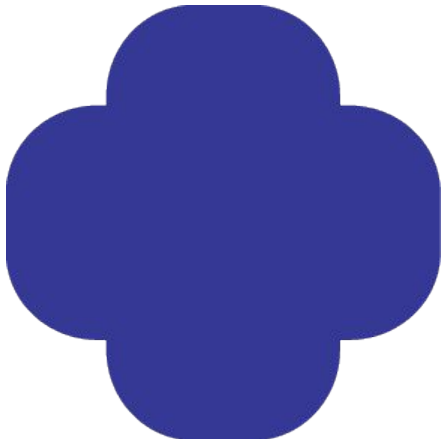


BLUE CARE

PA 11

FABULOUS
MATERIALS

BLUECARE is a fine composite powder based on polyamide 11 (thermoplastic) especially formulated to function on rapid prototyping systems by laser sintering (SLS, LS) or radiation (IRS, MJF). It enables to obtain productions of models and functional parts for the food industry with long cycle of life and excellent chemical resistance.

<h1>BLUE CARE</h1> <h2>PA 11</h2> 	<p>Typical features :</p> <p>Bio-sourcing (Castor oil) Food Contact certification (EU Commission Regulation N° 10/2011) Unique Properties</p>	<p>Applications examples :</p> <ul style="list-style-type: none"> ➔ Food industry ➔ Safety equipments ➔ BLUE color parts ➔ PA 11 based parts
	<p>Refresh rate :</p> <h1>50%</h1> <p>limited to 8-10 cycles</p> <p>Standard process ability of the powder on your systems * measured on non-finish surface ** Depending on the laser sintering level and cycles.</p>	<p>Key Points :</p> <h2>FOOD contact</h2> <p>BLUE Color* : RAL 5023** Pantone 7691U to 7694U**</p>



MADE IN



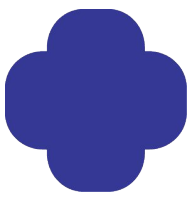
General Properties :

<p>Chemical Nature of the Preparation :</p> <p>Physical State (20°C) and Color :</p>	<p>POLYAMIDE 11 formulation . Presence of additives grade = BLUE CARE Solid (powder) : Blue coloration in mass.</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 50 µm 80 µm</p> <p>0,55 +/- 0,05 g/cm³ (estimate) 1,02 +/- 0,05 g/cm³ (estimate) 1,12 +/- 0,05 % (estimate)</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* *statistics after several cycles</p>	<p>ISO 527 ISO 178 ISO 527 ISO 527 ISO 527 ISO 527 ISO 179 (20°C)</p>	<p>1800 MPa > 1500 MPa 53 +/- 4 MPa 45 +/- 3 MPa 20 +/- 2 % 5 +/- 2 % N/C</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	190 <_ < 202 °C
T° Process : According to machine 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	Blue Care : HC Out Classification

Electrical Properties :

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

Volume resistivity	CEI 93	1 E+13 Ohms/m
Horizontal surface Voluminal resistivity	CEI 93	1 E+15 Ohms
Vertical surface Voluminal resistivity	CEI 93	1 E+15 Ohms

Surface Finish :

Natural Coloration :	Visual	Blue in mass
Shore D Hardness :	ISO 868 (20°C)	78 Shore D
Surface Ra/ Upper Facing processed & blasting :	ISO 4287	12 +/- 4 µm
Surface Ra/ Upper Facing after Finishing :	ISO 4287	6 +/- 2 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 2 mm thickness**.

SOLUBILITY : WATER :	Insoluble in Water on the basis of its structure at 20 °C < 1 mg/m3 (estimated) Soluble in :Mineral acids, Phenols
Solvents :	Insoluble in most organic solvents Insoluble in : Chlorinated solvents, Alkaline conditions
Odor : pH:	None NA
Melting Point / Range : Decomposition Temperature : Explosive Properties :	> 180 °C Polymer: > 350 °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
Explosive Limits :	Lower : in air 30 - 60 g/m3 Higher : In air Approximately 200 g/m3 (estimated)

Data Sheet_BLUE CARE PA11_ Dec 2020.