AD·Bio plastics

CASE STUDY

PLA-Premium	Technology:	Application:
W 721	**Cast extrusion/ 3D printing**	**Filament/ Face mask holder**

"PLA-Premium upgrades pure PLA performance in 3D printing filaments"

ADBIOPLASTICS helped a manufacturer of filaments for 3D printing to introduce enhanced PLA based compostable material in its portfolio, improving fluidity while keeping quality.

CHALLENGE	Our customer was a Spanish innovative company manufacturer of hight quality technical filaments for 3D printing and some specialties (Flavored, Anti-Mosquito, Antibacterial). They were producing mainly TPU filaments, but they were in a phase of comparison with other commercial references of pure PLA, they had experience with, and wanted to focus on a single reference. Main performance and benefits they were looking for (e.g. comparable to those of ABS for example) were: ease of additivation of the grade for color masterbatch, hardness, crystallization, and 3D printing quality.
SOLUTION	The product selected by the manufacturer for trial was a referenced Filament (Diameter ⌀1.75 mm). That presented some challenge in terms of processing. Our technical team previously reviewed the customer's pure PLA reference grade and discussed with the manufacturer's staff current processing conditions to align them with existing equipment possibilities. To ensure a successful trial of PLA Premium, PLA Premium W 721 grade was suggested as the most suitable to face the challenge. Equipment could be easily fine-tuned by the customer along the trial. Very good look results were confirmed.
RESULT	The result of the test and the samples were considered by the customer as satisfactory. Besides, responding to the lack of medical supplies in Spain in the first wave of the COVID-19 pandemic, mask holders with PLA-Premium filament were manufactured for use in hospitals, with very good results.
HIGHLIGHTS	• No need of new investment: **Filament can be extruded on the same equipment as TPU or ABS by changing processing parameters. Fluidity is ok**. • Filament **quality**, is **easy to print** and shows **good adhesion** between layers. • 3D printed end-product has a **good finishing.**