

Technical Specification

UPM Formi 3D

17.10.2017



Material UPM Formi 3D is cellulose fiber filled plastic composite. Principal ingredients are specially selected cellulose fibers and native polylactide acid.

Applications UPM Formi 3D grades are developed for production of 3D printing filaments.

Environment UPM Formi 3D is manufactured from renewable cellulose fibers. Material can be burned for energy. All cellulose fibres are from certificated forests.

Physical and mechanical properties	Property	Test method	Typical value
	Density, g/cm ³	EN ISO 1183	1,21
	Tensile strength, N/mm ²	ISO 527	28
	Tensile modulus N/mm ²	ISO 527	2600
	Strain (tensile), %	ISO 527	5
	Impact Strength, Charpy, kJ/m ²	ISO 179/1eU	24
	Peak melt temperature, °C	ISO 11357	140-180
	Glass transition temperature, °C	ISO 11357	64
	Melt flow index (granulates)*	ISO 1133	12
	Melt flow index (filament)*	ISO 1133	21

* 190 °C/10kg

Blending UPM Formi 3D grades can be used as such or blended with native polylactide acid.

Colours Lignin free fibres enable richer colors which, whilst gently lightening over time. The light color remain bright. In filament extrusion, recommended amount of added PLA-based color masterbatch is 0,75% or lower.

Pretreatment UPM Formi contains cellulose fibres which may absorb moisture if the package is open. Close the package at all times when possible. UPM Formi composite should be dried for minimum of 3 hours at 80 °C (dehumidifying dryer preferred).

Safety Maximum recommended processing temperature is 200 °C. Overheating may cause risk for thermal degradation. Auto-ignition of UPM Formi material is possible after purging the moulding machine. Recommended to purge into cool water. Product is non-flammable under normal conditions of storage, manipulation and use. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder) or water, in accordance with the regulation on fire protection systems.