CAF 33 AXAD BLACK

Description

CAF 33 AXAD BLACK is a two component room temperature vulcanising silicone elastomer:

- activated acetic,
- thixiotropic,
- black.

Examples of applications

CAF 33 AXAD BLACK is mainly used in sealing and bonding applications for:

• Household electrical appliances:

- oven fascias,
- oven door staples,
- vitroceramic hobs.

• Glass bonding applications:

- bonding of boat port-hole glass,
- bonding of light lenses.

• Industrial applications:

- sealing of retention tanks.

Key benefits

- **CAF 33 AXAD BLACK** cures quickly at room temperature without release of acetic acid mand its setting time can be accelerated with temperature. CAF 33 AXAD BLACK sets in confined spaces and in high section thicknesses.
- **CAF 33 AXAD BLACK** gives goods mechanical performance levels, very good heat stability, primerless adhesion on many surfaces and good resistance to chemical agents.
- **CAF 33 AXAD BLACK** therefore provides perfect assembly and complete sealing when jointing different materials subject to thermal strains.

Typical properties

	AXAD B BLACK	CAF 33 AXAD A TRANSPARENT
Flowability BOEING S 7502	2 mm	< 3 mm
Elongation NF ISO 37	500 %	
Extrusion rate ASTM C 1183	40 g/min	

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 33 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 33 AXAD BLACK** on clean and dry surfaces.

1.2 Curing

CAF 33 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.

After 60 to 90 minutes at room temperature, the cured thickness is infinite and the product is sufficiently "cohesive" for the assembled part to be handled.

Moreover, the cure rate can be greatly increased by raising the temperature (up to 150°C at most)

2. Properties before curing

Properties	**CAF 33 AXAD BLACK PART A**	**CAF 33 AXAD BLACK PART B**
Appearance	Non flowing	Non flowing

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Colour	Translucent	Black
Odour	Acetic	Alcohol
Volume dosage	90 %	10 %
Specific gravity (Standards NM 703, ISO R 1183, DIN 53479)	1.04	1.43
Flowability (BOEING S 7502 Test)	< or = to 5 mm	< or = to 5 mm

3. Properties after curing

3.1. Specific gravity of cured product at 25°C: 1.12
(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:
Shore A Hardness: 25
(Standards ISO R 868,DIN 53505, ASTM D 2240, BS 903 Part A7, NF T 46003, NM 471)
Modulus at 100 % Elongation, MPa: 0.6
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)
Tensile strength, MPa: 2.4
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)
Elongation at break, %: 500
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NF T 46002 (H2), NM 470)
Tear strength, kN/m: 6
(Standard ASTM D 624 specimen A, NM 492)

3.3. Thermal properties
Lower temperature limit in use
Brittle point:. – 65°C
(Measured by differential calorimetric analysis)
Upper temperature limits
Maximum temperature in continuous use (1000 h): + 180°C
Maximum temperature in peak use (72 h): + 250°C
Note: 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 % = integral recovery
100 % = no elastic recovery of the product
(standards ASTM D 395 (specimen 1, method B)
(Standards ISO R 1817 - ASTM D 471 - NM 525).

Cure time of films at room temperature	**Test temperature on compressed pile 25% for 3 days**	**Compression set**
1 day	125 °C	70 %
7 days	125 °C	50 %
7 days	150 °C	60 %

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

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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	1.6 1.9 2.1
7 days at R.T.* **+ 3 days at 250°C** **+ 1 day at R.T.***	100 % Cohesive break	1.2

*R.T. : Room temperature

3.5.2 Adhesion on various substrates

It is recommended to apply an adhesion primer on metal and plastic substrates

- Glass: No treatment
- Stainless steel: BLUESIL PRIM 131
- Metals: BLUESIL PRIM 131
- Polyethylene: Corona treatment
- PVC: BLUESIL PRIM PM 820
- Talc filled polypropylene: BLUESIL PRIM PM 820
- Polyamide: BLUESIL PRIM PM 820
- ABS: BLUESIL PRIM PM 820

3.5. Dielectric properties

Dielectric strength, KV/mm: 20
(Standards NF C 26225, ASTM D 419, IEC 243)
Dielectric constant at 1 MHz: 3.2
(Standards NF C 26230, ASTM D 150, IEC 250.
Dielectric dissipation factor at 1 MHz: 3 x 10-3
(Standards NF C 26230, ASTM D 150, IEC 250)
Volume resistivity, _.cm: 0.3 x 1015
(Standards NF C 26215, ASTM D 257, IEC 193)

3.6. Thermal conductivity

Thermal conductivity at 25 °C, W/m. K: 0.22
(Standard NF X 10021)
Thermal conductivity at 150 °C, W/m.K: 0.20
(Standard NF X 10021)

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	• AXAD B BLACK is available in
	  ○ Drum of 32 KG (70.56 LB)
	• CAF 33 AXAD A TRANSPARENT is available in
	  ○ Drum of 210 KG (463.05 LB)

Storage and shelf life	When stored in its original packaging: AXAD B BLACK may be stored at temperatures between 2°C / 36°F and 30°C / 86°F for up to 18 months from its date of manufacturing. CAF 33 AXAD A TRANSPARENT may be stored at temperatures between 2°C / 36°F and 30°C / 86°F for up to 30 months from its date of manufacturing.

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	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: AXAD B BLACK and CAF 33 AXAD A TRANSPARENT

Visit our website www.elkem.com/silicones/

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