

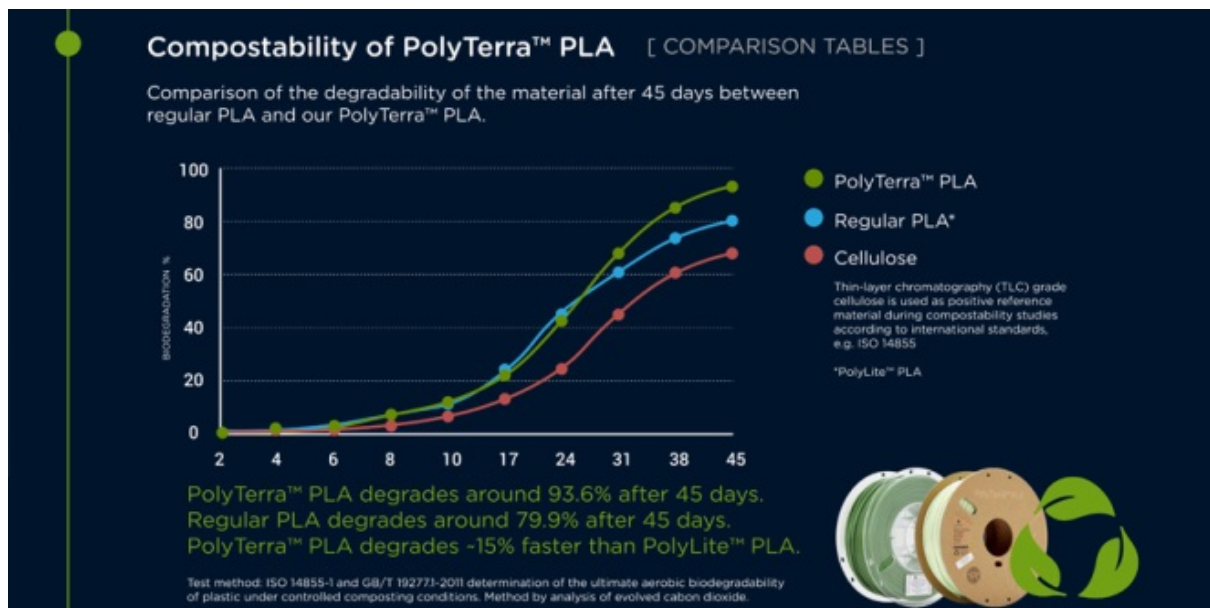
Commercial Compostability

PolyTerra™ PLA is a newly developed material from Polymaker called Fully Bio Compound (FBC) - a bioplastic mainly made with NatureWorks high quality Ingeo PLA and compounded with naturally occurring elements which reduces the plastic content of PolyTerra PLA by 15-20%. With this new formulation, Polymaker have improved the compostability rate of PLA to drive the global effort towards composting bioplastics in commercial composting facilities*.

*Commercial composting timescales are typically 8-10 weeks for PAS 100.

Polymaker ran a compostability test, certified to ISO 14855-1, with a third party laboratory that revealed thanks to the organic compounds, PolyTerra™ PLA degraded faster than a comparable PLA material. The test was completed by putting small pellets of PolyTerra™ PLA in a 2-4 months old plant compost (including a wide variety of microorganisms) and heating the system up to 60°C. During this process the PolyTerra™ PLA will start to decompose into carbon dioxide, water and mineral salts and the aforementioned elements are monitored in order to calculate the mass of PolyTerra™ PLA degraded.

After 45 days, 93.6% of PolyTerra PLA degraded and 79.9% of PolyLite PLA degraded. The testing demonstrated that PolyTerra™ PLA degraded up 15% faster than PolyLite™ PLA and from Polymakers estimation it could take less than 100 days for PolyTerra PLA to fully degrade.



Please note that PolyTerra™ PLA degrades under the specific conditions of industrial composting, namely, at certain temperature and humidity with the presence of microorganisms. The degrade rate will depend on the size and thickness of the printed part. When PolyTerra™ PLA is correctly composted, it breaks down into carbon dioxide, water, biomass and mineral salts of any other elements present. The material fully degrades with no toxic residues and the compost supports plant growth.



Carbon Footprint

High quality raw ingredients are critical to manufacturing consistent and reliable filament, for this reason Polymaker partnered with NatureWorks and use Ingeo PLA resins as a core ingredient for their range of PLA filaments. Polymaker's innovative R&D technologies, compounding and extrusion systems combined with NatureWorks Ingeo resins produce a reliable 3D printing filament.

Abundant and rapidly renewable plant resources capture and sequester atmospheric carbon over their growing season, producing simple sugars via the process of photosynthesis. Through a process of fermentation and separation, these harvested plant sugars are converted into lactic acid. A lactic acid building block is transformed into Ingeo, a performance thermoplastic with physical characteristics and performance tailored for filament production and printing.

PolyTerra™ PLA is a naturally sourced product and for every spool sold Polymaker wants to give back to the earth by planting one tree through the ONETREEPLANTED association. Below you can see a breakdown of PolyTerra™ PLA's Carbon Footprint.

