

Title (en)
METHOD AND APPARATUS FOR IN-LINE SPLITTING OF PLURAL-COMPONENT FIBERS AND FORMATION OF NONWOVEN FABRICS

Title (de)
VERFAHREN UND VORRICHTUNG ZUM SPALTUNG VON MULTIKOMPONENTFASERN UND HERSTELLUNG VON VLIERSTOFFEN

Title (fr)
PROCEDE ET APPAREIL DE CLIVAGE EN LIGNE DE FIBRES A PLUSIEURS COMPOSANTS ET DE FORMATION DE TISSUS NON TISSES

Publication
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Application
EP 98953364 A 19981009

Priority

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- US 6146097 P 19971009

Abstract (en)
[origin: WO9919131A1] In-line fiber splitting in a spunbond process is achieved by differential heat shrinkage of two or more components of a plural-component fiber, such as a ribbon-shaped bicomponent fiber to produce a nonwoven fabric having superior properties. Two polymers that shrink to substantially different degrees upon application of heat are extruded from an array of orifices (32) of a spinneret (30) as components of plural-component fibers. Ribbon-shaped fibers having alternating first and second components having a difference in heat shrinkage of at least approximately ten percent result in a high degree of rapid separation of the fiber components. The array of plural-components fibers is drawn through an aspirator (36) and attenuated prior to being deposited on a web-forming belt (42) and conveyed to a heater (50) which heats the web to a temperature sufficient to cause differential heat shrinkage of the polymer components, thereby causing the fiber segments formed of the components to separate in less than approximately a second. After fiber separation, the web is bonded to form the nonwoven fabric.

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