

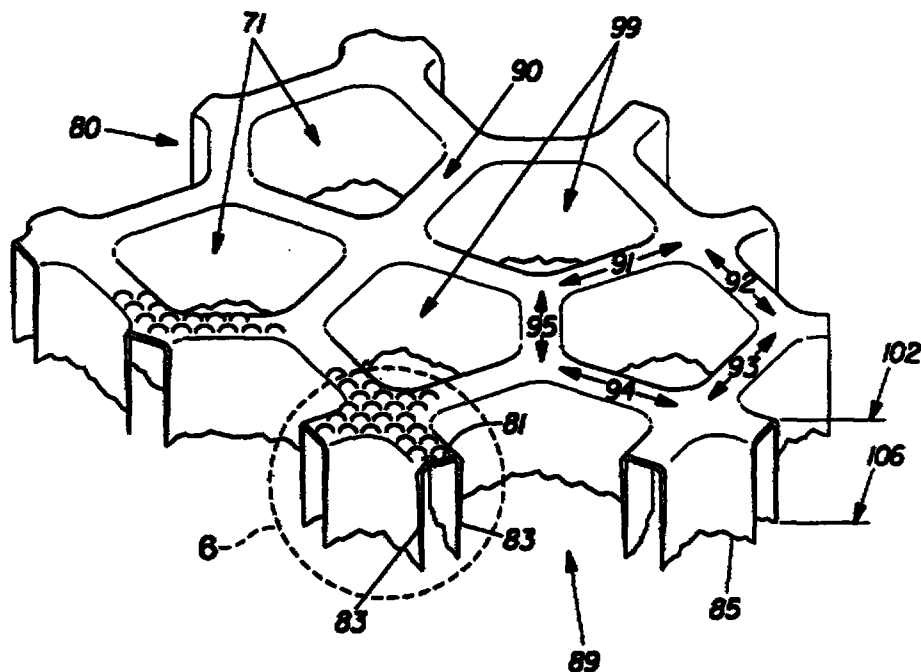


## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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**Published***With international search report.**Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.***(54) Title: FLUID TRANSPORT WEBS EXHIBITING SURFACE ENERGY GRADIENTS****(57) Abstract**

The present invention pertains, in a preferred embodiment, to a fluid-pervious web comprising a first or wearer-contacting surface and a second or garment-facing surface. The web is particularly well suited for use as a topsheet on a disposable absorbent article. The first and second surfaces are separated from one another by an intermediate portion. The first surface of the web provides a structure which exhibits a surface energy less than the surface energy of the intermediate portion. In a preferred embodiment, the web exhibits a plurality of regions of comparatively low surface energy which define surface energy gradients where they interface with higher surface energy web surfaces. More particularly, the present invention pertains to a fluid-pervious web having a plurality of small-scale surface energy gradients which are oriented and located so as to effectively transport fluid away from the first or wearer-contacting surface. The web essentially retains its visual, tactile, and physical properties of the substrate material while achieving the desired surface energy properties. Fluid transport webs according to the present invention preferably include discontinuous, spaced regions defining small scale surface energy gradients on the first surface to aid in small scale fluid movement toward apertures or capillary entrances for transport away from the first surface. Such webs also preferably include small scale surface energy gradients normal to the first surface within a capillary structure to aid in moving fluid away from the first surface and into the capillaries for capillary fluid transport. Web materials suitable for use in the present invention include apertured formed films, apertured and non-apertured nonwoven materials, composite structures, and the like.



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