

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.



PA11 Glass Beads

Typical features :

- PA11 filled with glass beads
- Sanitary conformity accreditation (ACS) for drinking water
- Fine granulometry

Applications examples :

- ➔ Potable water applications
- ➔ Automotive
- ➔ Aerospace
- ➔ UAV & military industry

Refresh rate :

50%

limited to 8 cycles

Key Points :

- Water industry compatible (ACS)
- High Temperature
- Large parts on high volume systems



MADE IN



General Properties :

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

Mechanical Properties :

Young Modulus*	ISO 527	> 2900 MPa
Flexural Modulus*	ISO 178	> 2300 MPa
Tensile strength (Average XY)*	ISO 527	45 +/- 3 MPa
Tensile strength (Average Z)*	ISO 527	45 +/- 3 MPa
Elongation at break (Average XY)*	ISO 527	Estimate 3-6 %
Elongation at break (Average Z)*	ISO 527	Estimate 3 %
Charpy – Impact strength*	ISO 179 (20°C)	NC
*statistics after several cycles		50 cond. 24 hrs

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	196 <_ < 204 °C
T° Process : According to machine the Grey color offset the reading :	Glazing Method	-12 +/- 2 °C (ex : 186 °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 to DISSIPATOR**

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

Surface Finish :

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

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**.

SOLUBILITY : WATER : Solvents : Odor : pH:	Insoluble in Water (20 °C) < 1 mg/m3 (estimated) 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 None NA
Melting Point / Range : Decomposition Temperature : Explosive Properties : Explosive Limits :	160 ° 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 CARE / 301 m.bar/s Explosibility class : St2 CARE Standard : ISO 6184/1 - ASTM E 1226 Lower : in air 30 - 60 g/m3 Higher : In air Approximately 200 g/m3 (estimated)

Data Sheet_ACTIVE PA11GB_ Dec 2022.