



ESTANE® 3D TPU Solutions

LUBRIZOL AND ADDITIVE MANUFACTURING

Lubrizol is a market leader of innovative engineered polymer solutions and is dedicated and committed to expanding its portfolio of thermoplastic polyurethane (TPU) solutions suitable for 3D printing (3DP) technologies.

This in-depth portfolio can be offered either in pellet form for filament extrusion purposes or powder TPU (MJF* or SLS) to meet strict market requirements for printed parts, such as high strength and high abrasion resistance, high mechanical properties and outstanding surface/haptic properties.

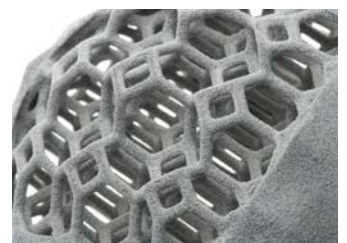
PELLETS FOR FILAMENT AND POWDER TPU SOLUTIONS FOR:

- Fused Filament Fabrication (FFF) and direct pellet extrusion (FGF)
- Multi Jet Fusion™ (MJF)*



3DP MARKETS

- Healthcare
- Industrial
- Consumer Goods
- Automotive
- Electronics
- Footwear



Images of parts 3D printed with ESTANE 3D TPU M88A.

*Proprietary HP® technology

LUBRIZOL 3D TPU SOLUTIONS FOR FUSED FILAMENT FABRICATION APPLICATIONS

Lubrizol offers a full range of ESTANE® 3D solutions from 72 shore A to 75 Shore D hardness for FFF and FGF. ESTANE 3D TPU F98A-030CR HC PL (with 98 shore A hardness) stands out due to its excellent mechanical properties, transparency, low warpage and shrinkage.

DEVELOPED IN CO-OPERATION WITH COLORFABB, VARIOSHORE TPU FILAMENT IS AVAILABLE WITH THE FOLLOWING KEY FEATURES:

- Expandable TPU foam structure (density: 0.7-1.1 g/cm³)
- Hardness ranging from 60 to 92 Shore A
- Printable with FFF Bowden printer and direct drive printers



Image is courtesy of colorFabb.

HP® PARTNERSHIP

Lubrizol is an official HP Open Materials and Applications Platform partner. In collaboration with HP, Lubrizol released ESTANE® 3D TPU M95A powder, the only TPU certified material approved for use in HP's Jet Fusion™ 4200 3D Printing Solution. More recently followed by ESTANE® 3D TPU M88A, a softer and more flexible powder material, approved for use in HP's Jet Fusion 5200 series under a selective availability program. To learn more about additional developments with HP, please contact us.

LUBRIZOL ESTANE® 3D TPU SOLUTIONS FOR POWDER BED FUSION APPLICATIONS

Product Name	Shore Hardness	Key Benefits
ESTANE® 3D TPU M95A-545 OR UV PW	95A	Unique flexible and durable material for the use on HP's Jet Fusion 4200 series. Powder TPU offering a PA12-like process, wide range of working temperatures, excellent chemical, hydrolysis and abrasion resistance.
ESTANE® 3D TPU M88A-565 OR UV PW	88A	Unique flexible and durable material for the use on HP's Jet Fusion 5200 series, with easy unpacking at room temperature, ability to dye parts for bright colors and skin contact certification. Ideal solution for complex lattice design. Certification in progress for the HP MJF 5600 printer platform.

varioShore™ mark is owned by colorFabb.

Contact us for more information:

go.lubrizol.com/3DPrinting

