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LEVAMELT® - ETHYLENE VINYL ACETATE COPOLYMERS FOR PRESSURE SENSITIVE ADHESIVES

Levamelt® is a specialty polymer which is produced by polymerization of vinyl acetate (VA) and ethylene in a radical solution process. The polymer features a vinyl acetate content between 40 - 90 wt.-% which makes it unique for adhesive applications. Conventional EVAs (VA content < 40 wt.-%) are thermoplastic materials which are frequently used for hotmelts whereas Levamelt® as a polar elastomer is mainly utilized for pressure sensitive adhesives. Even without tackifier and plasticizer Levamelt® is suited for easy peel applications. Levamelt® belongs to the few elastomers which are produced in the form of granules and can therefore be processed by blown film or cast film extrusion. For example, Levamelt® is used for protective films where it is the only adhesive which can be removed from the substrate without leaving any residues.

In this presentation basic adhesive properties for different Levamelt® grades are discussed. Chang windows for the different Levamelt® grades were measured and their position in dependency of VA content and molecular weight was determined.

As a polar elastomer Levamelt® shows highest peel forces on polar substrates like PMMA or polycarbonate. Peel forces are adjustable either by the VA content, or by controlling the thickness of the adhesive layer. For this reason, PSAs based on Levamelt® offer a wide application latitude.

New basic formulations for Levamelt® based PSAs are presented and the influence of plasticizers and tackifiers on basic properties are discussed. Also, a basic example for a three-layered film in which Levamelt® is used as an PSA in a protective film is given.