

Title (en)
METHOD FOR PROCESSING CYCLIC OLIGOMERS TO THERMOPLASTIC PBT PLASTICS

Title (de)
VERARBEITUNG VON ZYKLISCHEN OLIGOMEREN ZU THERMOPLASTISCHEN PBT-KUNSTSTOFFEN

Title (fr)
TRANSFORMATION D'OLIGOMERES CYCLIQUES EN MATIERES PLASTIQUES THERMOPLASTIQUES A BASE DE PBT

Publication
EP 1732748 A1 20061220 (DE)

Application
EP 05707530 A 20050219

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Abstract (en)
[origin: EP1570976A1] Fiber-reinforced plate production from a thermoplastic matrix- impregnated fiber web with ≥ 1 flat fiber structure (I) involves coating or impregnating (I) with a reactive starting material (II) containing (macro)cyclic polyester oligomers; #coating the thus obtained web on 1 or both sides with a cover layer (III) containing polymerized polyester; and #pressing the web to polymerize (II) in the matrix surrounding (I) and bonded to (III). Independent claims are also included for production of fiber-reinforced plastics articles containing a fiber structure (I) embedded in a polyester matrix by making a thermoplastic matrix by heating and pressing a structure (I) and a reactive starting material (II) containing (macro)cyclic polyester oligomers together with a polymerization catalyst in a mold cavity, the cavity wall being coated with a film of a reactive starting material containing (macro)cyclic polyester oligomers or of a polymerized polyester such as polyethylene terephthalate (PET), polybutylene terephthalate (PBT) or a PBT polymer blend; #production of a multi-layer composite having ≥ 1 foam layer bonded to a cover layer comprising a fiber-reinforced plate material, the foam and also the plate material containing a polyester matrix and the composite being produced by bonding a fiber layer impregnated or coated with a reactive starting material containing (macro)cyclic polyester oligomers and also a polymerization catalyst to a foam layer of polymerized polyester to form a laminate and then polymerizing the starting material to form the plastics matrix of the plate material and internally bond it with the foam; #production of a foam-containing composite of the type described in (b) above by extruding the starting material also containing a foaming agent onto the plate material followed by a release of pressure to give a foam layer which is then bonded to the plate material; and #production of a fiber-reinforced plastics article with both the fiber reinforcement and the plastics matrix being of a polyester, the production involving forming the polyester fibres which have directed crystallinity to give a fiber structure and processing the structure to give a plastics matrix-forming fiber-reinforced article, the fiber surfaces being melted and then solidified to form an isotropic plastics matrix surrounding the non-melted part of the fibers.

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