

CAF[®] 3

October 2017

Flexible adhesive for assembly and sealing

Description	<p>CAF[®] 3 is a one component, flowing silicone elastomer which cures at room temperature on contact with atmospheric humidity. The product is: acetic, flowing, and translucent.</p>																								
Applications	<p>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, and general maintenance in industry.</p>																								
Advantages	<p>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.</p>																								
Characteristics	<p><u>1 – Processing/curing</u></p> <p>1.1. Processing: 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.</p> <p>1.2 Curing: CAF[®] 3 starts curing as soon as the products come into contact with atmospheric moisture.</p> <table border="0"> <tr> <td>Skin formation time*, min. approx</td> <td>8</td> </tr> <tr> <td>Time required to cure 2 mm*, hours, approx</td> <td>5</td> </tr> <tr> <td>Cured thickness after 24 h*, mm, approx</td> <td>4.5</td> </tr> </table> <p>*Temperature 23 °C, relative humidity 50 % The curing rate increases with temperature and hygrometry.</p> <p><u>2 – Properties before curing</u></p> <table border="0"> <tr> <td>Appearance.....</td> <td>.. flowing paste</td> </tr> <tr> <td>Colour.....</td> <td>translucent</td> </tr> <tr> <td>Odour</td> <td>acetic</td> </tr> <tr> <td>Specific gravity at 23 °C.....</td> <td>1.01</td> </tr> <tr> <td colspan="2">(Standards ISO R 1183, DIN 53479, NMRPS 703)</td> </tr> <tr> <td>Flowability, min.....</td> <td>..2 to 12</td> </tr> <tr> <td colspan="2">(Standards MIL S 880 2 D – NMRPS 459)</td> </tr> <tr> <td>Brookfield viscosity; mPa.s</td> <td>140000</td> </tr> <tr> <td colspan="2">(Standards ASTM D445 – NFT 76105 – NMRPS 99)</td> </tr> </table>	Skin formation time*, min. approx	8	Time required to cure 2 mm*, hours, approx	5	Cured thickness after 24 h*, mm, approx	4.5	Appearance.....	.. flowing paste	Colour.....	translucent	Odour	acetic	Specific gravity at 23 °C.....	1.01	(Standards ISO R 1183, DIN 53479, NMRPS 703)		Flowability, min.....	..2 to 12	(Standards MIL S 880 2 D – NMRPS 459)		Brookfield viscosity; mPa.s	140000	(Standards ASTM D445 – NFT 76105 – NMRPS 99)	
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3 – Cured product properties

3.1 Specific gravity at 23 °C1.04
(Standards ISO R 2781, BS 903 Part A1, ASTM D 297)

3-2 Mechanical properties after 7 days at room temperature (Measured on a 2 mm thick film) :

Shore A hardness.....26
(Standards ISO R 868, DIN 53505, ASTM D 2240, BS 903 Part A7, NFT 46003, NMRPS 471)

Modulus at 100 % elongation, MPa0.5
(Standards ISO R 37(H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)

Tensile strength, MPa.1.3
(Standards ISO R 37(H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)

Elongation at break, %260
(Standards ISO R 37(H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)

Tear strength, kN/m 2.5
(Standard ASTM D 624 specimen A, NMRPS 492)

3.3 Thermal properties:

- Lower usage temperature limit

Brittle point: - 60°C

Temperature range in continuous use

(on a 2 mm thick film, 1000 h) : +200°C

- Maximum peak recommended temperature: ... +225°C

(on a 2 mm thick film, 72 h)

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:

Shear strength

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

- on glass 0.6

- on aluminium AG3 0.5

Type of failure..... 100% cohesive

- on other surfaces:

Self adhesion on enamel, ceramics, epoxy.

Adhesion with primer PM 820 and PP 878 on certain plastics.

Adhesion with primer 131 on metals.

3.5 Thermal conductivity:

- Thermal conductivity at 30 °C, W/m.K, approx. 0.2

(Standard NF x 10021)

- Thermal conductivity at 150 °C, W/m.K, approx. 0.15

(Standard NF x 10021)

3.6 Dielectric properties:

Dielectric strength, kV/mm19
 (Standards NF C 26225, ASTM D 419, IEC 243)

Dielectric constant at 1 MHz 2.7
 (Standards NF C 26230, ASTM D 150, IEC 250)

Power factor 1 MHz 2.10-3
 (Standards NF C 26230, ASTM D 150, IEC 250)

Volume resistivity, Ω .cm 1.1015
 (Standards AFNOR NF C 26215- ASTM D257-CEI 93)

Storage and shelf life

When stored in its original unopened packaging at a temperature of between + 2 °C and + 30 °C, **CAF® 3** can be used for up to 18 months from its date of manufacture (expiry date).

Comply with the storage instructions and expiry date marked on the packaging. Past this date, Elkem Silicones no longer guarantees that the product meets the sales specifications.





Safety

Consult the safety data sheet for **CAF® 3**.

Packaging

CAF® 3 is available in multiple packages, please check with our team.

CAF® is a registered Trademark of **Elkem SILICONES**

 EUROPE	 NORTH AMERICA	 LATIN AMERICA	 ASIA PACIFIC
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	Elkem Silicones USA Two Tower Center Boulevard Suite 1601 East Brunswick, NJ 08816-1100 United States Tel. (1) 732 227 2060 Fax (1) 732 249 7000	Elkem Silicones Brazil Ltda. Av. Maria Coelho Aguiar, 215 Bloco G -1º Andar 05804-902 - São Paulo - SP - Brazil Tel. (55) 11 3747 7887 Fax (55) 11 3741 7718	Elkem Silicones Hong Kong Trading Co. Ltd. Unit C, 18/F Manulife Tower 169 Electric Road North Point-Hong Kong Tel. (852) 3106 8200 Fax (852) 2979 0241

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