3DXMAX® ASA 3D Filament

3DXMAX® ASA (acrylonitrile styrene acrylate) premium UV-resistant 3D printing filament is formulated utilizing our high-flow exterior weatherable ASA resin and colorants. Our ASA has a low-gloss matte sheen with excellent layer hiding capability – making it the ideal material for demanding functional prototype and production parts that are exposed the outdoors or any application where a low-gloss technical looking matte finish is preferred. 3DXMAX® ASA is suitable for use in practically all consumer-grade FDM/FFF printers that have a heated print bed. Made by 3DXTECH® in the USA.

The reported technical data was generated from printed ISO test specimen. The general print parameters utilized are noted below.

- Desktop FDM/FFF Printer
- Nozzle: 0.4mm A2 hardened
- Layer height: 0.2mm
- Infill: 100%, +/- 45°
- Extrusion temp: 240°C
- Bed temp: 110°C
- Bed prep: ABS/Acetone Gel
- Print speed: 50 mm/sec

<table>
<thead>
<tr>
<th>General Property</th>
<th>Unit</th>
<th>Standard</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>g/cc</td>
<td>ISO 1183</td>
<td>1.07</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical Property</th>
<th>Unit</th>
<th>Standard</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>MPa</td>
<td>ISO 527</td>
<td>43</td>
</tr>
<tr>
<td>Tensile Modulus</td>
<td>MPa</td>
<td>ISO 527</td>
<td>2010</td>
</tr>
<tr>
<td>Tensile Elongation, Break</td>
<td>%</td>
<td>ISO 527</td>
<td>10</td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>MPa</td>
<td>ISO 178</td>
<td>1956</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>MPa</td>
<td>ISO 178</td>
<td>78</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thermal Property</th>
<th>Unit</th>
<th>Standard</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass Transition Temperature (Tg)</td>
<td>°C</td>
<td>DSC</td>
<td>104</td>
</tr>
<tr>
<td>Heat Distortion Temperature (HDT) @ 0.45MPa</td>
<td>°C</td>
<td>ISO 75</td>
<td>96</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Property</th>
<th>Unit</th>
<th>Standard</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Resistivity</td>
<td>Ohm/sq</td>
<td>IEC 60093</td>
<td>&gt;10¹⁰</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Printing Recommendation</th>
<th>Typical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extruder Temperature</td>
<td>230 - 260°C</td>
</tr>
<tr>
<td>Bed Temperature</td>
<td>100 - 110°C</td>
</tr>
<tr>
<td>Print Speed</td>
<td>50 - 70 mm/sec</td>
</tr>
</tbody>
</table>