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USE OF FABRICS AND COMPOSITES MADE FROM AIR TEXTURED CORE-AND-EFFECT GLASS YARN FOR IMPROVED PROPERTIES OF TEXTILE COMPOSITES

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Abstract:

Laminated fibre-reinforced composites produced by using the high strength fibres like glass, carbon, Kevlar etc as a reinforcement in a relatively weak matrix material like polyester, epoxy, polyether ether ketone (PEEK) etc. are prone to delamination which is in the form of separation of the layers. This paper describes the manufacturing of core-and-effect textured glass yarns and the fabrics and laminated composites made from them. Air-jet texturing is utilized to introduce bulk and loops in the yarn which provides more contact surface between the fibres and the resin. This resulted in improving the bonding strength of laminated glass woven fabric composites. The conventional air-jet texturing machine is modified for texturing glass yarns. Hand loom is used for making fabrics in order to reduce preparation time and greater handling flexibility. Composites are developed by using the simple resin infusing technique i.e. vacuum bagging.

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