HT/Armaflex is a flexible elastomeric insulation material based on synthetic rubber with exceptional resistance to UV radiation and high temperatures. It is suitable for applications with line temperatures up to +150 °C.

This document should be read in conjunction with the relevant Armaflex application guidelines. The following points should be taken into account when using HT/Armaflex:

**Adhesive**
- Irrespective of the line temperature, only Armaflex Adhesive HT625 is to be used with HT/Armaflex. With the microcell structure of the tube material considerably less adhesive is required. Depending on the ambient conditions on site this can result in much shorter tack time.

**Application of bends & fittings**
- The functional efficiency of the material can only be ensured if the installation is carried out in accordance with Armacell’s installation guidelines. Attention should be made when using sheet material to insulate detailing on pipelines, shaped piece for bend or fittings must be cut in such a way that tension-free bonds are ensured. When using tube material, segment bends and fittings must always be fabricated to insulate the pipe.

**Use of sheet material**
- Sheet material can only be used for outer pipe diameters of 89 mm and greater. Please also observe the specifications given in the following table:

<table>
<thead>
<tr>
<th>Outer ∅ mm</th>
<th>HT/Armaflex sheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 88.9</td>
<td>•</td>
</tr>
<tr>
<td>≥ 114</td>
<td>•</td>
</tr>
<tr>
<td>≥ 139</td>
<td>•</td>
</tr>
<tr>
<td>≥ 159</td>
<td>•</td>
</tr>
</tbody>
</table>

* 32 mm sheets are available on request
Long-term behavior

- As a result of long-term exposure to high temperatures the first few millimetres of the inner surface of the material may show signs of hardening. A full hardening of the material is, however, not possible when the above-mentioned temperature limit are observed. Any hardening within the inner surface of the insulation material does not have a negative effect on the function and reliability of the insulation system if it has been installed in accordance with Armacell’s instructions. In comparison to other flexible elastomeric foams HT/Armaflex has an exceptionally high resistance to UV radiation. However, under certain circumstances minor surface defects may appear after a while, but these surface imperfections will not spread. It is also possible that some discoloration may take place.

Expansion of the material

- Due to the laws of physics, at temperatures above +120 °C the air trapped in the cells expands (sometimes greatly) – This expansion of material is more pronounced the first time the plant is heated up. This inevitably leads to a corresponding increase in volume within the first 24 hours. In operation this increase in volume decreases again within the next 10 days.

Multi-layer insulation

- Especially in the case of multi-layer insulation, the above mentioned expansion will be limited by the next additional layers. This can lead to a possible reduction in thickness of the first layer of system. To ensure that the requirements made of the material, e.g. maintaining certain line temperatures or restricting heat flow, can be fulfilled in the long term, we recommend the following minimum insulation thickness, depending on the line temperature of the plant:

<table>
<thead>
<tr>
<th>Line temperature in continuous operation</th>
<th>Recommended HT/Armaflex minimum insulation thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ +120 °C</td>
<td>13 mm</td>
</tr>
<tr>
<td>≥ +130 °C</td>
<td>19 mm</td>
</tr>
<tr>
<td>≥ +140 °C</td>
<td>25 mm</td>
</tr>
</tbody>
</table>

*Depending on the ambient conditions, the insulation thicknesses required may be considerably greater
Additional metal/rigid cladding

- If the HT/Armaflex is additionally clad with metal jacketing, consideration should be given to the installation with regards to clearance and fixing of the jacketing. This is to allow for the possible expansion of the HT/Armaflex. One solution is to use 50 mm wide strips with a thickness of 19 mm on the final layer to provide the clearance needed for the metallic jacketing.

Other cladding systems

- When using non-metallic cladding systems consideration should be given to the expansion and contraction abilities of covering material. Arma-Chek R has been developed to work in harmony with the expansion and contraction of HT/Armaflex. In the case of all-over adhesive coverage of HT/Armaflex and an additionally clad with any non-porous covering it will take longer for the solvents in the adhesive to diffuse out. In this case a curing time of one week is recommended instead of 36 hours before the plant is taken into service. In this context it should be ensured that the adhesive is applied thinly and evenly. Pockets of adhesive are to be avoided.

Installation on copper pipes

- When using HT/Armaflex on copper pipes, slight discolouration of the pipe surface may occur; this has no effect on the technical qualities of the pipe material itself.

Additional application advices

- When HT/Armaflex is to be used
  - at temperatures above +150 °C (Short-term temperature loads up to +175 °C maximum are possible)
  - on plant in dual-temperature or intermittent operation mode
  - on stainless steel with all-over adhesive coverage,
  - in clean rooms

  Decisions on the use of HT/Armaflex must be based on the individual case and consulted.