FILM BACK INJECTION WITH SOFTTOUCH EFFECT

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FILM BACK INJECTION WITH SOFT TOUCH EFFECT

Technical task:
The following invention shows the back injection of a film with a subsequent soft touch using the example of a door sill.

Solution:
To fulfil the technical task, a film without grain is picked up with a suitable gripper and, depending on the application, heated with a heater in different areas (a). This makes the film more formable.
The heated film is pre-formed by a pre-stretcher in the geometrically critical area (b) and is then applied to the cavity and drawn into the cavity with a vacuum (c). The cavity has a scar on the surface which is formed into the film surface by the vacuum process (d). After the gripper has moved out of the mould area (e), the injection mould closes (f) and the formed film is back-injected with a plastic dimension (usually a PP).

Controllable hot runner nozzles are used so that the film is subjected to as little thermal and mechanical stress as possible during the back injection process. These enables the injection pressure to be controlled and reduced by a smaller open nozzle gap until there is sufficient melt in the cavity or in the area of the injection point. The excess film can be removed in the mould by pinch edges, but also by cutting, or it can be cut away subsequently.

Figure 1: Door sill with back-moulded film

Figure 2
b. Deformation of the film by means of pre-stretchers

Figure 3

c. Film drawn into the cavity by vacuum

Figure 4

d. moulded scar in the foil

Figure 5
e. Foil deep-drawn in injection moulding tool

Figure 6

f. Closing injection moulding tool

Figure 7