Usability and storage of Filaticum PLA filaments

Filaticum PLA filaments and 3D printed objects made from them can be used for years under normal conditions. At air, at room temperature, under normal humidity, the rate of recrystallization and decomposition processes is minimal, which does not cause a change in the mechanical properties of the filaments neither the printed objects. The mechanical properties of Filaticum filaments are written in the technical and material safety data sheets at www.filaticum.com.

Decomposition, compostability

Compostability is an important feature of PLA biopolymers. Objects printed from PLA can only be composted at a detectable rate under industrial composting conditions - min. 50-60 ^{0}C, high relative humidity: 70% or more, composting soils. The complete degradation of a 0.1-0.2 mm thick PLA foil e.g., takes 4-6 months. The composting process is highly affected by temperature, wall thickness and other factors.

Storage

In our experience, correctly stored Filaticum PLA filaments can be used within 1 year without any difficulties.

PLA filaments should be stored in their original packaging under normal conditions, indoors, out of direct sunlight. Storage temperatures above 40 ^{0}C may cause mechanical damage to the filaments. The optimal relative humidity is below 50%. It is advisable to store the opened but not used filaments wrapped in order to minimise the exposure to humidity.

Storing PLA products in an excessively humid environment can lead to the initiation of polymer degradation, which can adversely affect further use and the quality of the final product.

Suggested shelf life

The shelf life is the period of time within which the product is expected to retain the properties given in the specifications.

Filaticum PLA filaments should be used within 1 year of receipt. During this time, PLA products should be stored in accordance with the requirements described above. Beyond this time period, before printing the filament should be tried and evaluated whether it is suitability for the given printing task.