3DXTECH® Additive Manufacturing

Technical Data Sheet: Obsidian-CF v2

Material Description:

Obsidian-CF v2 is the improved alternate to Markforged's Onyx, brought to you by 3DXTECH. Reformulated for improved printability on the Markforged platform and a variety of open-source printers, this material shows mechanical performance that exceeds Onyx in nearly every way. With the toughness characteristic of Onyx, as well as immaculate surface finish even at higher print speeds, Obsidian-CF v2 delivers impressive results for a fraction of the cost.

Mechanical Property	Testing Standard	Orientation	Unit	Obsidian v2	Onyx
Tensile Strength	ASTM D638	Vertical	MPa	23.4	20.1
Tensile Modulus	ASTM D638		MPa	1,351.4	1,082.5
Tensile Strength	ASTM D638	Flat	MPa	23.8	26.1
Tensile Modulus	ASTM D638		MPa	730.8	539.9
Tensile Strength	ASTM D638	Edge	MPa	31.0	31.9
Tensile Modulus	ASTM D638		MPa	1,510.0	1,206.6
Flexural Strength	ASTM D790	Edge	MPa	33.9	30.8
Flexural Modulus	ASTM D790		MPa	1,048.0	820.5
Izod Impact, Unnotched	ASTM D256	Flat	J/m	854	940

Thermal Properties	Testing Standard	Unit	Obsidian v2	Onyx
Deflection Temperature at 0.45 MPa (66psi)	ISO 75	°C	147	145

Note: Testing data provided in this document was generated by an independent, third-party lab to ensure an unbiased comparison. For accuracy, each sample of our filament was tested directly against a corresponding sample from Markforged, using identical printers, settings, and part orientations. This standardized approach allows for a true one-to-one comparison, providing a clear picture of material performance across the same conditions.

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TDS Rev 1.0

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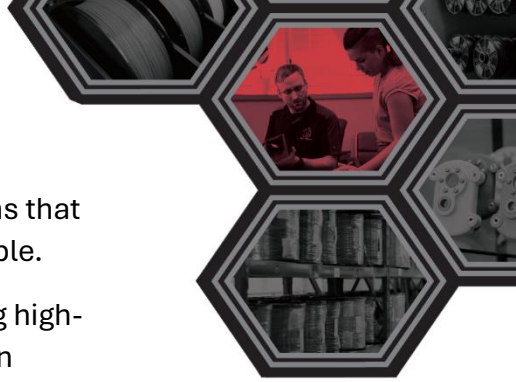
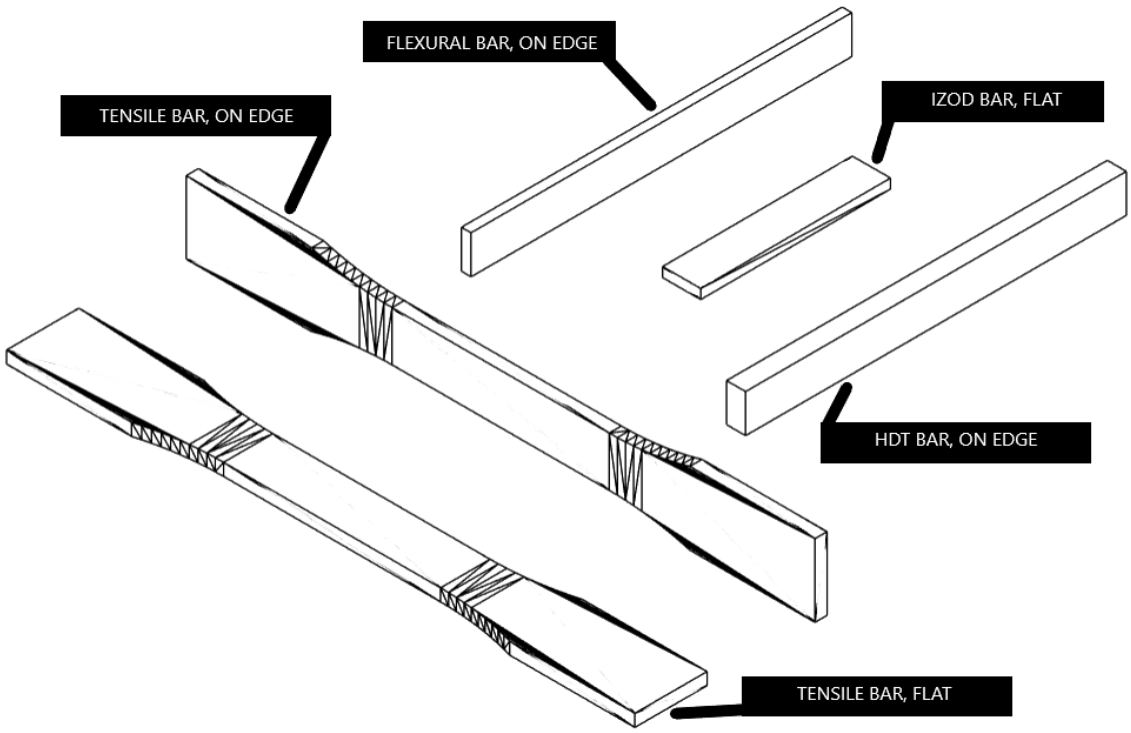


Mission: To inspire creators by delivering innovative manufacturing solutions that empower professionals to solve complex challenges once thought impossible.

Vision: Become a trusted partner for demanding applications by developing high-performance materials that fuel sustainable design and engineering, with an unwavering commitment to continuous improvement.

Physical Properties	Testing Standard	Unit	Value
Density	ISO 1183	g/cc	1.2

Material	Printer	Nozzle Temp (°C)	Print Speed (mm/s)	Layer Height (mm)	Infill
Obsidian v2	Markforged X7	275	30	0.20	Solid
Onyx	Markforged X7	275	30	0.20	Solid



Disclaimer: The technical data contained on this data sheet is furnished without charge or obligation and accepted at the recipient's sole risk. This data should not be used to establish specifications limits or used alone as the basis of design. The data provided is not intended to substitute for any testing that may be required to determine fitness for any specific use.

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