

Title (en)
Method and apparatus to compensate for the change in length, in machines for the production and separation of packages, of a foil strip formed from material which shrinks during cooling.

Title (de)
Verfahren und Vorrichtung zum Längenausgleich eines Folienbandes aus einem bei Abkühlung schrumpfenden Werkstoff bei Maschinen zum Herstellen und Vereinzeln von Packungen.

Title (fr)
Procédé et dispositif de compensation de la longueur d'une bande d'un matériau qui se rétracte par refroidissement dans des machines pour fabriquer et pour détailler des emballages.

Publication
EP 0234307 A1 19870902 (DE)

Application
EP 87101084 A 19870127

Priority
DE 3602604 A 19860129

Abstract (en)
[origin: EP0234307B1] 1. A process for compensation of the length of a foil strip (1) of a material which shrinks upon cooling, in particular a thermoplastic material, in machines for producing and separating packs which are formed by deep drawing in the foil strip which for that purpose is transported in the longitudinal direction through a shaping station (4), a further working station (6), in particular a sealing station (4), and a separating station (10) of the machine, and which are cut out, possibly after the filling and sealing operations, wherein the foil strip (1) is heated prior to the deep drawing operation and experiences cooling and shrinking in its movement between the shaping station (4) and the separating station (10), and wherein variations in the pack dimensions and the pack spacing are automatically absorbed and/or compensated at the further working station (6) without adversely affecting the working operation up to a maximum tolerance value which is governed by construction, characterised in that with the beginning of the stoppage in transportation movement, a strip portion (12) of the hot foil strip (1), which strip portion is of a length L and adjoins the shaping station (4) in the direction of transportation and extends at least to downstream of the further working station (6) and at most as far as the separating station (10), is fixed in position to prevent displacement thereof at its one end and at its other end is stretched to a greater length L' by a pulling effect and is held in the stretched condition during the stoppage time T or only until complete cooling of the strip portion (12) has occurred, if said cooling time T' should be shorter than the stoppage time T, wherein the stretch is such that the difference in length L'-L at the end of the stoppage or cooling time T, T' respectively is based essentially only on purely elastic stretching of the strip portion (12) which is still of the original length L when in the condition of having been released again and being free of longitudinal tension, and that the strip portion (12) includes so many packs which are disposed in succession over the length L thereof that the alterations, which are caused by the temporary stretching operation, in the pack dimensions and in particular the pack spacings, are in each case at most as great as the maximum admissible tolerance value for the working operation in the further working station (6).

Abstract (de)
Bei einer Maschine zum Herstellen und Vereinzeln von Packungen, die in einem dazu durch eine Formstation und eine Trennstation der Maschine transportierten Folienband durch Tiefziehen geformt und ausgeschnitten werden, wobei das Folienband vor dem Tiefziehen erwärmt wird und auf seinem Weg zwischen der Formstation und der Trennstation eine Abkühlung erfährt, wird im Falle eines Transportstillstands das noch warme Folienband zwischen der Formstation und der Trennstation so weit gedehnt und gegebenenfalls das Maß der Dehnung zeitlich so gesteuert, daß das Folienband beim Wiederanlaufen der Maschine trotz inzwischen erfolgter stärkerer Abkühlung nach wie vor dieselbe Länge wie das noch warme Folienband zu Beginn des Maschinenstillstands aufweist. Der Dehnungsvorgang verhindert die andernfalls während des Stillstands erfolgende stärkere Schrumpfung des Folienbandes, so daß beim Austrennen der noch vor dem Maschinenstillstand geformten Packungen Versatzfehler vermieden werden, wenn die Maschine nach dem Stillstand neu anläuft.

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CPC (source: EP US)
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• [A] CH 447924 A 19671130 - INST NAHRUNGSMITTEL GENUSSMITT [DE]
• [A] FR 2206737 A5 19740607 - APPLIC PLASTIQUE MEC ELEC [FR]
• [A] DE 1232059 B 19670105 - JACQUES GASPARD HONORE OLLIER, et al

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