KLINGERSIL® C-4509 is a special high-pressure gasket for highest thermal and mechanical stresses. Due to the expanded metal reinforcement it offers a high stress capability and is suitable for high bolt loads. The basic material KLINGERSIL® C-4500 is a Fire Safe grade.

Carbon fibres and special high temperature resistant additives, bonded with NBR. Made from high-tech materials it offers excellent service in many sectors of the chemical industry. Main fields of application: alkaline media and steam.

Key features:
- Utilization of carbon fibres
- Expanded metal reinforcement
- Improved stress relaxation

Benefits:
- Suitable for high-pressure applications
- Higher resistance against blow-outs
- More safety at high internal pressures

Certificates and approvals:
- German Lloyd

Properties: referring to KLINGERSIL® product range

<table>
<thead>
<tr>
<th></th>
<th>MECHANICAL RESISTANCE</th>
<th>THERMAL RESISTANCE</th>
<th>SEALABILITY</th>
<th>CHEMICAL RESISTANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPERIOR</td>
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<tr>
<td>EXCELLENT</td>
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<td>VERY GOOD</td>
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<td>GOOD</td>
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<tr>
<td>MODERATE</td>
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Industries:
- INDUSTRY
- CHEMICAL
- OIL & GAS
- ENERGY
- INFRASTRUCTURE
- PULP & PAPER
- TRANSPORT
- FOOD & BEVERAGES
- PHARMA
Typical technical data for thickness 2.0 mm:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressibility ASTM F 36 J</td>
<td>% 12</td>
</tr>
<tr>
<td>Recovery ASTM F 36 J</td>
<td>% 65</td>
</tr>
<tr>
<td>Stress relaxation DIN 52913</td>
<td>50 MPa, 16 h/300°C</td>
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<tr>
<td>Stress relaxation BS 7531</td>
<td>40 MPa, 16 h/300°C</td>
</tr>
<tr>
<td>KLINGER cold/hot compression 50 MPa</td>
<td>thickness decrease at 23°C</td>
</tr>
<tr>
<td>Thickness increase after fluid immersion ASTM F 146</td>
<td>oil IRM 903: 5 h/150°C</td>
</tr>
<tr>
<td>Density g/cm³</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Dimensions of the standard sheets:

Sizes KLINGERSIL® C-4509:
1000 x 1500 mm, 2000 x 1500 mm

Sizes KLINGERSIL® C-4509 L:
1000 x 1230 mm, 2000 x 1230 mm

Thicknesses:
1.0 mm, 1.5 mm

Tolerances:
Thickness acc. DIN 28091-1
Length ± 50 mm, width ± 50 mm

Other thicknesses, sizes and tolerances on request.

pT diagram for thickness 1.5 mm:

1. In area one, the gasket material is normally suitable subject to chemical compatibility.
2. In area two, the gasket material may be suitable but a technical evaluation is recommended.
3. In area three, do not install the gasket without a technical evaluation.

Always refer to the chemical resistance of the gasket to the media.