



# CAF<sup>®</sup> 36 PEX

## HIGH PERFORMANCE INDUSTRY

March 1996

TECHNICAL DATA SHEET  
Cancels and replaces SIL 94 002 3

<b>Description</b>	<p>One component silicone elastomer:</p> <ul style="list-style-type: none"> <li>- NON-FLOWING</li> <li>- ADHESIVE</li> <li>- HIGH HEAT STABILITY</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• <b>Stable at very high temperatures: up to 350 °C</b></li> <li>• <b>Adhesion to many substrates, even at high temperature</b></li> <li>• <b>Resistant to chemicals</b></li> <li>• <b>Water and humidity resistant</b></li> </ul>
<b>Nature and general uses</b>	<p><b>CAF 36 PEX</b> is a non-flowing, room temperature vulcanising silicone elastomer, specially designed for professional users. It is generally used for sealing applications, but also for bonding and for high temperature protection.</p>
<b>Examples of applications</b>	<ul style="list-style-type: none"> <li>• Industrial bonding / sealing applications</li> <li>• Heating engineering</li> <li>• Industrial ovens</li> <li>• Household electrical and industrial heating equipment</li> </ul>
<b>Characteristics</b>	<p><b>1. Processing</b></p> <p><i>1.1. Before curing</i></p> <p>Appearance..... non-flowing paste</p> <p>Colour ..... red</p> <p>Crosslinking type ..... acetic</p> <p>Flowability, in mm ..... ≤ 2 (Standards BOEING S 7502 - NMRPS 459)</p> <p>Extrusion, g/min ..... 450 (Standards NMRPS 495)</p> <p>Specific gravity at 25°C, approx..... 1.04 (Standards ISO R 1183, DIN 53470, NMRPS 703)</p>

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## Characteristics (cont'd)

**Notes:** *The product is delivered ready for use and the properties make it easy to apply.*

*It can be applied manually or using automatic equipment.*

*Surfaces should be clean and dry before applying.*

*It is recommended to apply **CAF 36 PEX** onto a dry, clean surface*

*Flexible bonding : apply the product to one of the two parts to be assembled. Do not apply any load immediately after assembly. Curing time depends on the thickness.*

### 1.2. Curing

**CAF 36 PEX** starts curing as soon as the product comes into contact with atmospheric humidity.

After 3 to 5 minutes of exposure to the air, it is no longer possible to rework<sup>a</sup> the product.

- Skin formation time\*, min ..... 4
- Curing time\* on 2 mm-thick film, h ..... 6
- Cured thickness\* after 24 h, mm ..... 4.5

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

Curing can be accelerated by dry heat up to 150 °C.

## 2. Cured product

2.1. Specific gravity at 25 °C ..... 1.06  
(Standards ISO 2781, ASTM D 2240, BS 903 Part A1)

### 2.2. Mechanical properties after 7 days

- Shore A hardness ..... 33  
(Standards ISO R 868, DIN 53505, ASTM D 2240, BS 903 Part A7, NFT 46003, NMRPS 471)
- Modulus at 100 % elongation, MPa ..... 0.75  
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)
- Tensile strength, MPa ..... 3.3  
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)
- Elongation at break, % ..... 500  
(Standards ISO R 37 (H2), DIN 53504, ASTM D 412, BS 903 Part A2, NFT 46002 (H2), NMRPS 470)
- Tear strength, kN/m ..... 11  
(Standards ASTM D 624 test piece A, NMRPS 492)

### 2.3. Thermal properties

- Lower temperature limit for use
  - Brittle point, °C ..... - 60  
(measured by differential calorimetric analysis)
- Upper temperature limit for use
  - Continuous operating temperature, °C ..... + 275  
(on a 2 mm-thick film, 1000 h)
  - Maximum peak temperature recommended in use  
(on a 2 mm-thick film)
    - 72 h, °C ..... + 300
    - 15 h, °C ..... + 320
    - 15 min, °C ..... + 350
  - Weight loss (1000 h at 275 °C) ..... 20 %

**N.B.:** *These values are not absolute limits but the range within which initial mechanical properties are not reduced by more than 50 %.*

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**Characteristics** (cont'd)

- Thermal conductivity:  
Thermal conductivity at 30 °C, W/m.K ..... 0.25  
(Standards NF X 10021)  
Thermal conductivity at 150 °C, W/m.K ..... 0.22  
(Standards NF X 10021)

**2.4. Adhesion****2.4.1. Curing for 14 days at room temperature**

- Shear strength, MPa ..... 2.5  
(AG3 aluminium test pieces, 1 mm thick-bond, NMRPS 748)
- Type of failure ..... 100 % cohesive
- Primerless adhesion on :  
glass, enamel, ceramics, epoxy paint, polyester  
In conditions other than humid heat : on metal and polyester
- Adhesion with primer on :  
- polyamides, ABS, polycarbonate ..... Primer MB  
- metals and polyester when immersed or in  
conditions of humid heat ..... Primer MB  
- polymethyl methacrylate ..... Primer 10037 A

**2.4.2. Curing for 14 days at room temperature + 72 h at 250 °C**

- Shear strength, MPa ..... 1.7  
(AG3 aluminium test specimen, 1 mm thick-gasket, NMRPS 748)
- Type of failure ..... 90 % cohesive

**2.4.3. Curing for 14 days at room temperature + 72 h at 60 °C and 95 % relative humidity**

- Shear strength, MPa ..... 1.6  
(AG3 aluminium test pieces, 1 mm thick-gasket, NMRPS 748)
- Type of failure ..... 20 % cohesive

**2.5. Resistance to chemicals**

Tests carried out on 2 mm-thick films, cured for 7 days at room temperature.

Resistance to oils after 70 h of immersion in oil at 150 °C  
(standards ISO R 1817-ASTM D 471-MRPS 525)

Type of oil	Volume swelling %	Shore A hardness points	Modulus at 100 % elong. Mpa	Tensile strength MPa	Elongation at break %
Without oil	0	33	0,75	3,3	500
15 W 40	21.3	14.1	0.39	1.65	590

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### 2.6. Dielectric properties

- Dielectric strength, kV/mm ..... 23.3  
(Standards NF C 26225, ASTM D 419, CEI 243)
- Dielectric constant at 1 MHz ..... 2.4  
(Standards NF C 26230, ASTM D 150, CEI 250)
- Power factor at 1 MHz .....  $2.6 \cdot 10^{-3}$   
(Standards NF C 26250, ASTM D 150, CEI 250)
- Volume resistivity,  $\Omega$  cm .....  $7.3 \cdot 10^{15}$   
(Standards NF C 26215, ASTM D 257, CEI 93)

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### Packaging

- 310 ml cartridges, on pallets of 1200 units.
- 210 kg drums, on pallets of 4 units.
- 25 kg pails, on pallets of 10 units.

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### Storage and shelf life

When kept in its original, unopened packaging, at a temperature of between + 2 °C and + 30 °C, **CAF 36 PEX** must be used before the expiry date shown on the packaging. Once this expiry date is past, Rhodia Silicones no longer guarantees the conformity of the product with the sales specifications.

Furthermore, **CAF 36 PEX** should be stored in a cool, dry place.

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### Safety

Consult the Safety Data Sheet for **CAF 36 PEX**.

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### 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 infringement of or prejudice to third party rights through the use of our products.

**RHODIA CHIMIE GUARANTEES THAT ITS PRODUCTS COMPLY WITH ITS SALES SPECIFICATIONS.**

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 latest version of this document and RHODIA CHIMIE is at their disposal to supply any additional information.

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