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### **1. PRODUCT NAME** Belzona® 2311

#### (SR Elastomer)

A two-part, rapid-curing elastomeric material for repairing and rebuilding rubber components. Allows repaired component to be put back into service almost immediately. Ideal for emergency and permanent repairs.

#### 2. MANUFACTURER Belzona Inc.,

2000 N.W. 88th Court Miami, Florida 33172

#### Belzona Polymerics Ltd.,

Claro Road, Harrogate, HG1 4AY, England.

#### 3. PRODUCT DESCRIPTION

A two component system consisting of a base and solidifier packaged in sealed foil laminated sachets. The material is based on blends of low, medium, and high molecular weight reactive polymers. Once combined, the base and solidifier components rapidly form a tough, but flexible, elastomeric repair compound. As a result rubber components repaired with the product can be put back into service with the minimum of delay.

<u>Applications</u> Conveyor belts. Hoses. Rubber linings. Rubber rollers. Off-road tire sidewalls. Pump impellers. Pump linings. Gaskets. Cables Bonding metal to rubber.

#### 4. TECHNICAL DATA

Base Component Appearance

	white viscous
	liquid
Odor	None
Density	1.10 g/ml.

Clear to milky

<u>Solidifier Component</u> Appearance Odor Density	Black paste None 1.16 g/ml.
<u>Mixing Ratio</u> Mixing Ratio by Weight (Base : Solidifier) Mixing Ratio by Volume (Base : Solidifier)	0.974 : 1 1 : 1
<u>Mixed Components</u> Appearance Odor	Black soft paste None

paste None 1.13 g/ml.

# • Shelf Life:

Density

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).

#### • Working Life:

Will vary according to temperature. At 77°F (25°C) the usable life of mixed material is 2 minutes.

#### • Volume Capacity:

4.1 cu.in. (66.5 ccs) per 75 gm unit.

#### • Cure Time:

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 77°F (25°C).

#### • Abrasion Resistance:

Taber The Taber abrasion resistance with 1 kg load is typically: H18 Wheels (Wet) at 70°F (21°C) 45 mm<sup>3</sup> loss per 1000 cycles H18 Wheels (Dry) at 70°F (21°C) 109 mm<sup>3</sup> loss per 1000 cycles

#### Adhesion:

Typical adhesion values achieved when the material is used in conjunction with the designated surface conditions are:

Mild steel	ASTM D429
Natural rubber	119 pli ASTM D413
Styrene-butadiene	14 pli* ASTM D413
Styrene-butadiene	14 pli*

\* Cohesive failure in the substrate material

#### Chemical Resistance:

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

carbonic acid 15% hydrochloric acid 10% hydrofluoric acid 20% súlfuric acid stearic acid tartaric acid 10% ammonia solution barium hydroxide calcium hydroxide lime water magnesium hydroxide 25% potassium hydroxide 25% sodium hydroxide grease mercury oil/water mixture emulsion paint distilled water sea water wax emulsion fertilizer solution starch silicone oil inorganic salts

\* For a more detailed description of chemical resistance properties, refer to Product Data E507.

#### • Compression Set:

When tested in accordance with BS 903 Part A6 typical compression set is 13%.

CURE TIMES								
TEMPERATURE	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)		
Movement or use involving no loading or immersion Full mechanical or thermal	60 min	40 min	30 min	25 min	20 min	15 min		
loading	4 hrs	2 hrs	1½ hrs	1 hr	50 min	40 min		
Immersion in chemicals	2 days	1½ days	1 day	18 hours	15 hours	12 hours		

# PRODUCT **SPECIFICATION** SHEET BELZONA® 2311

# • *Electrical Properties:* Dielectric Strength

Tested to ASTM D149 is typically 300 volts/ mil (12,000 volts/mm).

#### • Elongation:

Tested in accordance with ASTM D412 (Die C) is typically 450%.

#### • Heat Resistance:

For many typical applications the product is suitable for operation in the temperature range -40°F to 150°F (-40°C to 65°C).

#### • Sag Resistance:

Material shows no signs of slump at 1/4 inch (6 mm). Very slight at 1/2 inch (12 mm).

#### • Shore A Hardness:

Tested in accordance with ASTM D2240 is 75.

#### • Tear Strength:

Tested in accordance with ASTM D624 is typically 260 pli.

#### • Tensile Strength:

Tested in accordance with ASTM D412 (Die C) is typically 1400 psi.

#### 6. SURFACE PREPARATION AND APPLICATION PROCEDURES

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

# 7. AVAILABILITY AND COST

**Belzona® 2311** 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 guality control laboratories.

#### **10. HEALTH AND SAFETY**

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

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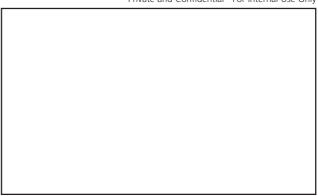


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Belzona® 2311 - Product Specification Sheet (2)

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