

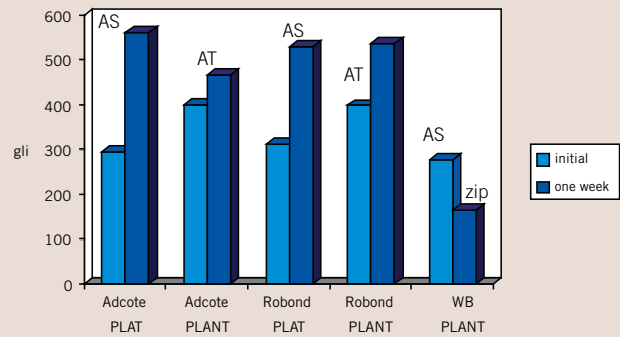
Adhesives for PLA Films



Abstract

Two new adhesives systems specifically tailored for laminating PLA (poly lactic acid) to itself, treated polyolefins, cellophane, polyester and PVdC coated polyolefins have been developed. Performance data including bond strength, aged bond strength and moisture resistance will be presented. It has been found that for some traditional adhesives, bond strengths degrade with time on PLA; these new systems show consistent bond strength. Additionally, a heat seal coating for sealing PLA lidding to PLA, PETG, APET, CPET and Barex® cups has been developed, and performance data will be presented.

PLA/PET Lamination Bonds

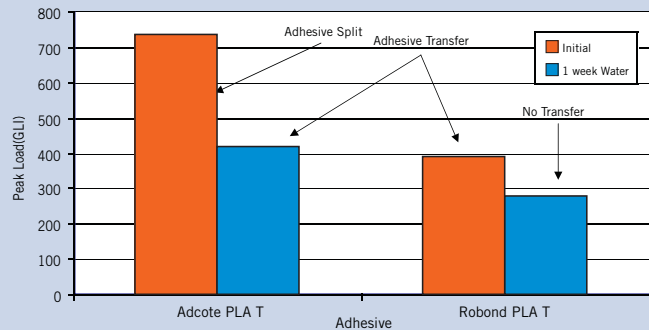


PLAT = PLA treated in line; PLANT = PLA as is no treatment in line

Initial Observations

- PLA works best when used as primary substrate (especially if not treated).
- PLA works best when treated (38 Dynes).
- Two new adhesives developed Robond PLA-WB and Adcote PLA-SB.
- Solvent based heat seal coating developed bonds PLA to PLA, PETG, APET, CPET and Barex®.

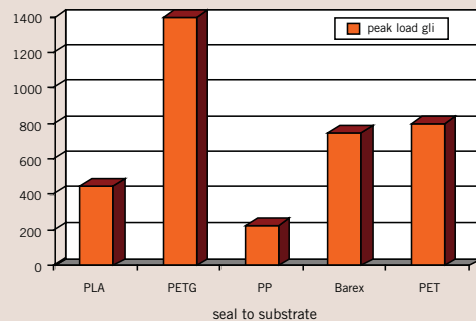
PLA/PLA Watersoak



New Adhesives

- **Robond PLA-WB**
- Waterbased
- 42-44% applied solids using CRWB-PLA coreactant
- Nip temp 150°F
- **Adcote PLA-SB**
- Solventbased (ETOH)
- 30% running solids using CRSB-PLA coreactant
- Nip Temp 140°F

Heat Seal Coating for PLA



Sealing conditions 250 °F 40 psi 1 sec.

