

CAF[®] 1, CAF[®] 1 EXTRA FLUID

Industrial and Professional Range

Technical Data Sheet n° SIL 18 037 3 – June 2018
Cancels and replaces SIL 08 179 3

| | |
|--------------------|---|
| Description | <p>CAF 1 and CAF 1 Extra Fluid are one component room temperature curing silicone elastomers:</p> <ul style="list-style-type: none"> • Acetic. • Variable rheology, from self-leveling to fluid, from CAF 1 to CAF 1 Extra Fluid. • Red. |
|--------------------|---|

| | |
|---------------------------------|---|
| Examples of applications | <p>CAF 1 and CAF 1 Extra Fluid are mainly used in sealing and bonding applications in which low viscosity is required.</p> <ul style="list-style-type: none"> • CAF 1 and CAF 1 Extra Fluid are notably used for: • Sealing of electrical heating elements (CAF 1 Extra Fluid). • Engine sealing in automotive after sales service (CAF 1). • General maintenance in the aeronautics industry (CAF 1). |
|---------------------------------|---|

| | |
|---------------------|--|
| Key benefits | <p>CAF 1 and CAF 1 Extra Fluid cure quickly and have very good resistance to high temperature.</p> <p>CAF 1 and CAF 1 Extra Fluid therefore ensure perfect sealing and bonding between different materials subject to thermal strain.</p> <p>CAF 1 and CAF 1 Extra Fluid also have high resistance to chemical agents.</p> |
|---------------------|--|

Typical properties **1. Properties before curing**

| <i>Properties</i> | CAF 1 | CAF 1 Extra Fluid |
|---|---------------|--------------------------|
| Appearance | Viscous paste | Fluid paste |
| Odour | Acetic | Acetic |
| Colour | Red | Red |
| Density at 25°C <i>(Standards ISO R 1183, DIN 53479)</i> | 1.2 | 1.1 |
| Brookfield viscosity, mPa.s <i>(Standards NF T 76105, ASTM D 445)</i> | 250 000 | 7 500 |
| Flowability, min <i>(Standard MIL S 880-2)</i> | 5 | / |

CAF 1[®], CAF[®] 1 EXTRA FLUID

Typical properties
(cont')

2. Curing

Curing of **CAF 1** and **CAF 1 Extra Fluid** starts as soon as the product comes into contact with atmospheric humidity.

| | |
|---------------------------------------|-----|
| Skin formation time*, min | 7 |
| Curing rate for 2 mm*, hours. | 6 |
| Cured thickness after 24 h*, mm | 4.3 |

*Temperature 23°C, relative humidity 50%

The curing rate increases with temperature and hygrometry.

3. Properties after curing

3.1 Specific gravity at 23°C
(Standards ISO 2781, ASTM D 297, BS 903 part. A1.)

| | |
|--------------------------------|------|
| CAF 1 | 1.15 |
| CAF 1 Extra Fluid | 1.12 |

3.2. Mechanical properties after 7 days at room temperature

| Properties | CAF 1 | CAF 1 Extra Fluid |
|--|-------|-------------------|
| Shore A hardness <i>(Standards ISO R 868, DIN 53505, ASTM D 2240, BS 903 Part A7, NF T 46003)</i> | 47 | 54 |
| Modulus at 100% elongation, MPa <i>(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))</i> | 2 | 2.2 |
| Tensile strength, MPa <i>(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))</i> | 4.4 | 3 |
| Elongation at break, % <i>(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2))</i> | 200 | 110 |
| Tear strength, kN/m <i>(Standards ASTM D 624 specimen A)</i> | 6 | 4 |

4. Thermal properties

| Properties | CAF 1 | CAF 1 Extra Fluid |
|---|---------------|-------------------|
| Temperature range in continuous use, °C <i>(on 2 mm thickness film, 1000 h)</i> | - 65 to + 225 | - 65 to + 250 |
| Maximum peak temperature in use, °C <i>(on 2 mm thickness film, 72 h)</i> | + 300 | + 275 |

N.B.: These thermal values are not absolute limits. They represent the range within which initial mechanical properties are not modified by more than 50%.

Furthermore, for peak uses, exposure for periods shorter than 72 h would authorize higher maximum temperatures.

CAF 1[®], CAF[®] 1 EXTRA FLUID

Typical properties
(cont')

5. Thermal conductivity

| Properties | CAF 1 | CAF 1 Extra Fluid |
|--|-------|-------------------|
| Thermal conductivity at 30°C, W/m.K (Standard NF x 10021) | 0.3 | |
| Thermal conductivity at 150°C, W/m.K (Standard NF x 10021) | 0.25 | |

6. Adhesion properties

On aluminium AG3 (joint 1 mm thick, curing 7d at 23°C, NM 748)

| Properties | CAF 1 | CAF 1 Extra Fluid |
|---------------------|-------|-------------------|
| Shear strength, MPa | 1.8 | 1 |
| Cohesive failure, % | 100 | 0 |

On other surfaces:

(CAF 1 and CAF 1 Extra Fluid)

Glass, enamel, ceramics.....Primerless self-adhesion

Metals Primer 131

Polar plastics Primers PM 824 or PM 820

7. Dielectric properties

| Properties | CAF 1 | CAF 1 Extra Fluid |
|--|---------------------|---------------------|
| Dielectric strength, kV/mm (Standards NF C 26225 - ASTM D 419 - IEC 243) | 20 | 18 |
| Dielectric constant at 1 MHz (Standards NF C 26230 - ASTM D 150 - IEC 250) | 3 | 2,8 |
| Dielectric dissipation factor at 1 MHz (Standards NF C 26230 - ASTM D 150 - IEC 250) | 3.10 ⁻³ | 3.10 ⁻³ |
| Volume resistivity, Ω.cm (Standards NF C 26215 - ASTM D 257 - IEC 93) | 1. 10 ¹⁵ | 8. 10 ¹⁴ |

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

Instructions of use

Processing is particularly easy because the product is delivered ready to use. Application can either be carried out manually or using robotized application equipment.

CAF 1 and **CAF 1 Extra Fluid** are applied on one of the two joint surfaces. Assembly must be carried out before the product has formed a skin.

It is recommended to apply **CAF 1** and **CAF 1 Extra Fluid** to clean and dry surfaces.

CAF 1[®], CAF[®] 1 EXTRA FLUID

Packaging

CAF 1:

100 g tubes, 25 kg drums, 230 kg drums.

CAF 1 Extra Fluid:

1 l cans.

Storage and shelf life

When stored in their original packaging at a temperature between +2°C and + 30°C, **CAF 1** and **CAF 1 Extra Fluid** can be used for up to 24 months from their date of manufacture.

Comply with the storage instructions and expiry date marked on the packaging.

Beyond this date, Elkem Silicones no longer guarantees that the products meet the sales specifications.

Safety

Please consult the Safety Data Sheets of **CAF 1** and **CAF 1 Extra Fluid**.

Visit our website www.silicones.elkem.com

EUROPE

Elkem Silicones France
21 Avenue Georges Pompidou
F69486 Lyon Cedex 03
FRANCE
Tel. (33) 4 72 13 19 00
Fax (33) 4 72 13 19 88

NORTH AMERICA

Elkem Silicones USA
2 Tower Center Boulevard
Suite 1601
East Brunswick, NJ 08816-1100
United States
Tel. (1) 732 227-2060
Fax. (1) 732 249-7000

LATIN AMERICA

Elkem Silicones Brazil Ltda.
Av. Duquesa de Goiás, 716
2º andar
05680-002 Sao Paulo
Brazil
Tel. (55) 11 4380-6900

ASIA PACIFIC

Elkem Silicones (Shanghai)
Co. Ltd.
3966, Jindu Road, Xinzhuang
Industrial Zone, Shanghai
Tel. (86) 21 5442 6600
Fax (86) 21 5442 3733

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.