

Title (en)  
STEAM PRE-HEATING IN ORIENTED STRAND BOARD PRODUCTION

Title (de)  
DAMPFVORHEIZUNG BEI DER HERSTELLUNG VON PLATTEN AUS ORIENTIERTEN FASERN

Title (fr)  
PRECHAUFFAGE A LA VAPEUR DANS LA FABRICATION DE PANNEAUX A COPEAUX ORIENTES

Publication  
**EP 1030766 A4 20050202 (EN)**

Application  
**EP 98958486 A 19981109**

Priority  

- US 9823699 W 19981109
- US 96894697 A 19971112
- US 7896298 A 19980514

Abstract (en)  
[origin: WO9924233A1] Oriented strand board (10) is produced using a continuous belt press (22) and using an isocyanate binder with steam exposure of the mat (18) of wood material prior to entry into the press. The steam exposure provides moisture which softens wood fibers and enhances lignin flow in the mat. In addition, the moisture reacts with isocyanate binder to produce polyureas from the isocyanate binder (e.g. the preferred binder is pMDI); thereby reducing the cure conditions (i.e. temperature, pressure and time) required for the press to fuse the mat and binder together. The isocyanate binder also reacts with hydroxyl groups in the cellulose and hemicellulose strands of the wood material to allow both chemical and physical bonds to be created with the wood material. The oriented strand board exiting the press has a higher moisture content and more resistant thickness swell under humid conditions.

IPC 1-7  
**B29C 43/30**; **B32B 5/12**; **B32B 31/20**; **B27N 3/14**; **B27N 3/18**; **B27N 3/00**

IPC 8 full level  
**B27N 3/14** (2006.01); **B27N 3/00** (2006.01); **B27N 3/02** (2006.01); **B27N 3/04** (2006.01); **B27N 3/18** (2006.01); **B27N 3/24** (2006.01); **B32B 21/02** (2006.01); **B32B 21/13** (2006.01)

CPC (source: EP US)  
**B27N 3/002** (2013.01 - EP); **B27N 3/04** (2013.01 - EP); **B27N 3/18** (2013.01 - EP); **B27N 3/24** (2013.01 - EP); **B32B 21/02** (2013.01 - EP US); **B32B 21/13** (2013.01 - EP US); **B32B 37/00** (2013.01 - EP); **B32B 2309/02** (2013.01 - US); **B32B 2309/04** (2013.01 - US); **B32B 2309/12** (2013.01 - US)

Citation (search report)  

- No further relevant documents disclosed
- See references of WO 9924233A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 9924233 A1 19990520**; AR 017592 A1 20010912; AU 1452599 A 19990531; AU 731505 B2 20010329; BR 9814024 A 20000926; CA 2308547 A1 19990520; CA 2308547 C 20080212; EP 1030766 A1 20000830; EP 1030766 A4 20050202; ID 25906 A 20001109; JP 2001522735 A 20011120; JP 4215392 B2 20090128; MY 114970 A 20030228; NZ 505090 A 20020531; PL 187489 B1 20040730; PL 340792 A1 20010226

DOCDB simple family (application)  
**US 9823699 W 19981109**; AR P980105692 A 19981111; AU 1452599 A 19981109; BR 9814024 A 19981109; CA 2308547 A 19981109; EP 98958486 A 19981109; ID 20000589 D 19981109; JP 2000520283 A 19981109; MY PI9805070 A 19981107; NZ 50509098 A 19981109; PL 34079298 A 19981109