



## Technical Data Sheet: Obsidian™ Carbon Fiber Nylon 3D Filament

Obsidian™ was developed for use in all Markforged printers as an alternative to Onyx™

Physical Properties	Standard	Unit	Obsidian™	Onyx™
Density	ASTM D792	g/cc	1.2	1.2

Mechanical Properties	Standard	Unit	Obsidian™	Onyx™
Tensile Strength, Break	ASTM D638	MPa	44	37
Tensile Modulus	ASTM D638	GPa	3.5	2.4
Tensile Elongation, Break	ASTM D638	%	11	25
Flexural Strength	ASTM D790	MPa	75	71
Flexural Modulus	ASTM D790	GPa	3.8	3

Thermal Properties	Standard	Unit	Obsidian™	Onyx™
Deflection Temperature at 0.45 MPa (66psi)	ASTM D648	°C	147	145

Electrical Property	Standard	Unit	Obsidian™	Onyx™
Surface Resistance	ASTM D257	Ohm/sq	>10 <sup>9</sup>	>10 <sup>9</sup>

### Printed Specimen Conditions

Printer: Markforged Onyx One™

Layer Height: 0.125mm

Infill: 100%

Specimen Orientation: XY Flat

Onyx™ data copied from Markforged data sheet