CAF® 731

Maintenance Servicing – Repair Range

Description

CAF 731 is a one component, thixotropic silicone elastomer, which cures at room temperature simply on contact with air moisture.

It's a product that is:

- neutral : Alcohol type
- Non flowing
- White
- Self-Adhesive (primerless)

Examples of applications

CAF 731 is particularly suited for bonding, protection and maintenance applications.

It is mainly attended as a flexible bonding and sealing agent between different types of materials substrate whose have different coefficients thermal of expansion, as glass, metal or plastic.

It is recommended for :

- Bonding/sealing in the aeronautic industry.
- Elastic bonding or protection of electronic components.
- Repair/servicing in industry and transport applications.

Advantages

- Its chemical neutrality guarantees no oxidation with metals principally used in electronic like copper.
- Odourless, it is particularly well accepted in the workstation environment.
- Outstanding adhesion on many substrates.
- Good heat stability (-60°C à 180°C).
- Outstanding mechanical properties.

Characteristics

1. <u>Characteristics of the non cured product</u>

Properties	**CAF 731**
Appearance	Non flowing paste
Odour	Alcoxy
Colour	White
Flowability *(norm BOEING S7502, NM459, approx.)*	< 2 mm
Specific gravity *(g/cm^3, at 25°C, approx.)*	1.30
Extrusion *(g/min, 3mm, 3bars, norm 495A, average)*	120

CAF® 731

Characteristics *(cont')*

2. Polymerization

CAF 731 starts curing as soon as the product comes into contact with atmospheric moisture.
The curing rate increases with both temperature and hygrometry.

Properties (*)	CAF 731
Skin Formation Time *(minutes, approx.)*	10
Time required to cure 2 mm *(hours, approx)*	8
Cured thickness after 24 hours *(mm, approx)*	3.5

(*) Temperature 23°C, relative humidity 50%

3. Characteristics of the cured product

On 2 mm thick film, after 7 days curing at 23°C 50%RH

Properties	CAF 731
Shore A Hardness *(ISO R 868, DIN 53505, ASTM D 2240, BS 903 part A7, NM471, NF T 46003, approx.)*	40
Modulus at 100% Elongation, MPa *(ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 part A2, NM470, NF T 46002 (H2), approx.)*	1
Tensile Strength, MPa *(ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 part A2, NM470, NF T 46002 (H2), approx.)*	3.3
Elongation at break, % *(ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 part A2, NM470, NF T 46002 (H2), approx.)*	420
Tear Strength, kN/m *(ASTM D 624 Eprouvette A, NM492, approx.)*	13

4. Thermal properties on 2 mm thick film

Properties	Service Temperatures
Lower usage temperature limit (brittle point, °C)	- 60
Upper usage temperature limit in continuous *(1000 hours, maximum Temperature, °C)*	+ 150
Upper usage temperature limit in peak *(72 hours, maximum Temperature, °C)*	+ 180

Note: *Determined by measuring the mechanical properties and Shore A Hardness before and after treatment. These values are not absolute limits; they represent the range within which variations in mechanical properties are not modified by more than 50%. Furthermore, for peak use, periods of exposure shorter than 72 hours allow higher maximum temperatures.*

CAF® 731

Characteristics *(cont')*

5. Adhesion properties

Shear strength on 1 mm thick joint, after 14 days curing at 23°C, 50% RH, standard NM748

Substrates	CAF 731
Alu AG3 *(MPa, approx.)*	1.2
PA 6.6, 30% fiber glass *(MPa, approx.)*	1.3
Type of failure	**100% Cohesive**

Others substrates :

Primerless adhesion on glass, enamel, steel, painted steel, stainless steel, iron cast, PI (Kapton), ABS, PC, PBT, with 100% cohesive failure.

Processing

Processing of **CAF 731** is particularly easy, since the product is delivered ready to use. Application can be carried out either manually or using robotic application equipment.

CAF 731 is applied to one of the two joint substrates and assembled before the product has formed a skin.

It is recommended to apply **CAF 731** onto clean and dry surfaces and not to exert any strain on the assembly straight away.

Packaging

CAF 731 is available in:

- 100 g tubes on pallets of 1600 units.
- 310 ml cartridges on pallets of 1200 units.

Storage and shelf life

When stored in its original unopened packaging, at a temperature of between +2°C and +30°C, the **CAF 731** may be stored for up to 12 months from the date of manufacture clearly marked on the packaging.

Beyond this date, Bluestar Silicones no longer guarantees that the product meets the sales specifications.

Safety

Please consult the Safety Data Sheet of **CAF 731.**

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