S I L I C O N E S

CAF® 510
High performance bonding and sealing silicone

May 2003 TECHNICAL DATA SHEET

Description

CAF 510 is a one component silicone elastomer curing at room temperature simply on contact with air humidity.
It is a product that is :

- Alcoxy (neutral)
- Non flowing (Thixotropic)
- Grey

Applications

CAF 510 is mainly used for the technical usage in assembly and bonding applications especially when high adhesive performances are required using a neutral product.

The **CAF 510** is notably used for :
- Head ligth lens bonding
- Sealing and bonding of plastic based materials.

Advantages

Non corrosive, odourless cure system.
CAF 510 has good mechanical properties and bonds to most plastics and metals even in a humid atmosphere.

Characteristics

1 – Processing / Curing

1.1 Processing :

CAF 510 is particularly easy to process since the product is delivered ready to use.
Application can either be carried out manually or using a dispensing equipment.

CAF 510 is applied to one of the two joint surfaces and assembly must take place before the product has formes its skin.

It is recommended to apply **CAF 510** to cleannd and dried surfaces.

Characteristics (cont.)

1.2 Curing :

CAF 510 starts to cure as soon as the product comes into contact with atmospheric humidity.

Skin formation time*, min…….. ……..…… 10
Time required to cure 2 mm*, hours……15
Cured Thickness after 24 h*, mm…….. ……..…....3

**Temperature 23°C, relative humidity 50%*

The cure rate increases with both temperature and hygrometry.

2 – Properties before curing

Appearence..... non flowing paste

Colour ……..... grey

Odour ……..... alcoxy

Flowability, mm : …..... ≤3
(Standards BOEING S 7502, NMRPS 459)

Extrusion, g/min : 30
(∅ 3 mm – 3 bars – Standard NMRPS 495A)

Density :……..... 1,38
(Standards ISO R 1183, DIN 53479, NMRPS 703)

3 – Properties after curing

3.1 Mechanical properties after 7 days at room temperature) :

Shore A hardness…..... 24
(Standards ISO R 868, DIN 53505, ASTM D 2240
BS 903 Part A7, NF T 46003, NMRPS 471)

Modulus at 100 % elongation, MPa ……..... 0,5
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412
BS 903 Part A2, NF T 46002 (H2), NMRPS 470)

Tensile strnegth, MPa .....……..... 1,4
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412
BS 903 Part A2, NF T 46002 (H2), NMRPS 470)

Elongation at break, % 600
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412
BS 903 Part A2, NF T 46002 (H2), NMRPS 470)

Characteristics (cont.)

3.2 Thermal properties :

- Minimum temperature limit in use : ..…….…….. - 60°C

- Maximum temperature in continuous use
(on 2mm films, 1000 h) : ……..…….. +180°C

- Maximum recommended peak temperature : ……..... +200°C
(on 2 mm films, 72 h)

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

3.3 Adhesive properties :

Shear Strength, MPa
(1 mm thick gasket, curing 7days at 23°C, NMRPS 748)
- on glass .....…….....….....…..... 0,8
- on aluminium AG3 .....…….....….. 0,6
- on polyamide(+ 30% Glass fiber) ……..…… 0,6
- on ploycarbonate ……..……. 0,4

Failure type…….....….. 100% cohésive

- on other surfaces :
Self adhesion on enamel, painted steel and many plastics.

Packaging

- 25 kilos plastic tins on pallets of 10 units.
- 210 kilos drums on pallets of 4 units.

Storage and Shelf life

When stored in its original unopened packaging at a temperature of between +2°C and +30°C, **CAF 510** can be used for up to 12 months from its date of manufacture (expiry date).
Comply with this storage instructions and expiry date marked on the packaging.
Past this date, Rhodia Silicones no longer guarantees that the product meets sales specifications.

Au-delà de cette date, Rhodia Silicones ne garantit plus la conformité du produit aux spécifications de vente.

Safety

Consult the Safety Data Sheet for **CAF 510**

Warning to 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 infrigement of the prejudice to third party rights through the use of our products.

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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 a given use.

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 lates version of this document and RHODIA SILICONES is at their disposal to supply additional complimentary information.