



**Bonding, sealing,  
lubrication, protection**  
CAF®/Pastes and Greases/Primers

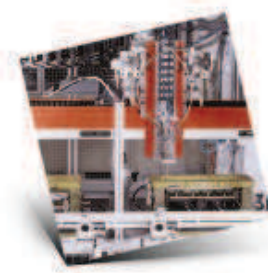
**BLUESTAR  
SILICONES**

## Performance, reliability, real cost effectiveness ...

> Ranges tailored to meet your needs

- Room temperature Vulcanizing Elastomers
  - One-component RTV-1 CAF®
  - Accelerated RTV-1: CAF® AXAD
- Pastes and greases
- Adhesion primers

Functions	Properties
Assembly/bonding	Modular from adhesion through to release.
Sealing	Resistance to automotive oils and fluids over a wide temperature range. Easy spreading.
Electrical insulation	Outstanding stability of dielectric properties over a wide temperature range.
Lubrication	Over a wide range of temperatures.
Damping / Anti-vibration	Damping and rebound resilience.
Thermal protection	Resistance over a wide temperature range.



> Technical service adapted to the most demanding markets

From “product” approval to after-sales technical service, including prototype production

With very high-performance equipment and unique know-how, our teams can validate the technical solution in the laboratory in terms of all industrial issues of bonding, sealing and lubrication before testing on-site with your teams and determining the optimal solution with a view to final approval.

Before any industrial launch, limited prototype series can be produced internally by our technical laboratories or in cooperation with an application robot manufacturer. Our technicians can then provide service to our customers to give them the assistance and advice they need throughout the production phase.

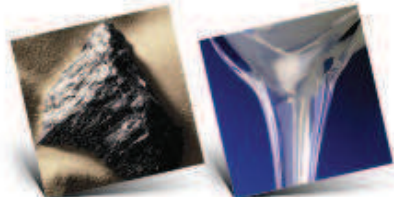


> A team of experts at your service, backed up by a specialist distributor network

Bluestar Silicones is a team of silicones experts backed up by a specialist distribution network that is regularly trained in the latest innovations in this field, listening to your needs on a day-to-day basis, by your side to provide the best technical and economic bonding, sealing and lubrication solutions.

# Silicones technology

for sealing, lubrication and industrial bonding



## > Renowned expertise

On the strength of 50 years experience in silicones technology, Bluestar Silicones offers its industrial customers an extensive range of products to meet their increasingly demanding requirements, both in terms of performance and reliability, as well as value for money.

## > Innovation strategy based on partnership and cross-fertilization of technologies

Bluestar Silicones has set itself the mission of working with its partner customers to develop tailor-made solutions with them whose properties give the best possible response to their functional requirements. Besides its expertise in silicones technology, Bluestar Silicones gives its customers access to all the other technologies and expertise in the Bluestar Group.

## > Silicones...

### A surprising material

#### Macromolecules with unlimited structural properties

Silicones have a chemical structure that is based on alternating atoms of silicon and oxygen. The originality of silicones compared with natural silica resides in the fact that the silicon atoms in silicones carry organic groups that contain carbon.

According to the nature of these organic groups and production and formulation conditions, the products obtained are extremely varied: their final texture can be fluid, viscous or pasty, elastomeric or rigid.

#### Between mineral and plastic

Silicones are different from other organic polymers, and notably plastics, due to the presence of silicon, a semi-mineral element, and their Si-O bond. The bonds that the silicon creates with the oxygen to form the backbone of macromolecules are exceptionally stable: they are much more difficult to break than carbon-carbon bonds in organic polymers.

#### Stable, high-performance polymers

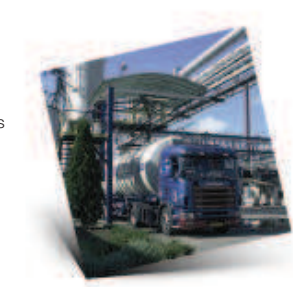
Silicones outperform most other polymers: their remarkable spreadability combined with outstanding resistance to extreme temperatures, UV and IR radiation as well as to many other outside factors, place them among the best performing polymers available.

# Permanently committed by your sides...



## > Safety, protection of health and the environment

Our Health, Safety and Environment policy is one of the foundations of industrial excellence. It is based on a high-performance management system combining transport of hazardous materials with safety, environmental and industrial health aspects. This system enables us to record the results in Bluestar Silicones International, confirming our place among the top chemicals groups worldwide in terms of safety.



## > Present throughout the world

With production sites spread over three continents (Europe, America and Asia) and a worldwide logistics chain, Bluestar Silicones can provide quality products and services throughout the world, stable in terms of performance and adaptable to each application.

## > Quality assurance worldwide

Bluestar Silicones rolls out its quality policy according to the ISO 9001 V 2000 standard backed up by a management system associated with a continuous progress approach. Lean Manufacturing tools and the Six Sigma methodology are used in this respect for our main product lines. Our worldwide entities (headquarters, laboratories or R&D activities, sales offices and production sites) are all certified to ISO 9001 V 2000.



# Bluestar Silicones CAF® products

> Several product ranges to meet your needs

- CAF® products (also called RTV-1 products) are one-component, silicone elastomers that cure at room temperature at various rates.
- Either acetic, oxime or alcohol-type, CAF® products have various viscosities ranging from fluid products to thixotropic and including a self-leveling version.
- They provide outstanding mechanical properties and adhesion over wide temperature ranges (from -70°C to +350°C according to the product) and very good resistance to natural ageing (UV, weathering, salt mist).
- Acetic CAF® products can be accelerated by adding an activator to give very rapid setting rates: products in the CAF AXAD range.



## > Industrial and professional range

- Assembly and repair on automated industrial production lines.
- Sealing/bonding for mass production applications requiring high service levels (occasional or prolonged contact with chemicals and lubricants, temperature differences, etc.) making automated processing possible.
- Supplies for professionals (installers, assemblers, heating engineers, electricians, mechanics, general professionals and specifically in the renovation business).
- General assembly providing sealing, anti-vibration properties, bonding, damping, etc.

## > High-performance assembly and protection range

Sealing, bonding and protecting assemblies subject to high constraints in terms of adhesion, temperature and/or corrosion and UV resistance.

## > Maintenance range

Maintenance of industrial sites or off-shore platforms.  
Repair/maintenance of air, rail, maritime fleets.  
Automotive repair for professionals and consumers.

## > Protection, coating and potting range

Insulation, coating, potting and sealing of electrical and electronic assemblies.

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# CAF® Applications

	Product	Sealing bonding					Electrical protection				Coating			Maintenance		
		Rheology	Adhesive	Self-adhesive	High-temperature adhesion	Non-corrosive	Quick-setting	Insulation	Coating	Potting	Sealing	Non-slip	Release coating	Thermal protection	Automotive	Electricity
Industrial and professional range	CAF 2	F	■	■			■	■								
	CAF 220/CAF 22 OX	NF	■		■											
	CAF 30	NF	■													
	CAF 1 extra fluid	F	■										■		■	
	CAF 4	NF	■									■				
	CAF 33	NF	■												■	■
	CAF 44	NF													■	
	CAF 99	NF	■		■											
	CAF 240	NF		■		■										
	CAF 520	NF		■		■	■					■			■	■
CAF 30 AXAD	NF	■			■									■	■	
High-performance assembly and protection	CAF 505	NF	■		■		■				■			■	■	■
	CAF 510	NF	■		■		■				■			■	■	■
	CAF 50	NF	■		■		■				■			■	■	■
	CAF 8	F	■		■						■				■	
	CAF 25	NF	■		■											
	CAF 36	NF	■		■											
	CAF 8 AXAD	F	■		■						■	■				
	CAF 33 AXAD	NF	■		■										■	■
CAF 99 AXAD	NF	■		■												
Protection, coating and potting	CAF 2 fluid	F	■		■											
	CAF 4 dispersion	F	■									■				
	CAF 542 fluid	F	■									■				
	CAF 7037	F										■				
Maintenance, servicing and repair	CAF 1	F	■											■	■	
	CAF 3	F	■								■				■	
	CAF 730	NF								■		■			■	■

F = Flowing  
NF = Non-Flowing

# CAF® Properties

	Industrial and professional range					
	CAF 2	CAF 220* CAF 22 OX	CAF 30	CAF 1 Extra fluid	CAF 4	CAF 33
Product category	Flowing, self-adhesive, neutral	Non-flowing, self-adhesive	Non-flowing, adhesive	Flowing	Non-flowing, adhesive	Non-flowing, adhesive
Main characteristics	Self-leveling	Elongation	Quick-setting	Fluid, heat stability, quick-setting	Mechanical properties	Thixotropic
Color	Translucent	White-trans-black	White-trans-black	Red	Off-white	White-trans-black
Properties before curing	Cure-type	Oxime	Oxime	Acetic	Acetic	Acetic
	Specific gravity at 25°C <sup>(1)</sup>	0,99	1,03	1,04	1,11	1,16
	Viscosity (mPa.s) <sup>(2)</sup>	80 000	-	-	7 500	250 000
	Extrusion (g/min) <sup>(3)</sup>	-	80	40	-	-
	Flowability <sup>(4)</sup>	260 sec	< 2 mm	< 2 mm	-	4 mm
	Cured compound <sup>(5)</sup>	Skin formation time (min)	12	8	6	7
Setting time for a 2 mm thickness (h)		16	8	6	6	5
Cured thickness after 24 h (mm)		3	3,6	4,2	4,3	4,5
Mechanical properties after curing (7 days)	Shore A hardness for 6 mm thick section (points) <sup>(6)</sup>	18	20	20	54	37
	Secant modulus for 100% elongation (MPa) <sup>(7)</sup>	0,3	0,45	0,6	2,2	0,8
	Tensile strength (mPa) <sup>(8)</sup>	0,7	1,5	2,2	3	3,8
	Elongation at break (%) <sup>(9)</sup>	250	450	500	110	290
	Tear strength (kN/m) <sup>(6)</sup>	1,8	4	5	4	4,5
	Shear strength (MPa) <sup>(6)</sup>	0,4	1	1,5	1	1,2
	Type of break RC (cohesive)/ RA (adhesive)	CF 100%	CF 100%	CF 100%	AF	CF 95%
Physical properties after curing	Lower service temperature (°C)	- 50	- 55	- 60	- 65	- 65
	Maximum continuous service temperature, 1000 h (°C)	150	200	250	250	225
	Maximum peak service temperature, 72 h (°C)	250	250	300 (black)	275	250
Storage	Shelf life from the production date (months)	10	18	24	24	24

(1) ISO R 1183, DIN 53479, NM 703  
(2) Brookfield NF T 76105, ASTM D 445  
(3) NM 495 A 3 mm / 3 bars  
(4) Thixo: Boeing S 7502 NM 459 (mm), flowing: MIL S 880 2D, NM 458 (sec or min)  
(5) Temp. 23°C, relative humidity 50%

(6) ISO R 868, DIN 53505, ASTM D 2240, BS 903 (A7), NF T 46003, NM 471  
(7) ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 (A2), NF T 46002 (H2), NM 470  
(8) ASTM D624 specimen A, NM492  
(9) Aluminum AG3 specimen, 1 mm thick joint, NM748

General range					High-performance assembly and protection					
CAF 44	CAF 99	CAF 240*	CAF 520	CAF 30 AXAD	CAF 505	CAF 510	CAF 50	CAF 8	CAF 25	CAF 36
Non-flowing	Non-flowing, adhesive	Non-flowing, self-adhesive, neutral	Non-flowing, self-adhesive, neutral	Non-flowing, self-adhesive	Non-flowing, self-adhesive, neutral		Thixotropic Self-adhesive, neutral	Flowing, adhesive	Non-flowing, self-adhesive, neutral	Non-flowing, adhesive
High Mechanical properties and fluid resistance	High hardness and heat stability	High consistency, low MEKO content*	Fast kinetics and good adhesion	Accelerated kinetics, high elongation	High elongation		Good adhesion and mechanical properties	High heat stability	High heat stability	High heat stability
Grey	Black-ivory	Black	Translucent	White-black	Translucent	Black-white-grey	Black	Red	Black	Red
Acetic	Acetic	Oxime	Alcoxy	Activated acetic	Alcoxy	Alcoxy	Alcoxy	Acetic	Oxime	Acetic
1,03	1,1	1,25	1,02	1,04/1,43	1,03	1,38	1,25	1,14	1,18	1,02
-	-	-	-	- / -	-	-	-	22 000	-	-
170	120	30	50	-	80	30	160	-	70	130
< 1 mm	< 2 mm	< 3 mm	< 3 mm	< 5 mm	< 2 mm	< 3 mm	1 mm	30 sec	< 3 mm	≤ 5 mm
7	6	7	5 to 8	4	10	10	15	8	8	4
8	7	6	7	-	-	15	16	6	6	6
4	4	3,3	4	-	4	3	2,5	4,5	3,2	4,5
38	55	34	15	24	17	24	33	34	38	30
1,9	2,3	0,8	0,3	0,6	0,35	0,5	0,7	0,8	0,8	0,7
2,9	5	1,9	1,1	2,3	2	1,4	2,1	2	2,7	3
280	200	460	550	500	750	600	350	250	300	500
7	9,8	7	-	5	-	-	8,5	6	6	10
1,1	2,6	1,2	0,6	1,8	0,9	0,6	1,7	0,8**	1,3	2
AF	CF	CF 100%	CF 100%	CF 100%	CF 100%	CF 100%	CF 100%	CF 100%	CF 100%	CF 100%
- 60	- 65	- 60	- 60	- 65	-	- 60	- 60	- 65	- 50	- 60
200	250	200	150	180	180	180	185	275	260	275
250	275	230	150	250	180	200	220	300***	300	300***
24	18	12	12	18	12	12	6	24	12	24

CF = Cohesive Failure  
 AF = Adhesive Failure  
 Adhesive: self-adhesive to aluminum, glass, enamel, ceramics;  
 for other surfaces it is recommended to use primers (see the Adhesion Primer datasheet).

\* Methyleneethyl Ketoxime (MEKO) content < 1%

\*\* 7 days at RT + 1 h at 240°C

\*\*\* 15 h, 320°C

15 min, 350°C

			Protection, coating and potting				Maintenance, servicing, repair		
CAF 8 AXAD	CAF 33 AXAD	CAF 99 AXAD	CAF 2 fluid	CAF 4 dispersion	CAF 542 fluid	CAF 7037	CAF 1	CAF 3	CAF 730
Flowing, self-adhesive	Non-flowing, self-adhesive		Flowing, self-adhesive	Flowing, adhesive	Flowing, adhesive	Flowing, non-adhesive, neutral	Flowing, adhesive	Flowing, adhesive	Non-flowing, neutral
Accelerated kinetics, heat stability	Accelerated kinetics, high elongation	Accelerated kinetics, good mechanical properties	Self-leveling	Sprayable	Fluid, release coating	Release coating	Heat stability	Non-slip	Thixotropic, mechanical properties
Brick red	Black	Black-ivory	Translucent	Off-white	Translucent	Red	Red	Translucent	White
Acetic	Activated acetic	Activated acetic	Oxime	Acetic	Acetic	Oxime	Acetic	Acetic	Oxime
1,14/1,43	1,04/1,43	1,11/1,43	1	1,02	1,01	1,1	1,12	1,01	1,02
20 000/ -	- / -	- / -	30 000	6 500	15 000	50 000	250 000	140 000	-
-	-	-	-	-	-	-	-	-	> 120
-	≤ 5 mm	≤ 5 mm	-	-	30 sec	-	5 min	de 2 to 12 min	≤ 2 mm
4	4	3	12	12	9	30	7	8	7
-	-	-	16	4	6	6	6	5	7
-	-	-	3	-	4,9	3,5	4,3	4,5	4,6
36	25	51	18	34	25	22	47	26	25
0,8	0,6	2,3	0,3	0,7	0,5	0,5	2	0,5	0,5
1,6	2,4	4,3	0,7	3,6	1,1	2	4,4	1,3	1,9
180	500	235	250	310	220	300	200	260	400
6,5	6	10	1,8	4,2	2	3,3	6	2,5	4
1	2,1	2,17	0,4	0,6	0,2	0,25	1,8	0,5	0,2
CF 100%	CF 100%	CF 100%	-	CF	CF 80%	AF	CF 100%	CF 100%	AF
- 65	- 65	- 70	- 50	- 65	- 60	- 60	- 65	- 60	- 55
250	180	250	150	200	200	225	225	200	200
300	250	275	250	225	225	250	300	225	225
18	18	18	10	24	18	12	24	18	12

## > CAF® products in the Bluestar Silicones range, high-performance products with many advantages

- Outstanding bonding properties on a wide variety of surfaces (glass, metal and plastics).
- Very easy to use in substitution applications or to supplement traditional pre-formed joints.
- Competitive cost (materials costs, limited processing and storage costs, etc.).
- Outstanding heat stability over a wide temperature range (- 70°C to + 350°C).
- Very good natural ageing resistance: long-lasting mechanical properties (sealing joints and very long-lasting flexible bonding applications).
- High insulating and thermal protection capacity.
- Good dielectric properties.
- Very chemically inert.

CAF® products are sold in various packs including 100 g tubes, 22 – 223 litre drums and 260 ml to 310 ml cartridges.

As for all of our products, our direct sales network, backed up by our local specialist distributors, provides high-performance services.



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