LUVOSINT®
Additive manufacturing solutions

Preliminary data sheet

LUVOSINT PP 8824

Polypropylene PP
Powder, natural color, translucent

Physical Properties	Test Method	Specimen	Units	Typical Value
Specific Gravity	ISO 1183-3	Sintered part	g/cm³	0,9
Water Absorption		23 °C, 24 h	%	< 0.2
Shrinkage			%	3.0
Mechanical Properties at 23 °C/ 50 % rh (according to build orientation)				
Tensile Modulus (y-direction)	ISO 527-1,-2	Sintered bar	GPa	1.00
Tensile Modulus (z-direction)	ISO 527-1,-2	Sintered bar	GPa	0,99
Tensile Strength (y-direction)	ISO 527-1,-2	Sintered bar	MPa	24
Tensile Strength (z-direction)	ISO 527-1,-2	Sintered bar	MPa	21
Elongation at F_{MAX} (y-direction)	ISO 527-1,-2	Sintered bar	%	11
Elongation at F_{MAX} (z-direction)	ISO 527-1,-2	Sintered bar	%	8
Elongation at break (y-direction)	ISO 527-1,-2	Sintered bar	%	22
Elongation at break (z-direction)	ISO 527-1,-2	Sintered bar	%	17
Charpy Impact Strength (y-direction)	ISO 179	1eU / unnotched	kJ/m²	
Charpy Impact Strength (z-direction)	ISO 179	1eU / unnotched	kJ/m²	
Thermal Properties				
Vicat-softening Temperature VST A50	ISO 306	MPTS ISO 3167 A	°C	118
Melting Temperature (DCS peak)	ISO 11357		°C	149
Onset Christallization Temperature (peak)	ISO 11357		°C	110
Powder Properties				
x10	Laser diff.		µm	25
x50	Laser diff.		µm	65
x90	Laser diff.		µm	115
Bulk Density			g/cm³	0.345
Tap Density			g/cm³	

8824	13	12	16

Application Examples

Powder for laser sintering (additive manufacturing). 3D-printing of light-weight parts with high toughness for automotive, robotics and many more applications.

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Recommended Processing Instructions

General

In general LUVOSINT PP 8824 can be processed on latest technology lasersinter machines while observing the usual technical guidelines but may need some software and hardware modification to guarantee process stability. See *Processing Parameters*. Part bed powder can be reused.

Pretreatment

Powder need pretreatment. Please contact LuV for details.

Processing Parameters

Due to the large variety of machines and part geometries given process parameters can only be seen as an orientation.

Process Temperature	°C	143
Piston Heater	°C	110
Scan Speed	mm/s	12500
Hatch Distance	mm	0.22
Layer Thickness	mm	0.10
Laser Power	W	50-60

We recommend use of Uniheat V2-UPGRADE (8-zone uniform part bed heating) or Uniheat V3-UPGRADE (9-zone uniform part bed heating) and Scraper^{plus} –UPGRADE (antistatic roller scraper); products of LSS Laser Sinter Service, Germany. www.lss-europe.com

Delivery Form & Storage

Powder will be delivered as 20 kg boxes on pallets.
Preferably storage should be effected in dry and normally temperatured rooms.

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