Novus Spiral Wound Gaskets consist of a V-shaped metal strip spirally wound in combination with a soft, filler material. The metal strip provides outstanding recovery, while the flexible filler guarantees excellent sealing. Due to this combination of materials the spiral wound gasket is suitable for sealing under severely fluctuating temperature and pressure conditions. Depending on the application, the spiral wound gasket can be specified with outer and/or inner rings.

Properties
Spiral wound gaskets are suitable for use across a wide gasket stress range.

Spiral wound gaskets can be used to seal fluid pressures up to 250 bar and from cryogenic temperatures up to elevated temperatures of 1000°C.

Because of the robust design of the spiral wound gasket, it is simple to install without damage, although care should be taken in transporting and installing large diameter gaskets without inner or outer guide rings.

The outer guide ring simplifies assembly and prevents blow out of the gasket.

By combining different winding materials and metals, the gasket can be tailored to suit a wide variety of operating conditions.

The gasket is non adhesive and is easily removed.

Spiral wound gaskets will not damage flange surfaces.

Seating stress
Spiral wound gaskets should preferably be mounted within the following gasket stress range to ensure a leak-proof connection.

<table>
<thead>
<tr>
<th>Filler</th>
<th>Single side confined</th>
<th>Both sides confined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min (N/mm²)</td>
<td>Opt (N/mm²)</td>
</tr>
<tr>
<td>Graphite</td>
<td>50</td>
<td>95</td>
</tr>
<tr>
<td>PTFE</td>
<td>50</td>
<td>80</td>
</tr>
<tr>
<td>Non-Asbestos</td>
<td>55</td>
<td>90</td>
</tr>
</tbody>
</table>

Standard profiles

- **Type RF1**
  Gasket only
- **Type SG**
  Gasket with guide ring to act as compression stop
- **Type RF-IR**
  Gasket with inner ring
- **Type SG-IR**
  Standard gasket with inner ring and outer rings
- **Type SG-RTJ**
  Special gasket for RTJ flanges
- **Type HX-R**
  For large diameter heat exchangers
- **Type HX-RIR**
  As HX-R but with inner ring
Data / Specification Sheet • Novus Spiral Wound Gaskets

**Special profiles**

In the event of a graphite filled spiral wound possibly causing an undesirable reaction between graphite and the medium to be sealed, or of a possible medium contamination, the problem can be solved by using a spiral wound gasket with a GT-Zone.

The spiral wound element of a GT-Zone gasket consists of outer windings of non-asbestos or ceramic material with a central winding zone made of graphite or PTFE (depending on the operating conditions) to improve gas tightness.

The result is a spiral wound gasket which will not pollute the sealed medium and gives excellent gas tightness.

**Profile selection**

**Advantages of centering ring:**

- Optimum gasket positioning between bolts
- Protection of the sealing element
- Additional security against gasket blow-out
- Acts as a compression limiter preventing overloading and over-compression of the spiral wound element
- Prevents radial flow of soft fillers, such as PTFE

**Advantages of inner ring:**

- Prevents radial flow of soft fillers, such as PTFE
- Reduces turbulence, minimising flow resistance and crevice corrosion
- Acts as an additional heat shield when the spiral wound gasket is subjected to high temperatures
- Inner and outer rings are particularly recommended for use on spiral wound gaskets exceeding class 600lbs, but specifically recommended for high temperatures and pressures to optimise reliable sealing performance
- For special flanges (male-female, tongue and groove etc) the type of spiral wound gasket selected will depend on the flange geometry, operating conditions and bolt specifications. Novus specialists will be pleased to assist you were necessary.

**Filler material**

The table below may be used to select the correct filler. It should be pointed out that graphite will be the optimum filler in most cases. Only where graphite could cause media pollution, or is not chemically resistant, should the use of another type of filler material be recommended. In such cases, an alternative solution might be to use a gasket with a GT-Zone.

<table>
<thead>
<tr>
<th>Material</th>
<th>Temp (°C) Min</th>
<th>Max</th>
<th>Max. Op Pressure (Bar)</th>
<th>Gas Tightness</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>-200</td>
<td>550</td>
<td>250</td>
<td>Good</td>
<td>Aggressive Media</td>
</tr>
<tr>
<td>PTFE</td>
<td>-200</td>
<td>250</td>
<td>100</td>
<td>Good</td>
<td>Aggressive Media</td>
</tr>
<tr>
<td>Non-Asbestos</td>
<td>-100</td>
<td>250</td>
<td>100</td>
<td>Good</td>
<td>Liquids &amp; Gases</td>
</tr>
<tr>
<td>Novus Hi-Temp</td>
<td>-200</td>
<td>1100</td>
<td>100</td>
<td>Poor</td>
<td>Very High Temp.</td>
</tr>
</tbody>
</table>

**Graphite**

Graphite is a universally applicable, high quality material with the following properties:

- Very good chemical resistance
- Resistance to high (fluctuating) temperatures and pressures
- Resistant to ageing
- Excellent gas tightness

**PTFE**

PTFE is a high quality synthetic material with the following properties:

- Excellent chemical resistance
- Resistant to temperatures up to 250°C
- Resistant to ageing
- Excellent gas tightness

**Novus Hi-Temp**

Is an aluminium silicate suitable for applications at high operating temperatures. The material is characterised by poor gas tightness and is therefore used in combination with graphite.

As the company’s products are used for a multiplicity of purposes and as the company has no control over the method of their applications or use, the company excludes all conditions or warranties, expressed or implied by statute or otherwise, as to their products and/or their fitness for any particular purpose. Any technical co-operation between the company and the customer is given for customers assistance only, and without liability on the part of the company.