PLA HR-870 Technical Data Sheet

SAKATA 3D PLA HR-870 is a PLA-based filament developed for manufacturing 3D printer monofilament. Engineered to deliver improved heat-resistance and high impact strength to 3D printed parts, this formulated grade achieves thermal and mechanical properties similar to ABS while offering an alternative to styrenic-based materials. Monofilaments made with PLA HR-870 provide excellent 3D printing characteristics such as precise detail, good adhesion to build plates, less warping or curling, and low odour. Made in Spain by POLIMERSIA GLOBAL S.L.

FILAMENT SPECIFICATIONS	Unit	Value
Diameter	mm	1.75 ± 0.03 / 2.85 ± 0.05
Max. roundness deviation	mm	0.03 / 0.05
Net weight	g	1,000

PHYSICAL PROPERTIES	Standard	Unit	Value
Specific gravity	ASTM D792	g/cm3	1.22
MECHANICAL PROPERTIES	**Standard**	**Unit**	**Value**
Tensile modulus (1)	ASTM D882	MPa	2,865
Tensile strength (1)	ASTM D882	MPa	40
Flexural modulus (1)	ASTM D790	MPa	2,414
Flexural strength (1)	ASTM D790	MPa	73
Izod notched impact strength (1)	ASTM D256	J/m	233
THERMAL PROPERTIES	**Standard**	**Unit**	**Value**
HDT (0.45 MPa) (1)	ASTM E2092	ºC	75-85

(1) 3D printed parts, 100% infill, annealed at 110ºC/20 min.

PRINT SETTINGS (1)	Unit	Value
Nozzle temp.	ºC	Classic printers: 210 - 225 High speed printers: 225 - 240
Type of nozzle	-	Brass
Bed temp.	ºC	> 45
Type of bed	-	Glass or PEI
Bed treatment	-	Adhesive spray or stick when needed
Closure chamber	-	Not needed
Cooling fan	%	100
Layer height	mm	0.08 – 0.2
Print speed	mm/s	Classic printers: 50 - 100 High speed printers: 100 – 350 (2)
Max. volumetric speed	mm^3/s	24 (2)
Dry specification	Before printing	4 – 6 hours at 55 ºC (optional)
	During printing	55 ºC (optional)

(1) Settings are based on a 0.4 mm nozzle.

(2) Nozzle temperature: 240 ºC.

Certifications / Approvals

SAKATA 3D PLA HR-870 filament is not certified for food contact either medical applications.

Safety Considerations

Good general ventilation of the workplace is recommended.

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