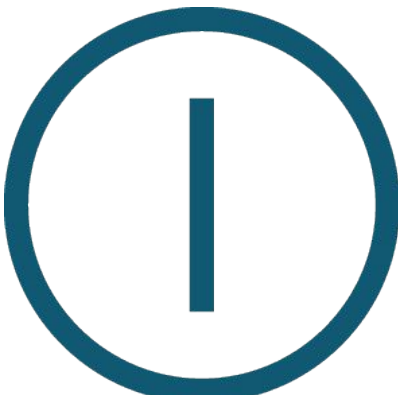
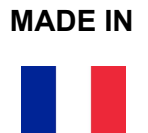


# ACTIVE PA 11 GLASS BEADS

**FABULOUS**  
MATERIALS

ACTIVE is a fine composite powder charged with glass beads based on polyamide 11 (thermoplastic) especially formulated to function on powder bed systems by laser sintering (SLS, LS). It enables to obtain productions of large and massive models with long cycle of life and excellent chemical resistance.

<h2>ACTIVE PA 11 GB</h2> 	<p>Typical features :</p> <p><b>Glass beads filled PA11</b> Fine granulometry Specifically designed to produce <b>large parts on high volume systems.</b></p>	<p>Applications examples :</p> <ul style="list-style-type: none"> <li>→ Potable water market certification ACS</li> <li>→ parts in T°C</li> <li>→ Automotive</li> <li>→ Aerospace</li> <li>→ Military industry /UAV</li> </ul>
	<p>Refresh rate :</p> <h1>50 %</h1> <p>LIMITED TO MAX 10 CYCLES</p> <p>The process ability of the powder on your systems is optimized ; thus <b>all the powder</b> of a building can be re-used after sifting. The refreshing factor for regeneration of this composite powder is lower than the usual rates giving a real economic advantage.</p>	<p>Key Points :</p> <h1>High T°</h1> <p>Potable water market</p>



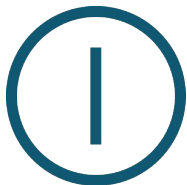
### General Properties :

<p><b>Chemical Nature of the Preparation :</b></p> <p><b>Physical State (20°C) and Color :</b></p>	<p>POLYAMIDE 11 composite with glass beads, Presence of additives</p> <p><b>Solid (powder) Grade : Light GREY</b></p>	
<p><b>Average Particle Size :</b></p> <p>Grain Size :</p> <p>Grain Size :</p> <p>Grain Size :</p> <p><b>Powder packed Density 23 ° C :</b></p> <p><b>Part Density :</b></p> <p>23°C Moisture absorption 24 hrs :</p>	<p><b>Diffraction laser :</b></p> <p>D10</p> <p>D50</p> <p>D90</p> <p><b>Method FABULOUS :</b></p> <p><b>Method FABULOUS :</b></p> <p>ASTM D570</p>	<p>40 &lt;_ &lt; 65 µm</p> <p>30 µm</p> <p>55 µm</p> <p>90 µm</p> <p>0.9 +/- 0,05 g/cm³</p> <p>1,38 +/- 0,05 g/cm³</p> <p>0,85 +/- 0,05 %</p>

### Mechanical Properties :

<p><b>Young Modulus*</b></p> <p><b>Flexural Modulus*</b></p> <p><b>Tensile strength (Average XY)*</b></p> <p><b>Tensile strength (Average Z)*</b></p> <p><b>Elongation at break (Average XY)*</b></p> <p><b>Elongation at break (Average Z)*</b></p> <p><b>Charpy – Impact strength*</b></p> <p>*statistics after several cycles</p>	<p>ISO 527</p> <p>ISO 178</p> <p>ISO 527</p> <p>ISO 527</p> <p>ISO 527</p> <p>ISO 527</p> <p>ISO 179 (20°C)</p>	<p>&gt; 2900 MPa</p> <p>&gt; 2300 MPa</p> <p>45 +/- 3 MPa</p> <p>45 +/- 3 MPa</p> <p>Estimate 3-6 %</p> <p>Estimate 3 %</p> <p>NC</p> <p>50 cond. 24 hrs</p>
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The mechanical properties can vary according to the positioning of the tensile bars, operating conditions and exposure parameters of the systems used. These data rest on the current state of our knowledge. They do not give the exact characteristics of material and does not represent a guarantee.



# ACTIVE PA 11 GLASS BEADS

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## Thermal Properties :

<b>T°f Melting Point :</b>	<b>DSC</b>	<b>196 &lt;_ &lt; 204 °C</b>
<b>T° Process :</b> According to machine the Grey color offset the reading :	<b>Glazing Method</b>	<b>-12 +/- 2 °C</b> (ex : 186 °C +/-2)
<b>Flammability – Fire Classification UL-94</b> following ASTM D618(ISO 921) with a barrel 125 x 13 x 13 mm	<b>UL94</b> vertical & Horizontal test	<b>Charged grade: HC</b> Out Classification

## Electrical Properties :

According to the value reach in CEI 93 the material is considered as : **ANTISTATIC to DISSIPATOR**

<b>Volume resistivity</b>	<b>CEI 93</b>	<b>2.2 E+11 Ohms/m</b>
<b>Horizontal surface Voluminal resistivity</b>	<b>CEI 93</b>	<b>1.7 E+11 Ohms</b>
<b>Vertical surface Voluminal resistivity</b>	<b>CEI 93</b>	<b>1.7 E+11 Ohms</b>

## Surface Finish :

<b>Natural Coloration :</b>	<b>Visual</b>	<b>Light GREY</b>
<b>Shore D Hardness :</b>	<b>ISO 868 (20°C)</b>	<b>80 +/- 2 Shore D</b>
<b>Surface Ra/ Upper Facing processed &amp; blasting :</b>	<b>ISO 4287</b>	<b>13 +/- 2 µm</b>
<b>Surface Ra/ Upper Facing after Finishing :</b>	<b>ISO 4287</b>	<b>7 +/- 1 µm</b>

## Chemical Properties :

Matrix in Polyamide 11 with a good chemical resistance to alkaline, hydrocarbons, oils, gasoline's, gas oil and solvents.  
Attack by the acids. Sealing of wall starting from **1.8 mm thickness**.

<b>SOLUBILITY :</b> <b>WATER :</b>	<b>Insoluble in Water</b> <b>(20 °C) &lt; 1 mg/m3 (estimated)</b>
<b>Solvents :</b>	<b>Soluble in :Mineral acids, Phenols</b> <b>Insoluble in most organic solvents</b> <b>Insoluble in : Chlorinated solvents ,Alkaline conditions</b> <b>Charge: Insoluble in almost all chemicals, except hydrofluoric acid</b>
<b>Odor :</b> <b>pH:</b>	<b>None</b> <b>NA</b>
<b>Melting Point / Range :</b> <b>Decomposition Temperature :</b> <b>Explosive Properties :</b>	<b>160 °C &lt; T &lt; 220 °C</b> <b>&gt; 400 °C</b> <b>Dust may form explosive mixture in air (30 - 60 g/m³)</b> <b>Test of dust behavior in explosions :</b> <b>Kst = 200 - 250 m.bar/s CARE / 301 m.bar/s</b> <b>Explosibility class : St2 CARE</b> <b>Standard : ISO 6184/1 - ASTM E 1226</b>
<b>Explosive Limits :</b>	<b>Lower : in air 30 - 60 g/m3</b> <b>Higher : In air Approximately 200 g/m3 (estimated)</b>

Data Sheet\_ACTIVE PA11GB\_ Dec 2020.