CASE STUDY

PLA-Premium	Technology:	Application:
W 721-F	**Extrusion-blown**	**Blown Film**

"PLA-Premium extrusion-blown film can be easily processed"

ADBIOPLASTICS collaborated with a manufacturer of bio-based, biodegradable, and compostable, final and semi-final packaging and agricultural blown film material, to check feasibility of the introduction of PLA-Premium processing into blown films thickness range portfolio. Which shown that keeping conventional extrusion blown processing equipment, volume yield and quality performance were possible.

CHALLENGE	Our partner was a blown film manufacturer with a production site in Croatia addressing domestic and international packaging and agricultural markets in East and Southeast Europe. It aims at substituting fossil-based plastics, thus exploring the potential of transforming biopolymers such as PLA-Premium into final products, such as blown-films.
SOLUTION	The product selected by the manufacturer for trial was a film for packaging applications in a particular thickness range presenting some challenge in terms processability. Given that trials were to be carried out on a laboratory-scale and semi-industrial equipment. PLA-Premium W 721-F grade was suggested as the most suitable within its range by our technical team to face the challenge.
RESULT	Laboratory scale equipment could be fine-tuned by the customer along the trial. Immediate very good look film results were confirmed on-site. The result of the test and the samples were considered by the customer as satisfactory withing the following film middle thickness range: 40, 50, 60, 70 microns. and film width range of 110, 300 mm. Laboratory scale and semi-industrial nature of the processing line, where up to 100 metres long reels were processed, thus limited to reach lower thicknesses, as did not allow to set the same number of conditions at industrial scale such as heated rollers to wind the film, rotating ring, better adjustment of parameters and adjustment of the fluidity of the material.
HIGHLIGHTS	• No need of new investment: It can be processed on the **conventional extrusion-blown equipment** by changing processing parameters. • Good quality and transparency. No wrinkles. • **Comparable tear resistance results** with respect **to other PLA-based films**, when 50 micron blown films of PLA-Premium are evaluated, resulting in a value of 6.2 N / mm. • **Coefficients of friction (COF) similar to other PLA-based films**, according to the characterization of the 50 micron film as follows: plastic / plastic, 0.65 (static) and 0.5 (dynamic); plastic / metal, 0.37 (static) and 0.26 (dynamic)