PRODUCT SPECIFICATION SHEET
BELZONA 1161
FN10043

GENERAL INFORMATION

Product Description:
A two component water and oil tolerant paste grade system for repairing and rebuilding machinery and equipment. Based on a silicon steel alloy blended with high molecular weight, water tolerant reactive polymers and oligomers.

Application Areas:
When mixed and applied as detailed in the Belzona Instructions for Use (IFU), the system is specifically designed for application to wet, oily or underwater structures.

APPLICATION INFORMATION

Working Life
Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 15 minutes.

Cure Time
Will be reduced for thicker sections and extended for thinner applications. At a thickness of approximately 1/4 in. (6 mm), allow to solidify for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Volume Capacity
26.3 in^3 (431 cm^3)/kg.

Base Component	
Appearance	Paste
Color	Dark gray
Gel strength at 77°F (25°C)	>150 g/cm HF
Density	2.70 - 2.90 g/cm^3
Solidifier Component	
Appearance	Paste
Color	Light gray
Gel strength at 77°F (25°C)	40 - 150 g/cm QV
Mixed Properties	
Mixing Ratio by Weight (Base : Solidifier)	4 : 1
Mixing Ratio by Volume (Base : Solidifier)	2 : 1
Mixed Form	Paste
Peak Exotherm Temperature	208 - 237°F (98 - 114°C)
Time to Peak Exotherm	21 - 29 mins.
Slump Resistance	nil at 1 inch (25 mm)
Mixed Density	2.32 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.

ABRASION

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

H10 Wheels (Wet)	945 mm^3 loss per 1000 cycles
CS17 Wheels (Dry)	49 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:

Mild steel	Abraded	Grit blasted
Dry	1,500 psi (10.3 MPa)	2,400 psi (16.5 MPa)
Wet	1,600 psi (11.0 MPa)	1,820 psi (12.5 MPa)
Oily	1,300 psi (9.0 MPa)	1,880 psi (13.0 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:
3450 psi (23.8 MPa).

COMPRESSIVE PROPERTIES

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

Compressive Strength
13,600 psi (93.8 MPa)

CORROSION PROTECTION

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

FLEXURAL PROPERTIES

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

Flexural Strength
6,990 psi (48.2 MPa)

PRODUCT SPECIFICATION SHEET
BELZONA 1161
FN10043

HARDNESS

Shore D
When determined in accordance with ASTM D2240, typical values will be: 86

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

86	68°F (20°C) cure
90	140°F (60°C) cure
91	212°F (100°C) cure

HEAT RESISTANCE

Heat Distortion Temperature (HDT)
Tested to ASTM D648 (264 psi fiber stress), typical values obtained will be: 122°F (50°C)

Dry Heat Resistance
The indicated degradation temperature in air based on Differential Scanning Calorimetry (DSC) operated in accordance with ISO11357 is typically 320°F (160°C).
For many applications the product is suitable down to -40°F (-40°C).

IMPACT RESISTANCE

Impact Strength
The impact strength when tested to ASTM D256 is typically:
0.54 ft.lb./in., 42 J/m (reverse notched)

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).

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 1161 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.

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.

Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.

Copyright © 2015 Belzona International Limited. Belzona® is a registered trademark.

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

Manufactured under an ISO 9000 Registered Quality Management System