PRODUCT SPECIFICATION SHEET
BELZONA 5721
FN10237

BELZONA®
Repair • Protect • Improve

GENERAL INFORMATION

Product Description:
A high performance, two component, solvent free coating system for the protection of leading edges on wind turbine blades. For use in repair situations or Original Equipment Manufacture (OEM). **Belzona 5721** offers high erosion resistance, is optimised for ease of application and a rapid return to service.

APPLICATION INFORMATION

Application Methods
Brush
Applicator

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

Coverage Rate
Belzona 5721 can be applied as a one coat or two coat system at a target thickness of 500 microns (20 mil) per coat.

Applied at a thickness of 500 microns (20 mil), the theoretical coverage rate will be 1.3 m^2 (14.0 sq.ft)/kg.

Cure Time
The cure time is dependent on ambient conditions. Allow to cure for the times shown in the Belzona IFU before subjecting it to the conditions indicated.

Base Component

Appearance	Thixotropic liquid
Colour	White or Light Grey
Density	1.72 - 1.74 g/cm^3

Solidifier Component

Appearance	Liquid
Colour	Clear, colourless
Density	1.12 - 1.16 g/cm^3

Mixed Properties

Appearance:	Thixotropic liquid
Colour:	White or Light Grey (RAL 7035)
Density	1.53 g/cm^3
Sag resistance (BS 5350-B9):	750 µ m / 30 mils
60° Specular Gloss (ASTM D2457):	85 Gloss Units
VOC content (ASTM D2369 / EPA ref. 24):	0.16% / 2.46 g/L

Mix Ratio

Mixing Ratio by Weight (Base : Solidifier)	3.04 : 1
Mixing Ratio by Volume (Base : Solidifier)	2 : 1

Overcoat Window
Between an ambient temperature range of 5°C/41°F to 40°C/104°F, the minimum overcoat time will be 30 minutes. The maximum overcoat time will be 24 hours. Consult the Belzona IFU for specific details.

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 40 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 which is enclosed with each packaged product.

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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:

12 MPa /1,735 psi * 20°C/68°F cure & test

**Cohesive failure of GRP composite*

Pull Off Adhesion
The PosiTest Dolly Pull Off Strength of the combined **Belzona 5711** and **Belzona 5721** system on GRP composite, as determined in accordance with ASTM D4541 and ISO 4624 as part of the DNV-RP-0573, will typically be:

	Pull Off Strength	
	MPa	psi
Base Line	5.58*	809*
8-week Aging	5.66*	821*
25-week Aging	4.52*	656*

**Cohesive failure of GRP composite*

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

38.7 MPa / 5,615 psi 20°C/68°F cure & test

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

25.1 MPa / 3,640 psi 20°C/68°F cure & test

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

203 N/mm / 1,160 pli 20°C/68°F cure & test

COMPRESSIVE PROPERTIES

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

Compressive Strength
62.9 MPa / 9,120 psi 20°C/68°F cure & test

Proportional Limit
53.5 MPa / 7,760 psi 20°C/68°F cure & test

Compressive Modulus
1,342 MPa / 1.95 x 10^5 psi 20°C/68°F cure & test

CORROSION PROTECTION

Salt Spray
When tested in accordance with ASTM B117, **Belzona 5721** will show no signs of failure after 1,000 hours continuous exposure.

EROSION RESISTANCE

Taber
Dry sliding abrasion resistance, when determined in accordance with ASTM D4060 using CS17 wheels, will typically result in:

23 mm^3 loss per 1,000 cycles 20°C/68°F cure & test

Grit Impact
Direct impact of 5 x 2kg (10kg) G34 chilled iron grit at 80 psi and 90° angle, will typically result in total volume loss of:

115 mm^3 20°C/68°F cure & test

Solid Particle Impingement
When independently tested at a coating thickness of 500 microns, in accordance with ASTM G76, using 50g dry silica sand jet erosion, at a distance of 20mm from the surface, at an impingement angle of 90° and at an erodent velocity of 70 m/s, the volume loss will typically be:

8.8 mm^3 20°C/68°F cure & test

(Tested for FN 10204)

Rain Erosion Testing (RET)
Belzona 5721 has been fully validated in accordance with DNV-RP-0573. A combined system of Belzona 5711 and Belzona 5721 applied and cured at 5°C and 80% relative humidity (24-hour overcoat window) achieved the following:

	Erosion Onset	Average Breakthrough
Base Line	<20 min	760 min
25-week Aging	<20 min	887 min

Full Testing reports including the Vs vs. N diagrams are available upon request.

FATIGUE RESISTANCE

When tested in accordance with ISO 13003 with a strain range of 4,000 µ-strain, the combined **Belzona 5711** and **Belzona 5721** system applied to GRP composite showed no signs of failure following:

2,000,000 cycles 23°C/73°F cure & test
250,000 cycles 23°C/73°F cure & -30°C/-22°F test

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FLEXURAL PROPERTIES

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

Flexural Strength
76.2 MPa / 11,045 psi — 20°C/68°F cure & test

Flexural Modulus
4,290 MPa / 6.22 x 10^5 psi — 20°C/68°F cure & test

HARDNESS

Shore D, Barcol & König Pendulum Hardness
The Shore D, Barcol and König Pendulum hardness, when determined in accordance with ASTM D2240, ASTM D2583 and ISO 1522 respectively, will typically be:

Shore D	Barcol (Model 935)	Barcol (Model 934-1)	König Pendulum (Seconds)
84	82	11	146

HEAT RESISTANCE

Heat Distortion Temperature (HDT)
When determined in accordance with ASTM D648, the HDT will typically be:

48°C / 118°F — 20°C/68°F cure

IMPACT STRENGTH

Izod Impact
When tested in accordance with ASTM D256, the Izod impact strength will typically be:

Reverse Notched:
6.9 kJ/m² / 80.2 J/m — 20°C/68°F cure & test

Un-notched:
9.2 kJ/m² / 109.2 J/m — 20°C/68°F cure & test

Falling Weight
The direct falling weight impact resistance when determined in accordance with ASTM D2794 on a 500 micron thickness sample, value will typically be

0.63 kg.m / 55.1 in.lbs — 20°C/68°F cure & test

WEATHERING RESISTANCE

Artificial Weathering (Xenon Arc)
When tested in accordance with ISO 4892-2 (Xenon Arc), **Belzona 5721** will show no chalking or colour change following >1000 hours exposure.

Cyclic Aging (UV, Salt Spray and Low Temperature cycling)
When tested in accordance with ISO 12944-9, over a 25-week period, the combined **Belzona 5711** and **Belzona 5721** system when applied on GRP composite shows no significant signs of degradation.

SHELF LIFE

Separate base and solidifier components shall have a shelf life of 3 years from date of manufacture when stored in their original unopened containers between 5°C (41°F) and 30°C (86°F).

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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 5721 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 Safety Data Sheets.

MANUFACTURER / SUPPLIER

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

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

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.

Belzona products are manufactured under an ISO 9001 Registered Quality Management System