CAF 3

Silicones | Delivering your potential

Technical Data Sheet n° 1449-V9 – 2020/08/27

Description

CAF 3 is a one component, flowing silicone elastomer which cures at room temperature on contact with atmospheric humidity.

The product is :
- Acetic,
- Flowing,
- Translucent.

Examples of applications

CAF 3 is mainly used in industrial sealing and bonding applications when requiring a flowing product.

CAF 3 is notably used for:
- Potting and insulation of electronic sensors,
- Bonding of various materials,
- General maintenance in industry.

Key benefits

CAF 3 is quick curing, has very good mechanical properties and good high temperature resistance.

CAF 3 therefore provides perfect assembly and complete sealing between different materials subject to thermal stresses.

CAF 3 also has good resistance to chemical agents.

Typical properties

1. Properties before curing

Properties	**CAF 3**
Appearance	Flowing paste
Color	Translucent
Cure type	Acetic
Specific gravity at 23°C, approx. *(Standards ISO R 1183, DIN 53479)*	1.01
Flowability *(Standards MIL S 880 2 D, minutes)*	2 to 12
Brookfield viscosity, approx. *(Standards NFT 76105)*	140 000

2. Curing

CAF 3 starts curing as soon as the products come into contact with atmospheric moisture.

Skin formation time*, minutes, approx.	8
Time required to cure 2 mm*, hours, approx.	5
Cured thickness after 24h*, mm, approx.	4.5

*Temperature 23°C, relative humidity 50%
The curing rate increases with temperature and hygrometry.

3. Properties after curing

Specific gravity at 23°C, approx. *(Standards ISO R 2781, BS 903 Part A1 - ASTM D 297)*	1.03

3.1 Mechanical properties after 7 days at room temperature (Measured on a 2 mm thick film)

Properties	**CAF 3**
Shore A hardness *(Standards ISO R 868-DIN 53505-ASTM D 2240, BS 903 Part A7, NFT 46003)*	26
Modulus at 100% elongation, MPa *(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))*	0.5
Tensile strength, MPa *(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))*	1.3
Elongation at break, % *(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))*	260
Tear strength, kN/m *(Standards ASTM D 624 specimens A)*	2.5

4. Thermal properties

Properties	**CAF 3**
Lower usage temperature limit, Brittle point, °C	- 60
Temperature range in continuous use, °C *(on 2 mm thickness film, 1000 h)*	+ 200
Maximum recommended peak temperature, °C *(on 2 mm thickness film, 72 h)*	+ 225

N.B. These values are not absolute limits, but the range within which variations in mechanical properties are not reduced by more than 50%.
In the case of exposure for periods shorter than 72 h, the product withstands higher peak temperatures.

5. Thermal conductivity

Thermal conductivity at 30°C, W/m.K, approx. *(Standard NF X 10021)*	0.2
Thermal conductivity at 150°C, W/m.K, approx. *(Standard NF X 10021)*	0.15

6. Adhesion properties
(1 mm thick joint, curing 7 days at 23°C)

Properties	CAF 3
Shear strength **on glass**, MPa, approx.	0.6
Shear strength **on aluminium AG3**, MPa, approx.	0.5
Type of failure	100% cohesive

On other surfaces

Enamel, ceramics, epoxy	Primerless self-adhesion
Certain plastics	Primers PM 820 or PM 824
Metals	Primer 131

7. Dielectric properties

Properties	CAF 3
Dielectric strength, kV/mm , approx. *(Standards NF C 26225 - ASTM D 419, IEC 243)*	19
Dielectric constant at 1 MHz, approx. *(Standards NF C 26230 - ASTM D 150, IEC 250)*	2.7
Power factor at 1 MHz, approx. *(Standards NF C 26230 - ASTM D 150, IEC 250)*	2.10^{-3}
Volume resistivity, Ω.cm, approx. *(Standards AFNOR NF C 26215 - ASTM D 257, CEI 93)*	1.10^{15}

Please note: The typical properties are not intended for use in preparing specifications. Please contact our local Sales Department for assistance in writing specifications.

Instruction of use

Processing is particularly easy, since the products are delivered ready to use. Application can be carried out either manually or using robotic application equipment.

CAF 3 is applied to one of the two joint surfaces and assembled before the product has formed a skin.

It is recommended to apply **CAF 3** to clean and dry surfaces.

Regulation

Please consult your local ELKEM SILICONES sales office.

Limitations

Please consult your local ELKEM SILICONES sales office.

Packaging

- CAF 3 is available in
  - Drum of 210 KG (463.05 LB)
  - Piece of 0.1 KG (0.22 LB)

Storage and shelf life	When stored in its original packaging: CAF 3 may be stored at temperatures between 2°C / 36°F and 30°C / 86°F for up to 30 months from its date of manufacturing. Comply with the storage instructions and expiration date marked on the packaging. Beyond this date, Elkem Silicones no longer guarantees that the product meets the sales specifications.
Safety	Please consult the Safety Data Sheet of: CAF 3

Visit our website www.silicones.elkem.com