


VALUE is a fine composite powder based on polyamide 12 (thermoplastic) especially formulated to function on powder bed systems by laser sintering (SLS, LS). It enables to obtain productions of models and functional parts in "plastic engineering" with long cycle of life and excellent chemical resistance.

 <p>PA12 GB</p>	<p>Typical features :</p> <ul style="list-style-type: none"> ● PA12 charged glass beads (GB) ● Excellent resolution (46 µm) ● High mechanical properties 	<p>Applications examples :</p> <ul style="list-style-type: none"> ➔ Oil industry ➔ Automotive ➔ All industries with needs of mechanical & surface quality parts
	<p>Refresh rate :</p> <p>50 % <i>Recommended</i></p>	<p>Key Points :</p> <ul style="list-style-type: none"> ● Easy to process ● Excellent surface quality ● Good value for money



MADE IN



General Properties :

<p>Chemical Nature of the Preparation :</p> <p>Physical State (20°C) and Color :</p>	<p>POLYAMIDE 12 charged with Glass Beads, Presence of additives Charged grade = VALUE Solid (powder) Natural Grade : Light Grey</p>	
<p>Average Particle Size : Grain Size : Grain Size : Grain Size :</p> <p>Powder packed Density 23 ° C : Part Density : 23°C Moisture absorption 24 hrs :</p>	<p>Diffraction laser : D10 D50 D90</p> <p>Method FABULOUS : Method FABULOUS : ASTM D570</p>	<p>45 < _ < 65 µm 35 µm 60 µm 75 µm</p> <p>1,05 +/- 0,05 g/cm³ 1,38 +/- 0,05 g/cm³ 0,50 +/- 0,05 %</p>

Mechanical Properties :

<p>Young Modulus* Flexural Modulus* Tensile strength (Average XY)* Tensile strength (Average Z)* Elongation at break (Average XY)* Elongation at break (Average Z)* Charpy – Impact strength* <i>*statistics after several cycles</i></p>	<p>ISO 527 ISO 178 ISO 527 ISO 527 ISO 527 ISO 527 ISO 179 (20°C)</p>	<p>3100 - 3300 MPa 3000 MPa (estimate) 35 +/- 3 MPa (estimate) 30 +/- 3 MPa (estimate) 12 % (estimate) 8 % (estimate) NC 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.

Thermal Properties :

T°f Melting Point :	DSC	180 <_ < 186 °C
T° Process : According to machine Reading :	Glazing Method	-14 +/- 2 °C (ex : 174 °C +/-2)
Flammability – Fire Classification UL-94 following ASTM D618(ISO 921) with a barrel 125 x 13 x 13 mm	UL94 vertical & Horizontal test	Charged grade: HC Out Classification

Electrical Properties :

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

Volume resistivity	CEI 93	Estimate < 1 E+11 Ohms/m
Horizontal surface Voluminal resistivity	CEI 93	Estimate < 1 E+10 Ohms
Vertical surface Voluminal resistivity	CEI 93	Estimate < 1 E+10 Ohms

Surface Finish :

Natural Coloration :	Visual	Light Grey
Shore D Hardness :	ISO 868 (20°C)	Estimate > 80 Shore D
Surface Ra/ Upper Facing processed & blasting :	ISO 4287	Estimate > 8 +/- 1 µm
Surface Ra/ Upper Facing after Finishing :	ISO 4287	Estimate > 5 +/- 1 µm

Chemical Properties :

Matrix in Polyamide 12 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**.

SOLUBILITY : WATER :	Insoluble in Water (20 °C) < 1 mg/m3 (estimated)
Solvents :	Soluble in :Mineral acids, Phenols Insoluble in most organic solvents Insoluble in : Chlorinated solvents ,Alkaline conditions Charge: Insoluble in almost all chemicals, except hydrofluoric acid
Odor : pH:	Slight 3 - 7,5 (aqueous suspension)
Melting Point / Range : Decomposition Temperature : Explosive Properties :	130 ° C < T < 220 °C > 400 °C Dust may form explosive mixture in air (30 - 60 g/m³) Test of dust behavior in explosions : Kst = 200 - 250 m.bar/s/PURE / 301 m.bar/s Explosibility class : St2 PURE Standard : ISO 6184/1 - ASTM E 1226
Explosive Limits :	Lower : in air 30 - 60 g/m3 Higher : In air Approximately 200 g/m3 (estimated)

Data Sheet _VALUE PA 12GB_ Dec 2022.