

CAF[®] 1, CAF[®] 1 Extra Fluid

Industrial and Professional Range

Description

CAF 1 and **CAF 1 Extra Fluid** are one component room temperature curing silicone elastomers:

- Acetic.
- Variable rheology, from self-leveling to fluid, from **CAF 1** to **CAF 1 Extra Fluid**.
- Red.

Examples of applications

CAF 1 and **CAF 1 Extra Fluid** are mainly used in sealing and bonding applications in which low viscosity is required.

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**).

Advantages

CAF 1 and **CAF 1 Extra Fluid** cure quickly and have very good resistance to high temperature.

CAF 1 and **CAF 1 Extra Fluid** therefore ensure perfect sealing and bonding between different materials subject to thermal strain.

CAF 1 and **CAF 1 Extra Fluid** also have high resistance to chemical agents.

Characteristics

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 (Standards ISO R 1183, DIN 53479, NM 703)	1.2	1.1
Brookfield viscosity, mPa.s (Standards NF T 76105, ASTM D 445)	250 000	7 500
Flowability, min (Standard MIL S 880-2-D, NM 458)	5	/

CAF 1[®], CAF 1[®] Extra Fluid

Characteristics (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*, min7

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 (Standards ISO R 868, DIN 53505, ASTM D 2240, BS 903 Part A7, NF T 46003, NM 471)	47	54
Modulus at 100% elongation, MPa (Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)	2	2.2
Tensile strength, MPa (Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)	4.4	3
Elongation at break, % (Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)	200	110
Tear strength, kN/m (Standards ASTM D 624 specimen A, NM 492)	6	4

4. Thermal properties

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

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Characteristics (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)	$3 \cdot 10^{-3}$	$3 \cdot 10^{-3}$
Volume resistivity, $\Omega \cdot \text{cm}$ (Standards NF C 26215 - ASTM D 257 - IEC 93)	$1 \cdot 10^{15}$	$8 \cdot 10^{14}$

Processing

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.

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Packaging

- 100 g tubes for **CAF 1** on pallets of 1600 units.
- 25 Kg tins for **CAF 1** on pallets of 10 units.
- 210 Kg drums for **CAF 1** on pallets of 4 units.
- 1 liter cans for **CAF 1 Extra Fluid** on pallets of 288 units.

Storage and shelf life

When stored in their original unopened packaging at a temperature of 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 (expiry date).

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

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

Safety

Consult the safety data sheet for **CAF 1** and **CAF 1 Extra Fluid**.

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