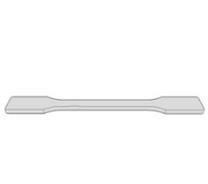
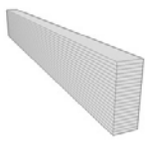
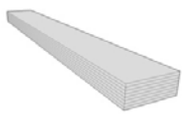
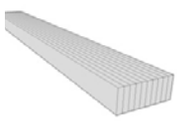
OVERVIEW MECHANICAL PROPERTIES OF PRINTED TEST SPECIMENS INNOFIL3D

This Comparison Data Sheet contains standardized material data for 3D-printed test specimens according to ISO 178, ISO 179 and ISO 527. For detailed information, see the Technical Data Sheets. www.innofil3d.com/material-data

	TENSILE STRENGTH (100% infill) ISO 527		BENDING STRENGTH ISO 179		CHARPY IMPACT STRENGTH ISO 178	
	(MPa) HORIZONTAL	(MPa) VERTICAL	(MPa) PARALLEL	(MPa) NORMAL	(kJ/m2) PARALLEL	(kJ/m2) NORMAL
						
Innofil3D PRO1	48.0	21.8	99.1	92.4	18.8	20.4
Innofil3D ASA	26.8	12.4	63.7	53.1	21.8	20.5
Innofil3D HiPS	19.3	11.1	68.9	38.0	2.1	34.0
Innofil3D PP	11.9	8.9	24.5	19.6	61.0	1.4
Innofil3D ABS	29.3	6.5	72.6	67.3	39.9	35.4
Innofil3D PLA	38.1	28.8	86.6	67.7	14.2	13.1
Innofil3D PET	40.9	22.8	93.0	76.7	5.2	12.4

MATERIAL PROPERTIES

PRO1 - PLA Compound	PRO1	Engineering PLA, high strength, tough, versatile, fast and easy printing
Acrylonitrile styrene acrylate	ASA	UV resistant, outdoor use, anti-static properties
High Impact Polystyrene	HIPS	Suitable for sanding and painting, solvable ABS support
Polypropylene	PP	Low density, resistant to fatigue and chemicals, high impact strength
Acrylonitrile Butadiene Styrene	ABS	Impact resistant, heat resistant, high toughness
Polylactic Acid	PLA	Low warping, bio based, compostable, easy printing
Polyethylene Terephthalate	PET	Low moisture absorption, dimensionally stable, good mechanical properties, easy printing

Test specimens printed using an Ultimaker 2+ printer under the following conditions:

		PRO1	ASA	HiPS	PP	ABS	PLA	PET
Printing Temp.	(°C)	210	260	250	230	240	210	210
Heated Bed Temp.	(°C)	60	100	80	60	90	60	75
Print Speed	(mm/s)	40	40	40	40	40	40	40

TESTED ACCORDING TO ISO STANDARDS

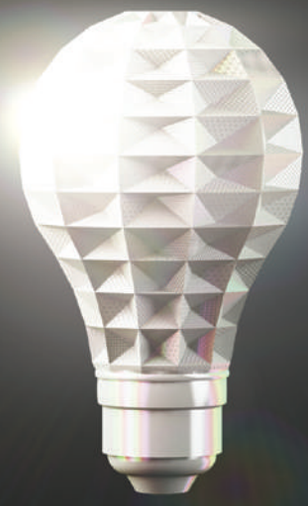
ISO 527 **Tensile Tests.** Minimum number of 5 specimens with 50% and 100% infill each are tested, printed both horizontally and vertically.

ISO 179 **Flexural Tests.** 10 specimens normal, 10 specimens parallel, all 100% infill.

ISO 178 **Charpy Impact Tests.** unnotched. 10 specimens normal and 10 specimens parallel, all 100% infill.

Professional Series

COMPARABLE DATA SHEET
INNOFIL3D FILAMENTS



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