CAF® 99 AXAD BLACK

Activated range

Description

CAF 99 AXAD BLACK is a two component room temperature vulcanising silicone elastomer.

- activated acetic,
- thixiotropic,
- black.

Applications

CAF 99 AXAD BLACK is mainly used in sealing and bonding applications for :

- Household electrical appliances :
  - oven fascias,
  - oven door staples,
  - oven door windows,
  - vitroceramic hobs.

- Glass bonding applications :
  - bonding of boat port-hole glass,
  - cockpit windows.

Advantages

CAF 99 AXAD BLACK cures quickly at room temperature without release of acetic acid and its setting time can be accelerated with temperature. **CAF 99 AXAD BLACK** sets in confined spaces and in high section thicknesses.

CAF 99 AXAD BLACK gives very high mechanical performance levels, very good heat stability, primerless adhesion on many surfaces and good resistance to chemical agents.

CAF 99 AXAD BLACK therefore provides perfect assembly and complete sealing when jointing different materials subject to thermal strains.

Characteristics

1 – Processing / Curing

1.1 Processing

Processing is particularly easy since this product is delivered "ready-to-use" in the correct mixing proportions. The similar viscosity of parts A and B enable quick and easy mixing that may be performed, for example, using static mixers, disposable or otherwise. Application can be carried out either manually or using robotic application equipment.

CAF 99 AXAD BLACK is applied onto one of the two joint surfaces. These must be assembled before the product has started to set.

It is recommended not to subject the assembly to stress immediately and to apply **CAF 99 AXAD BLACK** on clean and dry surfaces.

1.2 Curing

CAF 99 AXAD BLACK starts curing even in confined spaces as soon as the two parts A and B are mixed. At room temperature, the Pot life is of around 3 to 5 minutes.

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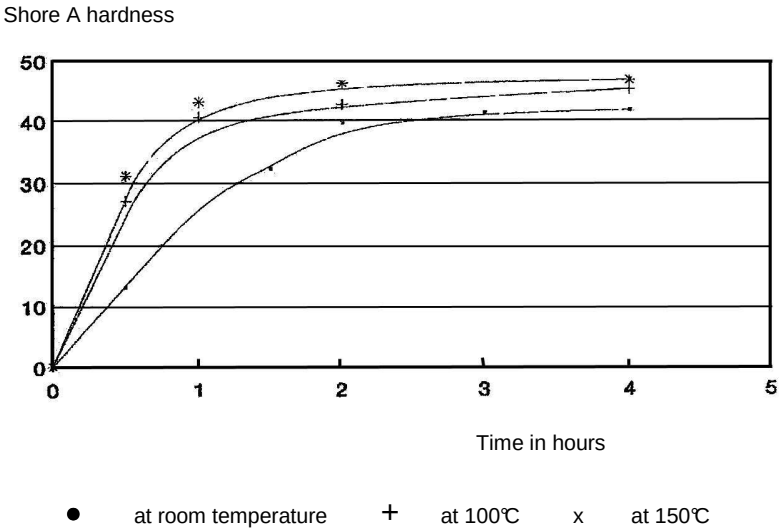
After 25 to 30 minutes at room temperature, the cured thickness is infinite and the product is sufficiently “cohesive” for the assembled part to be handled.
The cure rate can be greatly increased by raising the temperature (up to 150°C at most)

CAF 99 AXAD BLACK
Change in Shore A hardness



2 - Properties before curing

Properties	CAF 99 AXAD BLACK PART A	CAF 99 AXAD BLACK PART B
Appearance.....	non-flowing	non-flowing
Colour.....	Black	Black
Odour.....	acetic	alcohol
Dosage, in volume.....	90 %	10 %
Specific gravity..... (NMRPS 703, ISO R1183, DIN 53479)	1.11	1.43
Flowability Test BOEING S 7502……..	≤ 5 mm	≤ 5 mm

3 – Properties after curing

3.1 Specific gravity at 25°C..... ..... 1.15
(Standards ISO R 2781, BS 903 Part A1, ASTM D 297)

3.2 Mechanical properties after 7 days at room temperature
Measured on 2 mm thick films

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Shore A hardness 51
(Standards ISO R 868, DIN 53505, ASTM D 2240,
NF T 46003, NMRPS 471, BS 903 Part A7)

Modulus at 100% elongation, MPa 2.3
(Standards ISO R 37 (H_2), DIN 53504, ASTM D 412,
NF T 46002 (H_2), NMRPS 470, BS 903 Part A2)

Tensile strength, MPa 4.3
(Standards ISO R 37 (H_2), DIN 53504, ASTM D 412,
NF T 46002 (H_2), NMRPS 470, BS 903 Part A2)

Elongation at break, % 235
(Standards ISO R 37 (H_2), DIN 53504, ASTM D 412,
NF T 46002 (H_2), NMRPS 470, BS 903 Part A2)

Tear strength, kN/m 10
(Standard ASTM D 624 specimen A, NMRPS 492)

3.3 Thermal properties

Lower usage temperature limit
Brittle point ..... - 70 °C
(measured using differential calorimetric analysis)

Upper temperature limits

Determined by measuring the mechanical properties and Shore A hardness before and after heat treatment.

Maximum temperature in continuous use (1 000 h)... .....250°C
Maximum peak temperature (72 h)..... ……...300°C

NB: *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 Compression set

Test intended to measure the aptitude of the product to get back to its initial state after compression ;
0% = 0%= integral recovery
100%= 100%= no elastic recovery of the product
(standards ASTM D 395 (specimen 1, method B)
ISO R 815, AFNOR NF T 46011, NMRPS 523)

Curing time of the films at room temperature	Test temperature on the specimen compressed by 25% for 3 days	Compression set	
1 day 7 days 7 days	125°C 125°C 150°C	50% 35% 45%	

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3.5 Adhesion

Tests performed on tensile-shear specimens with a 1 mm thick silicone joint. (Standard NMRPS 748).

3.5.1 Adhesion on AG 3 aluminium

Curing conditions	Type of joint failure	Tensile strain (MPa)
1 day at R.T.* 3 days at R.T.* 7 days at R.T.*	80 % cohesive 100 % cohesive 100 % cohesive	1.9 2.3 2.5
7 days at R.T.* + 3 days at 250°C + 1 day at R.T.*	100 % Cohesive break	2.5

** R.T. = Room Temperature*

3.5.2 Adhesion on various substrates

On metals such as stainless steel and plastic surfaces, it is recommended to apply an adhesion primer.

3.6 Dielectric properties

- Dielectric strength, kV/mm 18
(Standards NF C 26225, ASTM D 419, CEI 243)
- Dielectric constant at 1 MHz 3,2
(Standards NF C 26230, ASTM D 150, CEI 250)
- Power factor at 1 MHz ..... 4 x 10^{-3}
(Standards NF C 26230, ASTM D 150, CEI 250)
- Volume resistivity, Ω.cm ....2 x 10^{15}
(Standards NF C 26215, ASTM D 257, CEI 93)

3.7 Thermal conductivity

- Thermal conductivity at 25°C W/m.K 0.25
(Standard NF X 10021)
- Thermal conductivity at 150°C W/m.K 0.22
(Standard NF X 10021)

Packaging

- Two-component 264 ml cartridges.
- Kits (3 1 l tins of part A, 1 310 ml cartridge of part B), on request.
- 30 l tins, on pallets of 10 units (9 tins of part A, 1 tin of part B)
- 223 l drums for part A.

Storage and shelf life

When stored in its original unopened packaging at a temperature of between +2°C and +30°C, **CAF 99 AXAD BLACK** 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, Bluestar Silicones no longer guarantees that the product meets the sales specifications

Safety

Consult the Safety Data Sheet for **CAF 99 AXAD BLACK.**

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Visit our website www.bluestarsilicones.com

EUROPE

Bluestar 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

Bluestar 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

LATIN AMERICA

Bluestar Silicones Brasil Ltda.
Av. Maria Coelho Aguiar, 215, Bloco G -1º Andar
05804-902 - São Paulo - SP - Brasil
Tel. (55)-11-37477887

ASIA PACIFIC

Bluestar Silicones Hong Kong Trading Co., Ltd.
29/ F, 88 Hing Fat Street
Causeway Bay - Hong Kong
Tel. (852) 3106 8200
Fax (852) 2979 0241