BELZONA 4231 Product Specification Sheet

1. PRODUCT NAME

Belzona® 4231

A rapid curing system for repairing and resurfacing concrete and stonework damaged by impact, vibration, chemicals and environmental attack. Also for grouting and bonding. Will cure down to 32°F (0°C).

2. MANUFACTURER

Belzona Inc.,
2000 NW 88th Court,
Miami, Florida 33172.

Belzona Polymerics Ltd.,
Claro Road, Harrogate,
HG1 4DS, England.

3. PRODUCT DESCRIPTION

Designed for rapid cure and ease and versatility in application. A combination of selected quartz particles and two specifically formulated reactive liquid resins (**Belzona® 4251**) which interlink chemically fusing the quartz particles together. Ideally suited for horizontal surfaces, the system may also be applied on vertical substrates up to ¼ inch (6mm) thickness.

Suitable for rapid grouting of handrails, holding down bolts, etc.

Having outstanding adhesion, strength, hardness and chemical resistance it is ideal for emergency repairs to any structure made from concrete, brick, marble, stone, etc.

4. TECHNICAL DATA

Belzona® 4251 Base Component

Appearance	Opaque Liquid
Colour	Gray
Density	1.15 g/cm³

Belzona® 4251 Solidifier Component

Appearance	Clear Liquid
Color	Colorless
Density	1.22 g/cm³

Belzona® 4231 Aggregate Component

Appearance	Pre-wetted, fine granular powder
Color	Buff
Density	2.59 g/cm³
Bulk Density	Approx. 1.5 g/cm³

Mixing Ratio

For mixing small quantities the mixing ratio of the component to achieve a tolerable screed is:-

(Base : Solidifier : Aggregate)

by weight	1.4 : 1 : 18
by volume	1.5 : 1 : 13

For slurry mixes Aggregate may be added to desired consistency.

• Shelf Life:
Separate Base and Solidifier components will have a minimum shelf life of 3 years when stored in their original unopened containers between 32°F (0°C) and 86°F (30°C).

• Working Life:
Will vary according to temperature. At 77°F (25°C), use all mixed material within 5 minutes.

• Coverage Rates:
The theoretical coverage rate of a 13 kg unit applied at ¼ inch (6 mm) is 10.2 sq.ft (0.95m²).

• Volume Capacity:
The volume capacity of mixed product is 349 cu.ins. (5720 cm³) per 13 kg unit.

• Cure Time:
Will be reduced for thicker sections and extended for thinner applications. At the recommended film thickness of ¼ inch (6 mm) allow to solidify 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
When tested in accordance with ASTM D4060 using CS10 wheels, 1 kg load, typical loss per 1,000 cycles is
Dry 16mm³.

• Adhesion:
Positest dolly pull-off
When tested in accordance with ASTM D4541 adhesion values will typically be

Dry concrete	1100 psi (7.6 MPa)
Damp concrete	700 psi (4.8 MPa)

CURE TIMES

Temperature	**32°F (0°C)**	**50°F (10°C)**	**68°F (20°C)**
To resist pedestrian traffic	2 hrs	1½ hrs	1¼ hrs
Full mechanical hardness	2 days	1 day	8 hrs
Full chemical resistance	7 days	5 days	3 days

• ***Chemical Resistance:***
This material offers resistance to a broad range of chemicals and will demonstrate good resistance to dilute acids, alkalis, oils, bleach, diesel and unleaded petrol.

• ***Compressive Strength:***
When tested in accordance with ASTM D695 the compressive strength is typically 11,000 psi (75.8 MPa).

• ***Compressive Modulus:***
When tested in accordance with ASTM D695 the compressive modulus is typically 1.90 x 10^5 psi (1310 MPa).

• ***Flexural Strength:***
The flexural strength of the material (binder/aggregate matrix), when tested to ASTM D790 is typically 2,500 psi (17.2 MPa).

• ***Flexural Modulus:***
When tested in accordance with ASTM D790 the flexural modulus is typically 2.02 x 10^5 psi (13920 MPa).

• ***Heat Distortion Temperature:***
The heat distortion temperature when tested to ASTM D648 is typically 111°F (44°C).

• ***Heat Resistance:***
For many typical applications, the product is thermally stable to 300°F (150°C) dry and 140°F (60°C) wet, and down to -40°F (-40°C).

6. SURFACE PREPARATION AND APPLICATION PROCEDURES

For proper techniques, refer to Belzona® Instructions For Use which is enclosed with each packaged product.

7. AVAILABILITY AND COST

Belzona® 4231 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 recognised 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.

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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BELZONA®
Repair • Protect • Improve

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