

PRODUCT SPECIFICATION SHEET

BELZONA 5711

FN10232



GENERAL INFORMATION

Product Description:

A high performance, two component, solvent free system for the repair of erosion and impact damage on the leading edge of wind turbine blades. For use in repair situations or Original Equipment Manufacture (OEM). **Belzona 5711** is optimised for ease of application and rapid cure. **Belzona 5711** is designed to be used in combination with **Belzona 5721** to provide long lasting protection against rain erosion and impact damage.

APPLICATION INFORMATION

Application Methods

Applicator
Former

Application Temperature

Application should occur in the following ambient temperature range:
5 °C/41 °F to 40 °C/104 °F.

Volume Capacity

380 cm³ (23 cu.in)/600 g cartridge.

Cure Time

The cure time is dependent on ambient conditions. At 20 °C (68 °F), the product will be sandable/hard dry after 65 minutes. Allow to cure for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Base Component

Appearance Thixotropic paste
Colour Dark Grey
Density 1.73 - 1.75 g/cm³

Solidifier Component

Appearance Thixotropic paste
Colour White
Density 1.23 - 1.25 g/cm³

Mixed Properties

Appearance: Thixotropic paste
Colour: Grey
Density 1.57 g/cm³
Slump resistance: >6mm/0.25 in
VOC content (ASTM D2369 / EPA ref. 24): 0.00% / 0.00 g/L
(Undetected)

Mix Ratio

Mixing Ratio by Volume (Base : Solidifier) 2 : 1 Cartridge supplied

Overcoat Window

When overcoating with a further layer of **Belzona® 5711** or **Belzona® 5721**, regardless of temperature or humidity, the maximum overcoat time is 24 hours. After this time, the surface must be roughened before applying a further layer.

Working Life

The working life will vary depending on ambient conditions. At 20 °C/68 °F and 50% relative humidity, the usable life of mixed material will typically be 12 minutes. Consult the Belzona IFU for specific details.

*The above application information serves as introductory guide only.
For full application details including the recommended application procedure/technique, refer to the Belzona IFU.*

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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)

15 mm³ loss per 1,000 cycles 24 hour cure at 20 °C/68 °F
 11 mm³ loss per 1,000 cycles 7 Day cure at 20 °C/68 °F

ADHESION

Pull off Adhesion

The PosiTest Dolly Pull Off strength on GRP composite, as determined in accordance with ASTM D4541 and ISO 4624, will typically be:

8.16 MPa / 1,183 psi* 7 Day cure at 20 °C/68 °F

*Cohesive failure of GRP composite

The PosiTest Dolly Pull Off strength on 10 mm thick grit blasted mild steel, as determined in accordance with ASTM D4541 and ISO 4624, will typically be:

31.97 MPa / 4,636 psi (3mm thick application)* 7 Day cure at 20 °C/68 °F

*Cohesive failure of **Belzona 5711**

Tensile Shear Adhesion

The tensile shear adhesion on grit blasted mild steel, as determined in accordance with ASTM D1002, will typically be:

21.64 MPa / 3,138 psi 24 hour cure at 20 °C/68 °F
 23.33 MPa / 3,383 psi 7 Day cure at 20 °C/68 °F

Cleavage Adhesion

The cleavage adhesion on grit blasted mild steel, as determined in accordance with ASTM D1062, will typically be:

235 N/mm / 1,341 pli 24 hour cure at 20 °C/68 °F
 199 N/mm / 1,136 pli 7 Day cure at 20 °C/68 °F

COMPRESSIVE PROPERTIES

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

	Compressive Strength	Proportional Limit	Youngs Modulus
24 hours at 68°F/20°C cure & test	53.1 MPa 15,226 psi	41.7 MPa 6,047 psi	1,270.0 MPa 1.84 x 10 ⁵ psi
68°F/20°C cure & test	66.4 MPa 9,631 psi	50.1 MPa 7,272 psi	1,340.0 MPa 1.94 x 10 ⁵ psi

FLEXURAL PROPERTIES

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

Flexural Strength

42.13 MPa / 6,110 psi 24 hour cure at 20 °C/68 °F
 57.38 MPa / 8,322 psi 7 Day cure at 20 °C/68 °F

Flexural Modulus

4,293 MPa / 6.23 x 10⁵ psi 24 hour cure at 20 °C/68 °F
 4,302 MPa / 6.24 x 10⁵ psi 7 Day cure at 20 °C/68 °F

HARDNESS

Shore D

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

82 24 hour cure at 20 °C/68 °F
 82 7 Day cure at 20 °C/68 °F

Barcol (Model 935)

The Barcol hardness of the material tested to ASTM D2583 is typically:

83 24 hour cure at 20 °C/68 °F
 83 7 Day cure at 20 °C/68 °F

HEAT RESISTANCE

Heat Distortion Temperature (HDT)

When determined in accordance with ASTM D648, the HDT will typically be:

46 °C / 115 °F 24 hour cure 20 °C/68 °F
 54 °C / 129 °F 7 Day cure 20 °C/68 °F

IMPACT RESISTANCE

Izod Pendulum

Izod impact strength, when determined in accordance with ASTM D256, will typically be:

	Reversed notched Izod Impact Strength	Un-notched Izod Impact Strength
24 hours at 68°F/20°C cure & test	2.5 KJ/m ² 31 J/m	4.0 KJ/m ² 50.1 J/m
68°F/20°C cure & test	3.0 KJ/m ² 37.4 J/m	5.9 KJ/m ² 73.9 J/m

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SHELF LIFE

Belzona 5711 shall have a shelf life of 3 years from date of manufacture when stored in the original unopened foil sachets between 5 °C (41 °F) and 30 °C (86 °F).

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 5711 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 / SUPPLIER

Belzona Limited,
Claro Road, Harrogate,
HG1 4DS, UK

Belzona Inc.
14300 N.W. 60th Ave.
Miami Lakes, FL, 33014, USA

HEALTH AND SAFETY

Prior to using this material, please consult the relevant 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.

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