

Technical Specification



UPM Formi 3D40

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- Material** UPM Formi 3D is cellulose fiber filled plastic composite. Principal ingredients are specially selected cellulose fibers and native polylactide acid.
- Applications** UPM Formi 3D40 is suitable for production of 3D printing filaments or granules by blending with native PLA plastic
- Environment** UPM Formi 3D is manufactured from renewable cellulose fibers. Material can be recycled or burned for energy. All cellulose fibres are from certificated forests.
- Physical and mechanical properties**
- | Property | Test method | 3D 40 |
|--|-------------|---------|
| Density, g/cm ³ | EN ISO 1183 | 1.2 |
| Tensile strength, N/mm ² | ISO 527 | 48 |
| Tensile modulus, N/mm ² | ISO 527 | 5400 |
| Strain (tensile), % | ISO 527 | 2 |
| Impact Strength, Charpy, kJ/m ² | ISO 179/1eU | 14 |
| Peak melt temperature, °C | ISO 11357 | 135-180 |
| Glass transition temperature, °C | ISO 11357 | 60 |
| Melt flow index (190°C /10kg) | ISO 1133 | 7 |
| Fibre content (%) | | 40 |
- Mechanical properties measured from injection moulded test specimens
- Colours** Lignin free fibres enable richer colors which, whilst gently lightening over time. The light color remain bright. In extrusion, it is recommended to use PLA-based color masterbatch for coloring.
- Blending** UPM Formi 3D 40 can be blended with native PLA plastic or wood plastic composites. Recommended blend ratio: < 25% 3D 40 with PLA.
- 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.
- Storage** UPM Formi granulates should be protected from UV-light and stored in closed packages in dry conditions at temperature below 50 °C. Air humidity can increase moisture content of the material and have negative effects on the end product properties.

All information is based on our knowledge and experience. This information has as sole purpose to act as a manual for safe handling, use, processing, transport, storage, removal and release and cannot be used as guarantee or identification of quality. You are required to comply with all rules, regulations, and guidelines applicable to the use of the UPM Formi material. In all cases, you are fully responsible for any claims or liabilities resulting from your handling, use, processing, transport, storage, removal and release of the UPM Formi material.