

OYSTER

Smartfil Oyster is a filament for biodegradable and compostable 3D printing of high quality, obtained with a polymer matrix and a load from the reuse of organic waste such as crushed oyster shell. We have developed a filament, which also favors the circular economy and improves environmental quality.



Allow for all printers



Compostable



Biodegradable

	VALUES		UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES				
Chemical composition	Composed of PLA with a load of oyster shells.			
Density	1,54		g/cm ³	ISO 1183
MECHANICAL PROPERTIES ⁽¹⁾				
	XY PLANE	XZ PLANE		
Tensile strength	42,3	18,8	MPa	ISO 527
Traction module	3403	2893,7	MPa	ISO 527
Flexion strength	74,9	49,2	MPa	ISO 178
Flexion module	3690,7	3428,9	MPa	ISO 178
Elongation at maximum effort	1,6	0,7	%	ISO 527
Elongation by traction at break	1,6	0,7	%	ISO 527
Elongation by flexion at break	2,7	1,6	%	ISO 178
Charpy Impact Force (no notch)	-	6	kJ/m ²	ISO 179
Hardness	87,2		Shore D	ISO 7619 - 1
⁽¹⁾ Values obtained on printed specimens, nozzle 0,6 mm, rectilinear infill 100%, layer height 0,2 mm For more information contact us by email at info@smartmaterials.com or visit our website www.smartmaterials3d.com				
THERMAL PROPERTIES				
Glass transition temperature (Tg)	65		°C	ISO 11357
VICAT B (50 N 50°C/h)	59		°C	ISO 306
HDT B (0,45 MPa)	60		°C	ISO 75
PRINTING PROPERTIES				
Printing temperature	200 - 230		°C	
Bed temperature	40 - 60		°C	
Layer fan	100		%	
Print Speed	25 - 50		mm/s	
Material flow	100		%	
Layer height	≥ 0,2		mm	
Nozzle recommendations (Brass)	≥ 0,6		mm	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR	PACKAGING
M	750 g	1065 g	1,75 mm/2,85 mm	Natural	Cardboard box, cardboard coil, vacuum bag, desiccant.

NOTICE: The information provided in the data sheets is intended for reference only. It should not be used as design or quality control values. Actual values may differ significantly depending on printing conditions. The final performance of printed components not only depends on materials, design and printing conditions are also important.