Addigy® P1210

Powder Bed Fusion

Addigy® P1210 is one of the first commercially available PBT powders for selective laser sintering. The material is the ideal solution for small series production via additive manufacturing in industrial applications such as automotive electronics.

Addigy® P1210 offers customers a widely-known material in the industrial sector which can now be considered for small series production of end use parts.

As 3D printing evolves from prototyping to industrial manufacturing, customers need materials such as Addigy® P1210 to meet their stringent demands. Current solutions do not meet application requirements for industrial applications, such as automotive electronics or applications that need to perform under high temperatures. Addigy® P1210 has the same dielectric properties as material used in injection molding processes, making it a material engineers are familiar with and prepared to use.

Developed for a wide sinter window, the powder is extremely easy to print. Additionally, Addigy® P1210 is more environmentally friendly with a high reuse rate and is recyclable to the extent that the material can be brought back to the powder bed process.

Key Benefits

- A well-known material that can be adopted quickly
- Excellent dielectric properties
- Extremely easy to print
- Improved dimensional stability due to lower moisture uptake
- Less waste due to >60% reuse rate
- Recyclable: non-reusable material can bebrought back to the powder bed process

Ideal Applications

- Connectors
- Automotive Electronics
- Electrical
- Lighting

Data Sheet

Technical Data

MECHANICAL PROPERTIES	VALUE	UNIT	METHOD
Young's Modulus XY	3,000	MPa	ISO 527 Type 1A
Young's Modulus Z	2,600	MPa	ISO 527 Type 1A
Tensile Strength XY	50	MPa	ISO 527 Type 1A
Tensile Strength Z	40	MPa	ISO 527 Type 1A
Strain at Break XY	2.6	%	ISO 527 Type 1A
Strain at Break Z	1.7	%	ISO 527 Type 1A
Charpy Impact (Unnotched) 23°C XY	6.7	kJ/m^2	ISO 179/1eU
Charpy Impact (Unnotched) 23°C XY	4.0	kJ/m^2	ISO 179/1eU

THERMAL PROPERTIES	VALUE	UNIT	METHOD
Melting Temperature	225	°C	ISO 11357-1/-2
Heat Deflection Temperature - 1.80 MPa	125	°C	ISO 75-1/-2
Heat Delfection Temperature - 0.45 MPa	210	°C	ISO 75-1/-2
Flammability - Burning Rate	45 (@ 3.0 mm) 62 (@ 1.55 mm)	mm/min	FMVSS 302
Flammability - UL94	HB 1.5mm thickness	class	IEC 60695-11-10

ELECTRICAL PROPERTIES	VALUE	UNIT	METHOD
Dielectric Strength	24-24 (dry-cond.)	kV/mm	IEC 60243-1
Breakdown Voltage	23-22 (dry-cond.)	kV	IEC 60243-1
Dissipation Factor (100 Hz)	20×10^{-4}	-	IEC 62631-2-1
Dissipation Factor (1 MHz)	149×10^{-4}	-	IEC 62631-2-1
Volume Resistivity	4.4×10^{14}	Ω x m	ASTM D257
Surface Resistivity	8.1×10^{16}	Ω	ASTM D257
Comparative tracking index	> 700	V	IEC 60112

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