



Technical Data Sheet

EPR InnoPET

Filament suitable for all commercially available leading brands 3D FDM/FFF printers

IDENTIFICATION OF THE MATERIAL

Trade name	InnoPET
Chemical name	MonoPET Polyethylene Terephthalate
Chemical family	Amorphous Thermoplastic Polyester
Use	3D-Printing
Origin	Industrial PET



GUIDELINE FOR PRINT SETTINGS

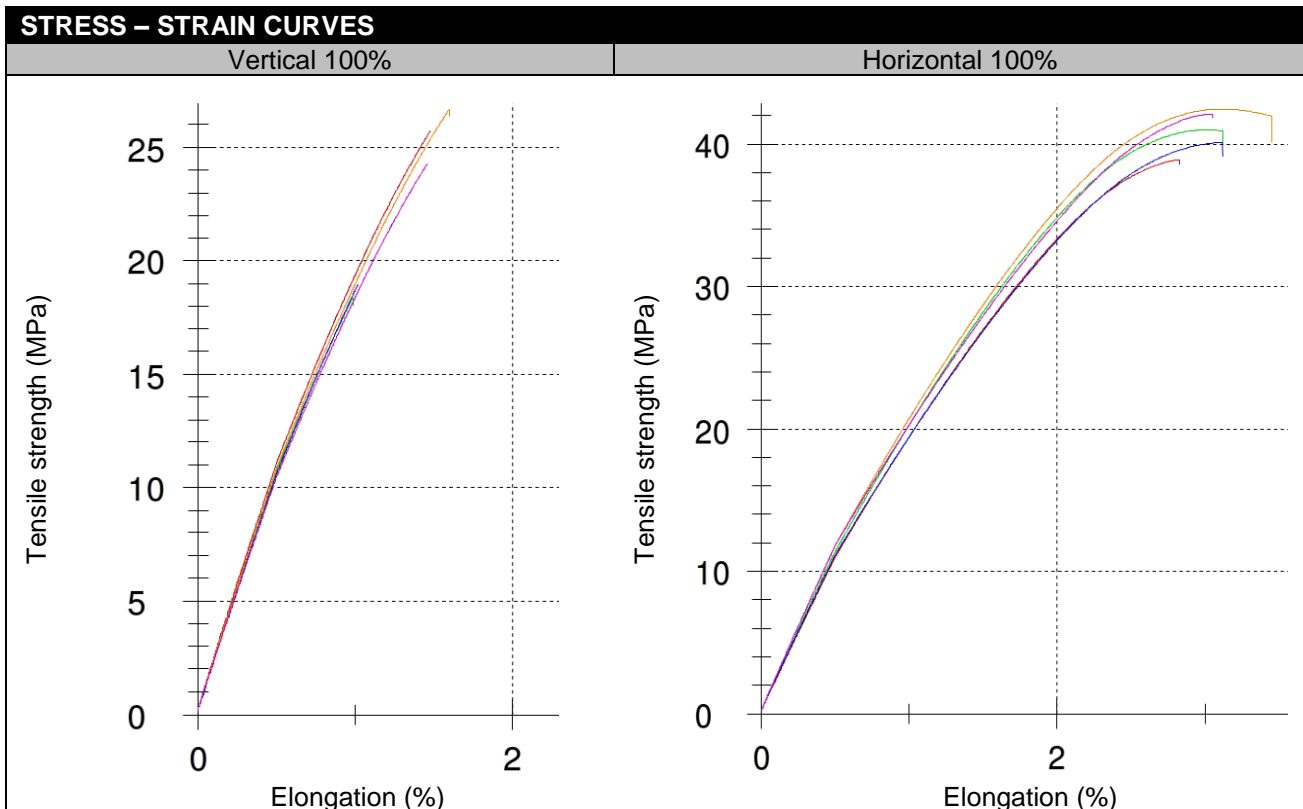
GUIDELINE FOR PRINT SETTINGS		Test Method
Nozzle temperature	220 ± 10 °C	Innofil3D
Bed temperature	Approx. 75 °C	Innofil3D
Bed modification	Tape or glue below 60 °C	Innofil3D
Active cooling fan	YES	Innofil3D
Layer height	0.08 – 0.2 mm	Innofil3D
Shell thickness	0.4 – 0.8 mm	Innofil3D
Print speed	40 – 80 mm/s	Innofil3D

MATERIAL PROPERTIES

MATERIAL PROPERTIES		Test Method
Melt temperature	Not applicable	ASTM D3418
Glass transition temperature Tg	62°C	ASTM D3418
Odor	Odorless	/
Solubility	Insoluble in water	/



MECHANICAL PROPERTIES		Test Method		ISO 527	
All test specimens were printed using an Ultimaker 2 under the following conditions: printing temperature = 210°C, heated bed temperature = 75°C, print speed = 40 mm/s, number of shells = 2, Infill under 45°	 Printed vertical (Z-axis)		 Printed horizontal (X,Y-axis)		
	Infill	50%	100%	50%	100%
	Tensile strength (MPa)	11.11 ± 2,22	22.84 ± 4,83	27.74 ± 1,40	40.92 ± 1,83
Force at break (MPa)	10.99 ± 1,97	22.90 ± 4,88	27.26 ± 1,77	39.94 ± 1,52	
Elongation at max force (%)	0.96 ± 0,30	1.32 ± 0,37	3.04 ± 0,11	3.02 ± 0,16	
Elongation at break (%)	0.96 ± 030	4.02 ± 7,64	3.30 ± 0,39	3.12 ± 0,31	
Relative tensile strength (MPa/g)	1.17 ± 0,25	1.77 ± 0,39	2.88 ± 0,12	3.29 ± 0,13	
Emodulus (MPa)	1328 ± 43	2140 ± 65	1470 ± 58	2464 ± 97	





FILAMENT SPECIFICATIONS		Test Method
Diameter 1.75	1.75 ± 0.05 mm	Innofil3D
Diameter 2.85	2.85 ± 0.05 mm	Innofil3D
Diameter 3.00	3.00 ± 0.05 mm	Innofil3D
Max. roundness deviation 1.75	0.05 mm	Innofil3D
Max. roundness deviation 2.85	0.10 mm	Innofil3D
Max. roundness deviation 3.00	0.10 mm	Innofil3D
Net weight on reel	750 g ± 2%	Innofil3D

LIST OF COLORS AND CERTIFICATIONS*

Colour	Code	RAL nr.	Certifications/approvals				
			10/2011 ¹	FDA ²	BfR ³	2011/65 ⁴	EN 71-3 ⁵
Naturel	0301	N/A	Yes	Yes	Yes	Yes	Yes
Black	0302	9005	Yes	Yes	Yes	Yes	Yes
White	0303	9010	Yes	Yes	Yes	Yes	Yes
Red	0304	3020**	Yes	<u>No</u>	Yes	Yes	Yes
Blue	0305	5022**	Yes	Yes	Yes	Yes	Yes
Yellow	0306	1003**	Yes	Yes	Yes	Yes	Yes
Green	0307	6018**	Yes	Yes	Yes	Yes	Yes
Orange	0309	2008**	Yes	<u>No</u>	Yes	Yes	Yes
Pearl White	0311	1013**	Yes	Yes	Yes	Yes	Yes
Gold	0314	1036**	Yes	Yes	Yes	Yes	Yes

* This overview is generated using information obtained from the raw material suppliers.

** RAL number used to manufacture the semi-transparent colour.

Certifications/approvals	Description
¹ Regulation EU No 10/2011:	Union Guidelines on Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food (Europe)
² FDA:	Food and Drug administration approval (U.S.A.)
³ BfR-empfehlung:	No migration of substances with a health risk occurs from the contact materials to the foods (Germany)
⁴ Directive 2011/65/EU:	The restriction of the use of certain hazardous substances in electrical and electronic equipment (Europe)
⁵ Directive 2009/48/EC; EN 71-3:	Safety of toys – Part 3: Migration of certain elements (Europe)