

Title (en)

METHOD AND DEVICE FOR THE PRODUCTION OF A SANDWICH STRUCTURE FOR A SANDWICH COMPOSITE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINER KERNSTRUKTUR FÜR EINEN KERNVERBUND

Title (fr)

PROCEDE ET DISPOSITIF DE FABRICATION D'UNE STRUCTURE CENTRALE POUR UN COMPOSITE SANDWICH

Publication

EP 1603740 B1 20160504 (DE)

Application

EP 03795733 A 20031114

Priority

- DE 0303798 W 20031114
- DE 10252941 A 20021114

Abstract (en)

[origin: WO2004043685A2] The invention relates to a method for the production of a sandwich structure for a sandwich composite, whereby the sandwich structure is made from a thin foldable starting material of undefined length. The starting material is folded to give a three-dimensional, multi-faceted, developing structure and the starting material undergoes a contraction of the material web in the longitudinal and width direction and a volume expansion relative to the dimensions of the starting material and can be arranged between two cover layers forming the external surfaces of the sandwich composite and connected to the cover layers by means of gluing or some other connection. According to the invention, a sandwich structure can be achieved in which the starting material is not stretched or compressed but rather continuously folded with accurate surfaces and angles without the introduction of cuts or perforations, whereby the material web, in the unfolded state, is pre-treated in a continuous process from the upper and lower side along curved or several straight contiguous star-shaped fold lines and repeating patterns of fold lines, or within the surfaces defined by the fold lines such that fold edges which permit a kink are generated, whereupon, after the successful pre-treatment, an initiation of the folding process in the region of the fold lines on the upper side and the lower side of the material web is carried out, after the initiation the web is decelerated such as to be folded along the fold lines, acting in the manner of hinges, to give a structure extending into the third dimension and, after the folding process, the material web can be treated to stabilise the folded structure.

IPC 8 full level

B31D 3/00 (2006.01); **B65H 45/08** (2006.01); **E04C 2/32** (2006.01)

CPC (source: EP US)

B31D 3/005 (2013.01 - EP US); **E04C 2/326** (2013.01 - EP US)

Cited by

CN108481718A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2004043685 A2 20040527; **WO 2004043685 A3 20040722**; AU 2003298051 A1 20040603; AU 2003298051 A8 20040603; BR 0307338 A 20041207; DE 10252941 A1 20040603; DE 10252941 B4 20090910; EP 1603740 A2 20051214; EP 1603740 B1 20160504; US 2004102303 A1 20040527; US 6913570 B2 20050705

DOCDB simple family (application)

DE 0303798 W 20031114; AU 2003298051 A 20031114; BR 0307338 A 20031114; DE 10252941 A 20021114; EP 03795733 A 20031114; US 71363803 A 20031113