Adhesion solutions for polymer film and overmoulded plastic

SETUP
- 2 mm thick plate part used as test mould
- Polymer film with or without printed circuits and electric components set to the parting surface
- Adhesion estimated with peeling test (ISO 8501) and in some cases also visually (deformations because melting of film)
- Plasma treatment of film material can also be used

SIMULATION
- With MOLDEX3D-injection moulding simulation software
- Find out circumstances that are required to attain adhesion of overmoulded film to plastic more exactly.
- Model the conditions that are critical for surviving of electronic component and printed circuits.

GENERAL
- Adhesion of typical transparent film and overmoulding polymer pairs are poor.
- Pre-treatment for PET-film improves adhesion. Also PC-PC pair has been connected successfully.
- Beside adhesion the melting of the film material and warping of the overmoulded film and solid part package has to be noticed.
- With high temperature resistant polymer materials adhesion in overmoulding is a difficult issue. Both LCP and PI are difficult materials in the sense of adhesion, but e.g. LCP/PPS blend has adhesion to PC and to PET.

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