

Title (en)

PROCESS FOR IMPARTING PERMANENCE TO A SHAPED NON THERMOPLASTIC FIBROUS MATERIAL

Title (de)

DAUERHAFTE VERFORMUNG FÜR BEREITS VERFORMTE, NICHT-THERMOPLASTISCHE FASERMATERIALIEN

Title (fr)

PROCEDE POUR CONFERER LA PERMANENCE DE FORME A UN MATERIAU FIBREUX NON THERMOPLASTIQUE FA ONNE

Publication

EP 1454003 B1 20120411 (EN)

Application

EP 02797187 A 20021204

Priority

- US 0238748 W 20021204
- US 33843801 P 20011206

Abstract (en)

[origin: WO03050345A2] The invention relates to a process to impart permanence to a shaped non thermoplastic fibrous material comprising submitting, under low tension, the shaped non thermoplastic fibrous material to a constant and uniformly distributed electromagnetic field generated by a single mode Transverse Magnetic 010 mode cylindrical resonant cavity microwave reactor,- the uniformly distributed electromagnetic field being operated at frequencies of from 5 MHz to 500 GHz,- the shaped non thermoplastic fibrous material being processed through the uniformly distributed electromagnetic field at a rate of from 0.01 to 1200 m/min,- the rate of the increase in temperature of the shaped non thermoplastic fibrous material being less than 300 DEG C/s,- the shaped non thermoplastic fibrous material comprising at least one polymeric structure comprising amino groups and at least 0.05 weight % of an aqueous composition. The invention also relates to permanently shaped non thermoplastic fibrous material obtained by this process, in particular to permanently twisted fibers, and to a structure comprising this shaped non thermoplastic fibrous material.

IPC 8 full level

D06M 10/00 (2006.01); **D02G 1/20** (2006.01); **D02J 13/00** (2006.01); **H05B 6/78** (2006.01); **H05B 6/80** (2006.01)

CPC (source: EP KR)

D02G 1/20 (2013.01 - EP); **D02J 13/001** (2013.01 - EP); **D06M 10/00** (2013.01 - KR); **D06M 10/003** (2013.01 - EP); **H05B 6/788** (2013.01 - EP)

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

WO 03050345 A2 20030619; **WO 03050345 A3 20040415**; AU 2002362057 A1 20030623; AU 2002362057 A8 20030623; BR 0214444 A 20040914; BR 0214444 B1 20130409; CA 2468336 A1 20030619; CA 2468336 C 20110503; CN 100425764 C 20081015; CN 1285794 C 20061122; CN 1602375 A 20050330; CN 1840772 A 20061004; EP 1454003 A2 20040908; EP 1454003 B1 20120411; JP 2005511915 A 20050428; JP 4527400 B2 20100818; KR 100899760 B1 20090527; KR 20050044721 A 20050512; MX PA04005374 A 20040927

DOCDB simple family (application)

US 0238748 W 20021204; AU 2002362057 A 20021204; BR 0214444 A 20021204; CA 2468336 A 20021204; CN 02824435 A 20021204; CN 200610073782 A 20021204; EP 02797187 A 20021204; JP 2003551359 A 20021204; KR 20047008691 A 20040604; MX PA04005374 A 20021204