

HP 3D High Reusability PA 12 (enabled by Evonik)

Multi Jet Fusion | PA12 | powder

Compiled by FabDigit from manufacturer technical data. Values below belong to this named product; unreported properties are omitted.

Manufacturer: HP

Source revision: 4AA6-4895ENA, March 2018

Recorded system family: HP Jet Fusion 5600, 5400W, 5200, 5000 and 4200 series

As-printed colour: Gray

Test values are typical reported results, not guaranteed design allowables or finished-part certification. Review the complete source for specimen preparation, orientation and conditioning.

Physical

PROPERTY	VALUE	TEST / CONDITION
Density	1.01 g/cm3	per ASTM D792
Melting Temperature (Tm)	187 deg C	per ASTM D3418; Powder melting point (DSC)

Mechanical

PROPERTY	VALUE	TEST / CONDITION
Tensile Strength (Ultimate)	48 MPa	per ASTM D638; XY 48 / Z 48
Elastic (Young's) Modulus	1.7 GPa	per ASTM D638; XY 1.7 / Z 1.8 GPa
Elongation at Break	20 %	per ASTM D638; XY 20 / Z 15
Flexural Strength	65 MPa	per ASTM D790; XY 65 / Z 70

Mechanical - continued

PROPERTY	VALUE	TEST / CONDITION
Flexural Modulus	1.73 GPa	per ASTM D790; XY 1.73 / Z 1.73 GPa
Charpy Impact, Notched (ISO 179)	3.5 kJ/m2	per ASTM D256; Izod notched, kJ/m2; XYZ 3.5

Thermal

PROPERTY	VALUE	TEST / CONDITION
Heat Deflection Temp. @ 0.45 MPa	175 deg C	per ASTM D648; XY 175 / Z 175
Heat Deflection Temp. @ 1.8 MPa	95 deg C	per ASTM D648; XY 95 / Z 106

Manufacturability

PROPERTY	VALUE	TEST / CONDITION
Powder Particle Size (D50)	60 um	per ASTM D3451
Powder Bulk Density	0.425 g/cm3	per ASTM D1895

Selection and finishing

HP's general-purpose MJF PA12 for detailed functional parts, housings and complex assemblies when a balanced rigid-polymer profile is the priority.

Design: Select the actual HP platform and print mode before applying property or ESD evidence. Validate sealing, joints and pressure exposure on the finished geometry rather than inferring watertightness from the powder name.

Finishing: Gray is the as-printed state. Dyeing is a separate operation; confirm colour, sealing and surface-treatment compatibility for the intended service environment.

Source and document scope

HP manufacturer source reference - 4AA6-4895ENA, March 2018

<https://www.shapeways.com/wp-content/uploads/2021/01/HP-MJF-PA-12-Data-sheet.pdf>

FabDigit product page: <https://www.fabdigit.com/materials/polymer-pa12/hp-pa-12/>

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