

HP 3D High Reusability PA 12 S (enabled by Arkema)

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: 4AA8-4684ENW, 2025

Recorded system family: HP Jet Fusion 5600, 5200 and 5000 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	0.98 g/cm3	per ASTM D792; XY and Z
Melting Temperature (Tm)	184 deg C	per ASTM D3418; Powder melting point (DSC)

Mechanical

PROPERTY	VALUE	TEST / CONDITION
Tensile Strength (Ultimate)	45 MPa	per ASTM D638; XY 45 / Z 43; 95 % of parts 40-48 MPa
Elastic (Young's) Modulus	1.7 GPa	per ASTM D638; XY 1.7 / Z 1.7 GPa; 95 % of parts 1.6-1.9 GPa
Elongation at Break	12 %	per ASTM D638; XY 12 / Z 5 (at yield XY 10 / Z 5)

Mechanical - continued

PROPERTY	VALUE	TEST / CONDITION
Charpy Impact, Notched (ISO 179)	2.5 kJ/m2	per ASTM D256; Izod notched 3.2 mm, kJ/m2; XY 2.5 / Z 2

Manufacturability

PROPERTY	VALUE	TEST / CONDITION
Powder Particle Size (D50)	42 um	per ASTM D3451
Powder Bulk Density	0.5 g/cm3	per ASTM D1895

Selection and finishing

A smooth-surface HP MJF PA12 for aesthetic covers, dental models and volume prototypes where finish and powder efficiency matter more than ductility.

Design: Use the HP 5600, 5200 or 5000 process scope and verify fragile details in the target build. Powder-reuse assumptions depend on the print mode and packing density, so confirm them with the supplier for production planning.

Finishing: Gray is the as-printed colour and the material is cataloged as non-dyeable. Specify a compatible paint or coating only after checking adhesion, detail loss and dimensional allowance.

Source and document scope

HP manufacturer source reference - 4AA8-4684ENW, 2025

<https://www8.hp.com/h20195/v2/GetDocument.aspx?docname=4AA8-4684ENW>

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

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