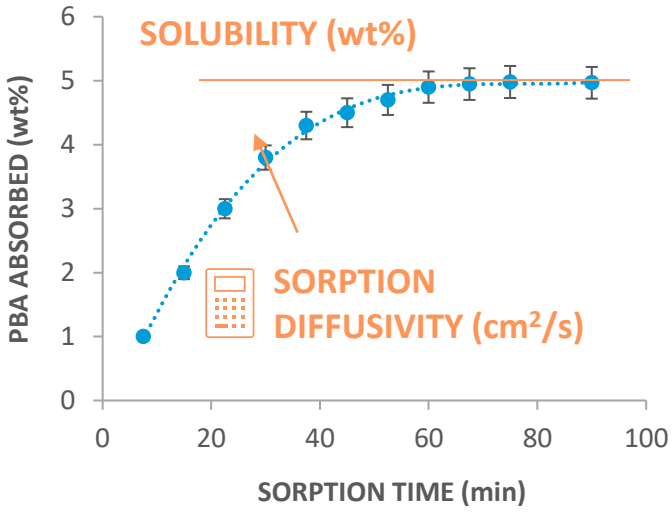
CellMat Technologies

SOLUBILITY AND DIFFUSIVITY OF PHYSICAL BLOWING AGENTS

Determining the polymer-PBA interaction to understand foaming

FUNDAMENTALS OF THE TECHNIQUE

- PRESSURE VESSEL WITH CONTROLLED TEMPERATURE AND PRESSURE. TEMPERATURES FROM RT TO 200 ºC, PRESSURES FROM 1 TO 650 bar.
- ALL TYPES OF POLYMERIC FORMULATIONS.
- BLENDS OF BLOWING AGENTS ARE POSSIBLE.
- SMALL DEVICE THAT ALLOWS A QUICK COOLING BEFORE RELEASING THE PRESSURE, AVOIDING FOAMING.
- THE MAGNITUDES MEASURED ARE:
  - S: The maximum amount of PBA that the polymer formulation can absorb.
  - D_s: The rate at which the PBA is being absorbed in the sample.
  - D_d: The rate at which the PBA is leaving the sample (measured at RT and atmospheric pressure).



CASE STUDY

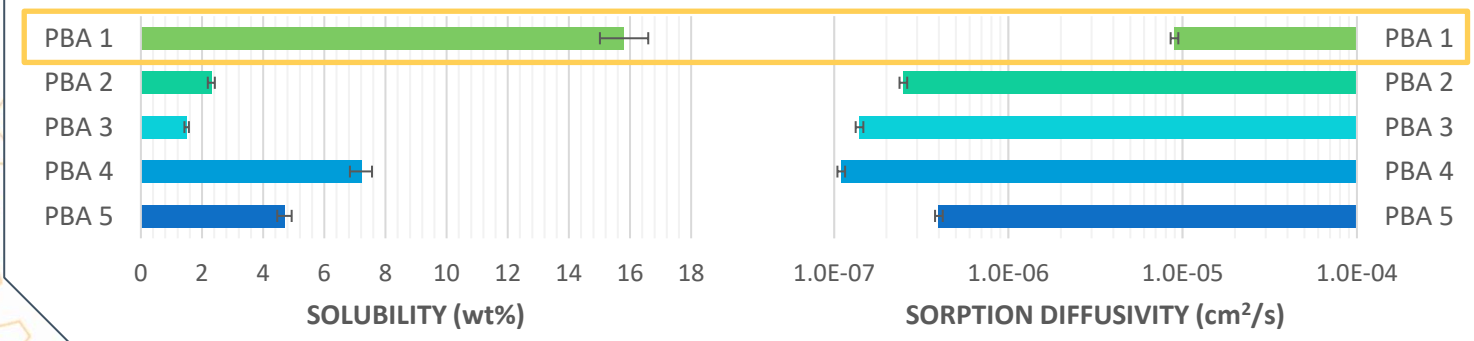
Selection of a blowing agent for a new product manufactured by direct extrusion

OBJECTIVE

- Find the proper blowing agent among the most common ones to minimize density and get good processability in an extrusion foaming process.

RESULTS

- PBA 1 provides the best combination of properties: high solubility (density reduction) and fast diffusivity (easier to dissolve during extrusion).



CONTACT US FOR MORE INFORMATION
info@cellmattechnologies.com
www.cellmattechnologies.com
Tel: +34 983 189 197

CELLMAT TECHNOLOGIES S.L.
Edificio Parque Científico UVa
Paseo de Belén 9A
47011, Valladolid, Spain