

Melinex® Polyester Film for Film-Insert-Moulding

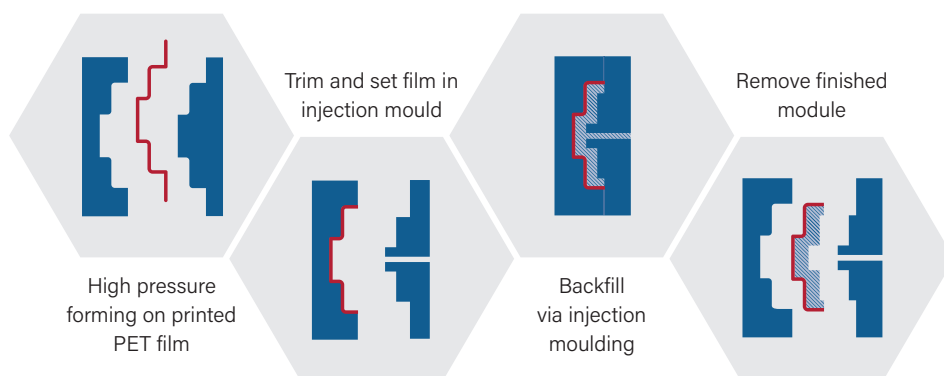


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Film Insert Moulding (FIM) is a process for printing and forming decorative and functional modules for use in application areas such as Automotive, White Goods and Consumer Electronics. A polymeric substrate is printed and formed, then a resin is injection moulded onto the film to produce high quality, shaped components. In-Mould Electronics (IME) modules can be produced by the addition of printed circuitry and electronic components on the film surface prior to injection moulding of resin.

A novel Melinex® polyester film has been developed for use in both FIM and IME processes, offering significant benefits over current polymeric substrates used today. The new polyester film can be drawn and formed to give precise geometries, eliminating the rounding of corners that is normally seen with standard polyester films. The higher stiffness of the polyester film compared to other polymeric films used in the FIM processes also offers the opportunity to downgauge base film thickness, providing potential material cost benefits.

The diagram below shows the typical process to develop a FIM module. The film is printed then formed by high pressure thermoforming, trimmed and set, then backfilled via injection moulding prior to the finished module being removed from the mould.



The co-extruded structure of the polyester film for this development allows good formability whilst maintaining excellent chemical resistance and flexibility. The chemical adhesion pre-treatment has a more permanent effect than corona treatment and does not modify the dyne level of the surface thus giving improved print definition. For more information on the printability and suitable inks and lacquers contact your DuPont Teijin Films representative.



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