FN10016

## GENERAL INFORMATION

**Product Description:**
A two component electrically conductive paste grade system based on a blend of electrically conductive fillers and high molecular weight reactive polymers and oligomers. When cured, the material is durable, fully machinable and electrically conductive.

**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:

- Bonding continuity straps
- Bonding test leads
- Non-magnetic repairs
- Cosmetic repair to bronze castings
- Sealing anode clamps
- Conductive irregular shims

## APPLICATION INFORMATION

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

**Cure Time**
Cure times will vary depending on the ambient conditions and will be reduced for thicker sections and extended for thinner applications. Consult the Belzona IFU for specific details.

**Volume Capacity**
34 cu.in (555 $cm^3$)/kg
51 cu.in. (833 $cm^3$)/1.5 kg unit

| **Base Component** | |
|---|---|
| Appearance | Paste |
| Color | Copper |
| Density | 1.90 - 1.94 $g/cm^3$ |

| **Solidifier Component** | |
|---|---|
| Appearance | Paste |
| Color | Black |
| Density | 1.42 - 1.46 $g/cm^3$ |

| **Mixed Properties** | |
|---|---|
| Mixing Ratio by Weight (Base : Solidifier) | 4.3 : 1 |
| Mixing Ratio by Volume (Base : Solidifier) | 3 : 1 |
| Mixed Form | Paste |
| Slump | nil at 0.5 inch (1.27 cm) |
| Mixed Density | 1.80 $g/cm^3$ |

*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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## ADHESION

**Tensile Shear**
When tested in accordance with ASTM D1002, using degreased mild steel strips, grit blasted to a 3 mil (75 microns) profile, typical values will be:

1600 psi (11.0 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:

510 psi (3.5 MPa)

## CHEMICAL RESISTANCE

Once fully cured, the material will demonstrate excellent resistance to the following chemicals;

20% ammonia solution
lime water
20% potassium hydroxide
20% sodium hydroxide
propanol
butanol
ethylene glycol
diethanolamine
methylamine (25% in water)
hydrocarbons
mineral oils
inorganic salts

## COMPRESSIVE PROPERTIES

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

**Compressive Strength**
11,500 psi (79.3 MPa)

## CORROSION PROTECTION

**Corrosion Resistance**
Once fully cured, will show no visible signs of corrosion after 5,000 hours exposure in the ASTM B117-73 salt spray cabinet.

## CURRENT CARRYING CAPACITY

The fully cured material will be capable of carrying a maximum of 6A/cm$^2$ and up to 3A/cm$^2$ continuously.

## HARDNESS

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

**Barcol**
When determined in accordance with ASTM D2583, typical values will be:

| | |
|---|---|
| 82 | 68°F (20°C) cure |
| 86 | 212°F (100°C) cure |

## HEAT RESISTANCE

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

| | |
|---|---|
| 136°F (58°C) | 68°F (20°C) cure |
| 165°F (74°C) | 212°F (100°C) cure |

**Heat Resistance**
For many typical applications, the product is thermally stable to 392°F (200°C) dry and 200°F (93°C) wet.

## SPECIFIC RESISTANCE

At 68°F (20°C) in air, and with current of 1 amp specific resistance will typically be 8.05 x $10^{-3}$ ohm.cm.

## SHELF LIFE

Separate base and solidifier components shall have a shelf life of at least 5 years when stored between 32°F (0°C) and 86°F (30°C).

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## 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 1141** 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.

## HEALTH AND SAFETY

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

## MANUFACTURER

Belzona Polymerics Ltd.
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## 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.



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

*Manufactured under an ISO 9000 Registered Quality Management System*