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Plastics for Additive Manufacturing

E491715

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HP Printing and Computing Solutions S L U

CAMI DE CAN GRAELLS 1-21, ST CUGAT DEL VALLES 08174 ES

HP 3D HR PA12 FR(b)(R50) enabled by Evonik

Process Category: Powder Bed Fusion - Multi-Jet Fusion (MJF)

Polyamide 12 (PA12), furnished as powder

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
NC	1.0-1.1	HB	4	0	65	65	65
	2.5	V-0	0	0	65	65	65
	3.5	V-0	0	0	65	65	65

Comparative Tracking Index (CTI): 1

Inclined Plane Tracking (IPT) kV: -

Dielectric Strength (kV/mm): -

Volume Resistivity (10^x ohm-cm): -

High-Voltage Arc Tracking Rate (HVTR): -

Surface Resistivity (10^x ohms/square): -

Dimensional Change (%): -

High Volt, Low Current Arc Resis (D495): -

Processing Parameters:

Build Plane: Horizontal & Vertical

Laser Power (Watts): -

Layer Thickness (µm): 90

Scan Speed (m/s): 0.28

Hatch Spacing (mm): -

Scan Strategy: Alternate

Post Processing Bead Blasting, Glass beads, 70-150 µm or Ceramics beads, 150-250 µm with 3-5 bars Air Pressure. For 5-10 sec each Method: 100cm2 with 15 cm distance to part.

For use with HP Jet Fusion 5600 3D Printer Series (E165854) Printer Preset: Balanced

Limited properties and ratings assigned to samples produced by the Additive Manufacturing technique representing a specific set of printing parameters and build strategy. Other print parameters and build strategies may result in significantly different results.

(R50) - Material is approved for use with Reclaimed powder up to 50%

(b) - For use with Fusing Agents HP 3D800 5L and HP 3D810 5L, and Detailing Agents HP 3D800 5L and HP 3D810 5L.

IEC/ISO small-scale test data does not pertain to building materials, furnishings and related contents. IEC/ISO small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

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IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	1.0-1.1	HB, HB75 (NC)
			2.5	V-0 (NC)
			3.5	V-0 (NC)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC AC Dielectric Strength (AC DS)	IEC 60243-1	kV/mm	-	-
IEC DC Dielectric Strength (DC DS)	IEC 60243-2	kV/mm	-	-
IEC Volume Resistivity (VR)	IEC 62631-3-1	10 ^x ohm-m	-	-
IEC Surface Resistivity (SR)	IEC 62631-3-2	10 ^x ohms	-	-
IEC Inclined Plane Tracking (IPT)	IEC 60587	kV	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-1	kJ/m ²	-	-