SIMONA solid and hollow rods
Cost-effective production of fittings and finished parts
SIMONA solid and hollow rods – Cost-effective production of fittings and finished parts

SIMONA solid and hollow rods are the perfect choice for the production of fittings and finished parts using CNC machining centres. The extruded rods combine high chemical resistance and excellent processing characteristics with extreme toughness and rigidity.

SIMONA solid rods
Owing to the special method of fabrication applied in this area, SIMONA solid rods have a very low residual stress potential. This makes them particularly suitable for cost-effective machining of parts. SIMONA solid rods are used for a wide range of applications, e.g. in the area of chemical equipment construction, mechanical engineering and medical technology as well as in the food, paper and nuclear technology industries. The range of materials covered by SIMONA solid rods spans everything from PE-HD, PE 100, PE 500 and PE 1000 to PP AlphaPlus®, PP-H, PVC-CAW and PVDF.

SIMONA hollow rods
In view of their geometry, SIMONA hollow rods offer additional material and cost savings compared to solid rods – the perfect choice for a wide range of fittings and finished parts. Extruded from PE 100, SIMONA hollow rods have a high corrosion and abrasion resistance. Thanks to their UV stability, PE 100 hollow rods are also suitable for permanent outdoor use and are made from materials that meet the quality requirements of the KRV Material Lists.

Fields of application for SIMONA solid and hollow rods
- Pump housings
- Filter covers
- Valves
- Conveyor rollers
- Idler pulleys
- Sprockets
- Screw conveyors
- Spindles
- Pulleys
- Liners
- Couplings
- Threaded rods
Quality you can always rely on
For more than 160 years, SIMONA has been synonymous with quality, precision and reliability. You will benefit from our demonstrable expertise in process engineering and our ability to develop materials tailored to your requirements. Drawing on many years of experience in the manufacture and processing of plastic products, we are committed to delivering the very best results.

Excellent processing properties
SIMONA solid and hollow rods can be efficiently processed in a number of ways. This includes welding, milling, drilling, sawing, cutting and water-jet cutting.

Extensive product range
The range of SIMONA solid and hollow rods encompasses a broad selection of materials, sizes and colours. Drawing on our vast portfolio of solid and hollow rods, we can even produce fittings and finished parts on your behalf.

Product range of SIMONA solid and hollow rods

<table>
<thead>
<tr>
<th>Solid rods (length/diameter)</th>
<th>SIMONA® PE-HD black</th>
<th>SIMONA® PE-HD natural</th>
<th>SIMONA® PE 100</th>
<th>SIMONA® PE 500</th>
<th>SIMONA® PE 1000</th>
<th>SIMONA® PP-H AlphaPlus®</th>
<th>SIMONA® PP-H natural</th>
<th>SIMONA® PVC-CAW</th>
<th>SIMONA® PVDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000</td>
<td>250 – 300</td>
<td>20 – 800</td>
<td>100 – 800</td>
<td>100 – 500</td>
<td>20 – 300</td>
<td>100 – 800</td>
<td>140 – 800</td>
<td>100 – 300</td>
<td>70 – 500</td>
</tr>
<tr>
<td>2.000</td>
<td>30 – 200</td>
<td>8 – 500</td>
<td>8 – 500</td>
<td>10 – 500</td>
<td>20 – 200</td>
<td>8 – 500</td>
<td>8 – 500</td>
<td>6 – 300</td>
<td>10 – 500</td>
</tr>
</tbody>
</table>

| Colours                     | black               | natural              | black           | natural         | natural, black, grey, green | grey                      | natural           | black, dark grey, white, red | natural     |

| Hollow rods (length/outer diameter) | 2.000 | 110 – 810 |
| Colours                     | black |

Please contact our sales department for further details concerning availability: sales@simona.de.
Customised sizes available on request.
### Material specifications

<table>
<thead>
<tr>
<th>Material</th>
<th>SIMONA® PE-HD black</th>
<th>SIMONA® PE-HD natural</th>
<th>SIMONA® PE 100</th>
<th>SIMONA® PE 500</th>
<th>SIMONA® PP-H AlphaPlus®</th>
<th>SIMONA® PP-H natural</th>
<th>SIMONA® PVC-CAW</th>
<th>SIMONA® PVDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density, g/cm³</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIN EN ISO 1183</td>
<td>0.960</td>
<td>0.950</td>
<td>0.960</td>
<td>0.950</td>
<td>0.930</td>
<td>0.900</td>
<td>1.440</td>
<td>1.780</td>
</tr>
<tr>
<td>Yield stress, MPa, DIN EN ISO 527</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>18</td>
<td>19</td>
<td>33</td>
<td>32</td>
<td>58</td>
</tr>
<tr>
<td>Elongation at yield, %, DIN EN ISO 527</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>11</td>
<td>8</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Tensile modulus of elasticity, MPa, DIN EN ISO 527</td>
<td>1,100</td>
<td>1,100</td>
<td>1,100</td>
<td>1,100</td>
<td>700</td>
<td>1,700</td>
<td>1,400</td>
<td>3,300</td>
</tr>
<tr>
<td>Notched impact strength, kJ/m², DIN EN ISO 179</td>
<td>16</td>
<td>16</td>
<td>25</td>
<td>25</td>
<td></td>
<td>9</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Shore hardness D (15 s), DIN EN ISO 868</td>
<td>65</td>
<td>65</td>
<td>64</td>
<td>64</td>
<td>60</td>
<td>72</td>
<td>70</td>
<td>82</td>
</tr>
<tr>
<td>Temperature range, °C</td>
<td>-50 to +80</td>
<td>-50 to +80</td>
<td>-50 to +80</td>
<td>-100 to +80</td>
<td>-260 to +80</td>
<td>0 to 100</td>
<td>0 to +100</td>
<td>0 to +60</td>
</tr>
<tr>
<td>Suitable for contact with foodstuffs as per EU 10/2011</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

The data presented in this section are to be seen as a guide and may vary depending on the processing method and test specimen used. In general, data specified applies to average values measured on extruded sheets with a thickness of 4 mm. In the case of sheets manufactured by means of pressing, testing is generally performed on sheets with a thickness of 20 mm. Deviations from the values specified are possible if the sheets in this thickness are not available.

In the case of backed sheets, all technical specifications relate to the non-backed base sheets. Please note that this information is not necessarily applicable to products that have undergone downstream processing. The suitability of a material for a specific area of application must be checked by the processor or end user. All technical specifications presented herein are designed merely to provide assistance in terms of project planning.

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**SIMONA solid and hollow rods – Material specifications**

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