

CAF[®] 5661

High Performance Industrial Range

Description

CAF 5661 is a one component, thixotropic silicone elastomer which cures at room temperature simply by contact with air humidity.

It is a product that is:

- Acetic.
- Non flowing.
- With high Shore A hardness.

Examples of applications

CAF 5661 has been specially designed to meet demanding gasketing criteria in the transport industry.

Its mechanical properties and its composition make it an ideal product to produce long lasting seals in contact with lubricants or corrosive engine fluids.

It is particularly suited to gasketing applications, using so called CIPG (wet gasketing) and FIPG (formed-in-place gasketing) technologies, for the following assemblies:

Gasketing joint surfaces, casings, covers, boxes, receptacles, inspection flaps, drive units, differentials, tanks, hydraulic equipment, diesel motors, under-bonnet mechanical parts, drive equipment, pumps, turbines, compressors and connections for industrial piping.

Advantages

- Fast curing.
- Non flowing.
- Continuous heat stability (1000 h).
- Outstanding engine oil resistance (mineral and synthetic).
- Permanent mechanical properties (hardness, compression resistance, modulus and elongation).
- Good compression set.
- No migration or exuding of components.

Characteristics**1. Properties before curing**

<i>Properties</i>	CAF 5661
Appearance	Non flowing paste
Colour	Creamy white
Cure type	Acetic
Flowability, min (Standards MIL S 880-2-D -NM 458)	≤ 5
Specific gravity at 23°C (Standards ISO R 1183, DIN 53479, NM 703)	1.14
Extrusion, g/min (Brookfield, Standard ASTM D 445)	100

Characteristics (cont')

2. Curing

CAF 5661 starts to cure as soon as the product comes into contact with atmospheric humidity.

Skin formation time*, min.....6
 Cured thickness after 24 h*4

*Temperature 23 °C, relative humidity 50 %

The cure rate increases with both temperature and hygrometry.

3. Properties after curing

3.1. Specific gravity of the cured product at 25 °C.....1.14
 (Standard 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 hardness57
 (Standard ISO R 868, DIN 53505, ASTM D 2240 BS 903 Part A7, NFT 46003, NM 471)

Modulus at 100 % elongation, Mpa3.3
 (Standard ISO R 37(H2), DIN 53504, ASTM D 412 BS 903 Part A2, NFT 46002 (H2), NM 470)

Tensile strength, Mpa.5.8
 (Standard ISO R 37(H2), DIN 53504, ASTM D 412 BS 903 Part A2, NFT 46002 (H2), NM 470)

Elongation at break %.....200
 (Standard ISO R 37(H2), DIN 53504, ASTM D 412 BS 903 Part A2, NFT 46002 (H2), NM 470)

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

Compression set:

26 days at 125 °C, %..... 26
 (Standard ASTM D 395)

7 days at 150 °C, %..... 45
 (Standard ASTM D 395)

3.3. Thermal properties

Temperature limit for continuous use– 65 to + 250 °C
 (On 2 mm film, 1000 h)

Maximum recommended peak temperature+ 300 °C
 (On 2 mm film, 72 h)

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 %.

Thermal conductivity, W/m, °C..... 0.23

Linear expansion coefficient / °K10⁻⁴

3.4. Dielectric properties

Dielectric strength, Kv/mm.19
 (Standard NFC 26225 – ASTM D419-IEC 243)

Dielectric constant at 1 MHz 2.9
 (Standard AFNOR NF C 26230)

Dielectric dissipation factor at 1 MHz. 4.10⁻³
 (Standard AFNOR NF C 26230)

Volume resistivity, Ω.cm 1.10¹⁵
 (Standard AFNOR NF C 26215)

3.5. Adhesion properties

Adhesion to glass, enamel, ceramics, epoxy paint, aluminium and the usual metals.

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Processing

Processing is particularly easy since the product is delivered ready to use.

Application is generally carried out using robot application equipment. Manual application can be considered for wet gasketing techniques.

CAF 5661 can be used for various types of gasketing and bonding:

- **Formed in place gaskets (FIPG):**

One bead of **CAF 5661** is placed on one of the two parts to be assembled. Assembly is immediate and must be carried out before a skin forms.

Surfaces need not be completely flat, as **CAF 5661** fills in and compensates for surface defects.

- **Cured in place gaskets (CIPG):**

A bead is placed on one of the gasket surfaces. Assembly takes place once cured, with the bead forming a real three-dimensional elastomer comparable to preformed, cut or moulded rubber gaskets. In situ manufacturing ensures both the adhesion on one of the surfaces and perfect conformity with the machined profile. The assembly can then be dismantled without destroying the silicone gasket.

It is recommended to apply **CAF 5661** to clean and dry surfaces.

Packaging

- 100 g tubes on pallets of 1 600 units.
- 1/3 litre cartridges on pallets of 1 200 units.
- 30 litre pails on pallets of 10 units.
- 223 litres 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 5661** 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 sales specifications.

Safety

Consult the Safety Data Sheet for **CAF 5661**.

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