

CAF 4

Description	CAF 4 is a one component silicone elastomer which cures at room temperature: • Acetic • Self-levelling • Off-white												
Examples of applications	CAF 4 is mainly used in industrial sealing, bonding and coating applications: It is notably used for: • bonding of plastics in aeronautics, • electrical insulation, • coating of fabrics for thermal protection, • coating of conveyor belts.												
Key benefits	CAF 4 is quick curing, has very good mechanical properties, good heat stability and high dielectric properties. CAF 4 therefore provides perfect assembly and complete sealing between different materials subject to thermal stresses												
Typical properties	1. <u>Processing / Curing</u> 1.1. <u>Processing</u>: 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 4 is applied to one of the two joint surfaces and assembled before the product has formed a skin. It is recommended to apply CAF 4 to clean and dry surfaces. CAF 4 is coated using a spray gun after having been diluted in white spirit or cyclohexane. The ideal viscosity for this is 1000 mPa.s. 1.2. <u>Curing</u>: CAF 4 starts curing as soon as the products come into contact with atmospheric moisture. • Skin formation time*, min. approx 10 • Time required to cure 2 mm*, hours, approx..... 5 • Cured thickness after 24 h*, mm, approx..... 4.5 • * Temperature 23 °C, relative humidity 50%. The curing rate increases with temperature and hygrometry. 2. <u>Properties before curing</u> <table border="1"> <tr> <td>Appearance</td><td>viscous flowing paste</td></tr> <tr> <td>Colour</td><td>off-white</td></tr> <tr> <td>Odour</td><td>acetic</td></tr> <tr> <td>Flowability, in min (Standards MIL S 880-2-D, NMRPS 459)</td><td>4</td></tr> <tr> <td>Viscosity, mPa.s (Standards NF T 76105, ASTM D 445)</td><td>250 000</td></tr> <tr> <td>Specific gravity at 25 °C (Standards ISO R 1183, DIN 53479, NMRPS 703)</td><td>1.16</td></tr> </table> 3. <u>Cured product properties</u> 3.1. • Specific gravity at 25 °C 1.19	Appearance	viscous flowing paste	Colour	off-white	Odour	acetic	Flowability, in min (Standards MIL S 880-2-D, NMRPS 459)	4	Viscosity, mPa.s (Standards NF T 76105, ASTM D 445)	250 000	Specific gravity at 25 °C (Standards ISO R 1183, DIN 53479, NMRPS 703)	1.16
Appearance	viscous flowing paste												
Colour	off-white												
Odour	acetic												
Flowability, in min (Standards MIL S 880-2-D, NMRPS 459)	4												
Viscosity, mPa.s (Standards NF T 76105, ASTM D 445)	250 000												
Specific gravity at 25 °C (Standards ISO R 1183, DIN 53479, NMRPS 703)	1.16												

CAF 4

(Standards ISO 2781, ASTM D 297, BS 903 part. A1)

3.2. Mechanical properties after 7 days at room temperature:

- **Shore A hardness**..... 37
(Standards ISO R 868, DIN 53505, ASTM D 2240BS 903 Part A7, NF T 46003, NMRPS 471)
- **Modulus at 100 % elongation, MPa** 0.8
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412BS 903 Part A2, NF T 46002 (H2), NMRPS 470)
- **Tensile strength, MPa** 3.8
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412BS 903 Part A2, NF T 46002 (H2), NMRPS 470)
- **Elongation at break, %** 290
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412BS 903 Part A2, NF T 46002 (H2), NMRPS 470)
- **Tear strength, kN/m** 4.5
(Standards ASTM D 624 specimen A, NMRPS 492)

3.3. Thermal properties:

Lower usage temperature limit	
Brittle point	- 65°C
Temperature range in continuous use (on a 2 mm thick film, 1000 h)	- 60 °C to + 225 °C
Maximum peak recommended temperature (on a 2 mm thick film, 72 h)	+ 250 °C

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.

3.4. Adhesion properties:

- on aluminium AG3

(1 mm thick joint, curing 7d at 23 °C, NMRPS 748)

Shear strength, MPa	1.2
Type of failure	cohesive

- on other surfaces:

Self adhesion on	glass, enamel, ceramics, epoxy paint
Adhesion with primer	
on polar plastics	primer PM 820 or PP 878
on stainless steel	primer 131 or PM 820
on other metals	primer 131 or PM 820

3.5. Thermal conductivity:

- **Thermal conductivity at 30 °C, W/m.K**..... 0.30(Standard NF x 10021)

CAF 4

3.6. Dielectric properties:

Dielectric strength, kV/mm 21

(Standards NF C 26225, ASTM D 419, IEC 243)

• **Dielectric constant at 1 MHz** 2.9

(Standards NF C 26230, ASTM D 150, IEC 250)

• **Power factor at 1 MHz** $2 \cdot 10^{-3}$

(Standards NF C 26230, ASTM D 150, IEC 250)

• **Volume resistivity, .cm** $1 \cdot 10^{15}$

(Standards NF C 26215, ASTM D 257, IEC 193)

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	Please consult your local ELKEM SILICONES sales office.
Regulation	Please consult your local ELKEM SILICONES sales office.
Limitations	Please consult your local ELKEM SILICONES sales office.
Packaging	- CAF 4 is available in - Drum of 230 KG (507.15 LB) - Piece of 0.1 KG (0.22 LB) - Carton of 25 PC
Storage and shelf life	When stored in its original packaging: CAF 4 may be stored at temperatures between 2°C / 36°F and 30°C / 86°F for up to 24 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 4

Visit our website www.elkem.com/silicones/

Warning to the users

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and is in no way binding, particularly as regards infringement of or prejudice to third party rights through the use of our products. ELKEM SILICONES guarantees that its products comply with its sales specifications. This information must on no account be used as a substitute for necessary prior tests which alone can ensure that a product is suitable for given use. Determination of the suitability of product for the uses and applications contemplated by users and others shall be the sole responsibility of users. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorisations. Users are requested to check that they are in possession of the latest version of this document and ELKEM SILICONES is at their disposal to supply any additional information.