



CASE STUDY

PLA-Premium
W 721

Technology:
Thermoforming

Application:
Food bowl/tray

“PLA-Premium substitutes PET/ PP keeping quality & processing standards”

ADBIOPLASTICS helped a rigid plastic packaging manufacturer to test more sustainable biobased and compostable packaging in its portfolio, while keeping PET/PP reference processing and quality

CHALLENGE Our customer was a relevant European manufacturer of rigid plastic packaging addressing the chilled and frozen dairy derivatives sector (cheese, ice-cream, desserts). The company was interested in more sustainable materials. ADBIOPLASTICS aimed at demonstrating the feasibility of producing the same packaging with a PLA-Premium extruded sheet.

SOLUTION The product selected by the manufacturer for trial was a very common PET/ PP reference thermoformed transparent round bowl/tray, sealable with film lid, with the following characteristics and dimensions: Weight 10,6g; Diameter 111mm (bottom)/ 126 mm (lid); Height 37,4 mm (external), 330 mm (internal). That presented some challenge in terms of design like bottom engravings and reliefs, and in terms of processing like cycle time, heating time, vacuum time, etc. Our technical team previously reviewed the customer's reference sheet and discussed with the manufacturer's staff the sheet requirements to reduce risks perception, align with existing equipment possibilities, and ensure a successful trial of PLA-Premium countertype. A PLA-Premium W 721 grade sheet 450 microns thick was suggested as the most suitable within its range to face the challenge. Industrial equipment could be easily fine-tuned by the customer along the trial.

RESULT The PLA-Premium sheet was processed in fully industrial lines. The thermoforming conditions were similar, only temperature was adjusted. The die-cut was fine, and the product validation was very satisfactory, due to the good transparency, fine impact resistance at room temperature (like PET) and at low temperatures (freezing conditions, (-15 to -20°C), that was better than PET. Therefore, the result of the test and the samples may help the company to sound the interest among customers. The later interest in PLA-Premium for taller bowls and frozen product was particularly outstanding by the company.

HIGHLIGHTS

- No need of new investment: bowl could be processed in the **same equipment**.
- **No thermoforming processing issues** (time, temperature, die-cut, etc.)
- The **finishing** and **engravings** were very good.
- The **transparency** was good.
- **Impact** resistance at **room and freezing temperatures** (-15 to -20°C) better than PET