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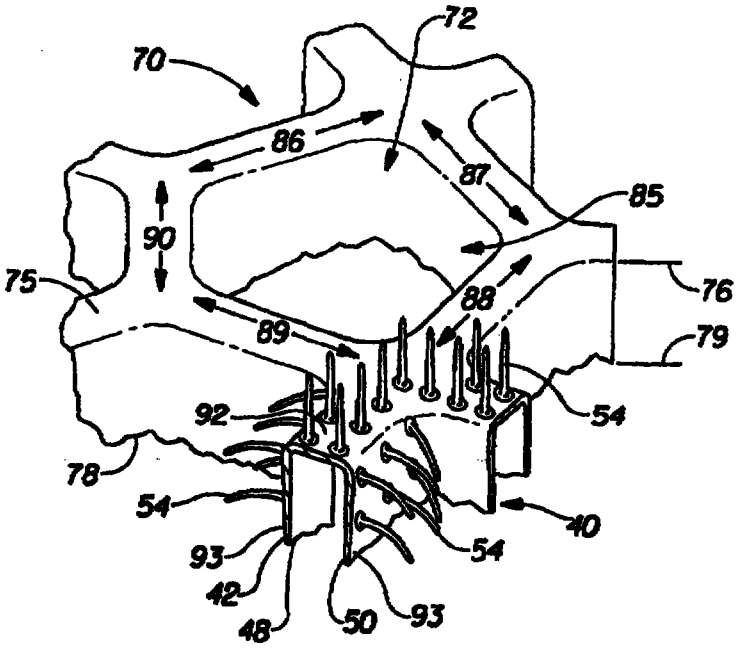
(54) Title: METHOD FOR MAKING THREE-DIMENSIONAL, MACROSCOPICALLY-EXPANDED WEBS HAVING IMPROVED FUNCTIONAL SURFACES

(57) Abstract

The present invention provides a process for forming a three-dimensional, macroscopically-expanded, fluid pervious web (70) having an improved functional surface comprised of a sheet of polymeric material having a first surface and a second surface. A plurality of discrete deposits of a water resistant resinous material having a pre-determined open time are deposited on the first surface of the sheet. The deposits of resinous material are drawn upwardly from the first surface of the sheet to form corresponding fibrils (54) during the open time. After resinous material has cured, the sheet is fed onto a forming structure having opposed surfaces such that the sheet is in contact with the forming structure. The forming structure exhibits a multiplicity of apertures which place the opposed surfaces of the forming structure in fluid communication with one another. A fluid pressure differential is applied across the thickness of the sheet which is sufficiently great as to cause the sheet to rupture in those areas coinciding with the apertures in the forming structure and to conform with the forming structure while substantially maintaining the orientation of the fibrils (54). The printing and drawing steps are preferably accomplished via a screen printing roll, and the fluid pressure differential preferably comprises a high pressure jet of liquid.