

Title (en)
HIGHLY INORGANICALLY FILLED COMPOSITIONS.

Title (de)
VERBINDUNGEN MIT EINEM HOHEN ANORGANISCHEN ANTEIL.

Title (fr)
COMPOSITIONS A CHARGE ELEVEE DE SUBSTANCES INORGANIQUES.

Publication
EP 0678068 A4 19980401 (EN)

Application
EP 94903306 A 19931124

Priority

- US 98238392 A 19921125
- US 15235493 A 19931119
- US 15443693 A 19931119
- US 9311490 W 19931124

Abstract (en)
[origin: WO9412328A1] Compositions, methods, and apparatus for manufacturing sheets having a highly inorganically filled matrix prepared by mixing together an organic polymer binder, water, one or more inorganic aggregate materials, fibers, and optional admixtures in the correct proportions in order to form a sheet which has the desired performance criteria. The inorganically filled mixtures are formed into sheets by first extruding the mixtures (40) and then passing the extruded materials between a set of rollers (50). The rolled sheets are dried in an accelerated manner to form a substantially hardened sheet, such as by heated rollers and/or a drying chamber. The inorganically filled sheets may have properties substantially similar to sheets presently made from traditional materials like paper, paperboard, polystyrene, plastic or metal. Such sheets can be rolled, pressed, scored, perforated, folded, and glued. They have particular utility in the mass production of articles, such as food and beverage containers, and packaging materials.

IPC 1-7
B28B 21/00; B28B 21/72; B32B 1/08; B32B 5/12; B32B 3/06; B32B 13/00

IPC 8 full level
B32B 1/02 (2006.01); **B05B 11/00** (2006.01); **B28B 1/00** (2006.01); **B28B 1/52** (2006.01); **B28B 3/12** (2006.01); **B28B 3/20** (2006.01); **B28B 11/00** (2006.01); **B28B 21/00** (2006.01); **B28B 21/72** (2006.01); **B28B 23/00** (2006.01); **B29C 43/00** (2006.01); **B29C 43/02** (2006.01); **B29C 43/22** (2006.01); **B29C 43/24** (2006.01); **B29C 43/34** (2006.01); **B29C 43/36** (2006.01); **B29C 43/46** (2006.01); **B29C 49/00** (2006.01); **B29C 51/00** (2006.01); **B29C 53/06** (2006.01); **B29C 55/18** (2006.01); **B29C 67/24** (2006.01); **B29C 70/50** (2006.01); **B29C 71/00** (2006.01); **B31B 17/00** (2006.01); **B32B 1/08** (2006.01); **B32B 5/02** (2006.01); **B32B 9/00** (2006.01); **B32B 13/00** (2006.01); **B32B 13/02** (2006.01); **B32B 27/04** (2006.01); **B32B 27/20** (2006.01); **B65D 43/16** (2006.01); **B65D 65/38** (2006.01); **B65D 65/46** (2006.01); **C04B 14/06** (2006.01); **C04B 16/02** (2006.01); **C04B 20/00** (2006.01); **C04B 22/04** (2006.01); **C04B 24/14** (2006.01); **C04B 24/38** (2006.01); **C04B 26/00** (2006.01); **C04B 26/02** (2006.01); **C04B 26/28** (2006.01); **C04B 28/00** (2006.01); **C04B 28/02** (2006.01); **C04B 40/00** (2006.01); **C08J 5/18** (2006.01); **C08L 1/00** (2006.01); **C08L 1/28** (2006.01); **C08L 3/00** (2006.01); **C08L 3/02** (2006.01); **C08L 5/02** (2006.01); **C08L 5/12** (2006.01); **C08L 5/14** (2006.01); **C08L 29/02** (2006.01); **C08L 29/04** (2006.01); **C08L 33/02** (2006.01); **C08L 33/24** (2006.01); **C08L 39/00** (2006.01); **C08L 39/06** (2006.01); **C08L 71/00** (2006.01); **C08L 71/02** (2006.01); **C08L 75/00** (2006.01); **C08L 89/06** (2006.01); **C08L 91/08** (2006.01); **C08L 97/02** (2006.01); **C08L 101/00** (2006.01); **C09D 133/04** (2006.01); **C09D 133/06** (2006.01); **C09D 161/20** (2006.01); **C09D 161/28** (2006.01); **C09D 167/00** (2006.01); **C09D 167/04** (2006.01); **C09D 171/00** (2006.01); **C09D 171/02** (2006.01); **D21F 11/00** (2006.01); **E05D 1/02** (2006.01); **B05C 5/02** (2006.01); **B29C 43/08** (2006.01); **B29C 53/58** (2006.01); **B32B 37/12** (2006.01)

CPC (source: EP KR US)
B05B 1/34 (2013.01 - EP US); **B05B 11/0037** (2013.01 - EP); **B28B 1/00** (2013.01 - EP); **B28B 1/52** (2013.01 - EP); **B28B 3/126** (2013.01 - EP); **B28B 3/20** (2013.01 - EP); **B28B 11/00** (2013.01 - EP); **B28B 11/003** (2013.01 - EP); **B28B 11/008** (2013.01 - EP); **B28B 21/00** (2013.01 - KR); **B28B 23/00** (2013.01 - EP); **B28B 23/0081** (2013.01 - EP); **B28B 23/0087** (2013.01 - EP); **B29C 43/003** (2013.01 - EP); **B29C 43/222** (2013.01 - EP); **B29C 43/24** (2013.01 - EP); **B29C 43/34** (2013.01 - EP); **B29C 43/46** (2013.01 - EP); **B29C 48/07** (2019.02 - EP); **B29C 48/08** (2019.02 - EP); **B29C 48/13** (2019.02 - EP); **B29C 49/0005** (2013.01 - EP); **B29C 51/002** (2013.01 - EP); **B29C 53/063** (2013.01 - EP); **B29C 55/18** (2013.01 - EP); **B29C 67/24** (2013.01 - EP); **B29C 67/242** (2013.01 - EP); **B29C 70/50** (2013.01 - EP); **B29C 71/0009** (2013.01 - EP); **B31D 1/005** (2013.01 - EP); **B32B 1/00** (2013.01 - US); **B32B 1/08** (2013.01 - US); **B32B 5/02** (2013.01 - EP); **B32B 5/18** (2013.01 - US); **B32B 9/00** (2013.01 - EP); **B32B 13/02** (2013.01 - EP US); **B32B 13/04** (2013.01 - US); **B32B 13/06** (2013.01 - US); **B32B 13/12** (2013.01 - US); **B32B 13/14** (2013.01 - US); **B32B 27/04** (2013.01 - EP); **B32B 27/20** (2013.01 - EP US); **B32B 27/34** (2013.01 - US); **B65D 43/162** (2013.01 - EP); **B65D 65/38** (2013.01 - EP); **B65D 65/466** (2013.01 - EP); **C04B 16/02** (2013.01 - EP); **C04B 24/38** (2013.01 - EP); **C04B 26/00** (2013.01 - EP); **C04B 26/02** (2013.01 - EP); **C04B 26/026** (2013.01 - EP); **C04B 26/28** (2013.01 - EP US); **C04B 26/285** (2013.01 - EP US); **C04B 40/0092** (2013.01 - EP); **C08J 5/18** (2013.01 - EP); **C08L 1/28** (2013.01 - EP); **C08L 1/286** (2013.01 - EP); **C08L 3/00** (2013.01 - EP); **C08L 3/02** (2013.01 - EP); **C08L 5/02** (2013.01 - EP); **C08L 5/12** (2013.01 - EP); **C08L 5/14** (2013.01 - EP); **C08L 89/06** (2013.01 - EP); **C08L 97/02** (2013.01 - EP); **E05D 1/02** (2013.01 - EP); **B29C 43/00** (2013.01 - EP); **B29C 43/08** (2013.01 - EP); **B29C 48/001** (2019.02 - EP); **B29C 48/0011** (2019.02 - EP); **B29C 48/0012** (2019.02 - EP); **B29C 48/0017** (2019.02 - EP); **B29C 48/0019** (2019.02 - EP); **B29C 48/0022** (2019.02 - EP); **B29C 48/09** (2019.02 - EP); **B29C 49/6605** (2022.05 - EP); **B29C 53/58** (2013.01 - EP); **B29C 2043/022** (2013.01 - EP); **B29C 2043/023** (2013.01 - EP); **B29C 2043/3433** (2013.01 - EP); **B29C 2043/3689** (2013.01 - EP); **B29C 2043/463** (2013.01 - EP); **B29C 2043/464** (2013.01 - EP); **B29C 2043/465** (2013.01 - EP); **B29C 2043/466** (2013.01 - EP); **B29C 2795/007** (2013.01 - EP); **B29K 2001/00** (2013.01 - EP); **B29K 2003/00** (2013.01 - EP); **B29K 2005/00** (2013.01 - EP); **B29K 2089/00** (2013.01 - EP); **B29K 2105/04** (2013.01 - EP); **B29K 2105/12** (2013.01 - EP); **B29K 2105/16** (2013.01 - EP); **B29L 2024/00** (2013.01 - EP); **B29L 2031/608** (2013.01 - EP); **B29L 2031/712** (2013.01 - EP); **B29L 2031/7132** (2013.01 - EP); **B31B 50/32** (2017.08 - EP); **B31B 2105/0022** (2017.08 - EP); **B32B 37/12** (2013.01 - EP); **B32B 2266/0228** (2013.01 - US); **B32B 2439/00** (2013.01 - US); **B32B 2597/00** (2013.01 - US); **B65D 2565/385** (2013.01 - EP); **C04B 2111/00129** (2013.01 - EP); **C04B 2111/00612** (2013.01 - EP); **C04B 2111/00948** (2013.01 - EP); **C04B 2111/50** (2013.01 - EP); **C08J 2323/02** (2013.01 - EP); **E05Y 2900/602** (2013.01 - EP); **Y02W 30/91** (2015.05 - EP)

C-Set (source: EP US)

- EP
1. **C04B 26/02 + C04B 7/00 + C04B 14/02 + C04B 20/002 + C04B 20/0048 + C04B 24/00 + C04B 40/005 + C04B 40/06 + C04B 41/45 + C04B 2103/445**
 2. **C04B 26/02 + C04B 11/00 + C04B 14/02 + C04B 20/002 + C04B 20/0048 + C04B 24/00 + C04B 40/005 + C04B 40/06 + C04B 41/45 + C04B 2103/445**

3. **C08L 1/28 + C08L 2666/02**
4. **C08L 3/00 + C08L 2666/02**
5. **C08L 5/02 + C08L 2666/02**
6. **C08L 5/12 + C08L 2666/02**
7. **C08L 5/14 + C08L 2666/02**
8. **C08L 89/06 + C08L 2666/02**
9. **C08L 97/02 + C08L 2666/04**
10. **C08L 97/02 + C08L 2666/02**
11. **C04B 40/0092 + C04B 18/24 + C04B 26/28 + C04B 38/00 + C04B 40/006 + C04B 41/45**
12. **C04B 40/0092 + C04B 18/24 + C04B 26/026 + C04B 38/00 + C04B 40/006 + C04B 41/45**
13. **C04B 40/0092 + C04B 18/24 + C04B 28/001 + C04B 38/00 + C04B 40/006 + C04B 41/45**
14. **C04B 40/0092 + C04B 18/24 + C04B 26/02 + C04B 38/00 + C04B 40/006 + C04B 41/45**

US

C04B 40/0092 + C04B 18/24 + C04B 26/28 + C04B 38/00 + C04B 40/006 + C04B 41/45

Citation (search report)

- [E] WO 9404330 A1 19940303 - KHASHOGGI E IND [US], et al
- [E] WO 9419172 A1 19940901 - KHASHOGGI E IND [US], et al
- [E] WO 9420274 A1 19940915 - KHASHOGGI E IND [US], et al
- [E] WO 9504709 A1 19950216 - KHASHOGGI E IND [US]
- [E] WO 9505350 A1 19950223 - KHASHOGGI E IND [US]
- [X] WO 8700828 A1 19870212 - AALBORG PORTLAND CEMENT [DK]
- [X] EP 0055035 A1 19820630 - ICI PLC [GB]
- [X] EP 0409609 A2 19910123 - TAKEDA CHEMICAL INDUSTRIES LTD [JP]
- [X] FR 2418829 A1 19790928 - KROYER K K K [MC]
- [A] FR 2396832 A1 19790202 - REDCO SA [BE], et al
- [A] EP 0031760 A1 19810708 - ARJOMARI PRIOUX [FR]
- [A] US 4808780 A 19890228 - SEABORNE JONATHAN [US]
- [A] EP 0294983 A2 19881214 - GEN MILLS INC [US]
- [A] US 4623150 A 19861118 - MOEHLMAN VERNON C [US], et al
- [A] DE 4103397 A1 19920806 - RENNEBECK KLAUS [DE]
- [A] WO 8103170 A1 19811112 - AALBORG PORTLAND CEMENT [DK], et al
- [A] EP 0067456 A2 19821222 - ETERNIT FAB DANSK AS [DK]
- [A] WO 8000959 A1 19800515 - ALLBORG PORTLAND CEMENT [DK], et al
- [A] US 4264367 A 19810428 - SCHUTZ RAYMOND J
- See also references of WO 9412328A1

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

WO 9412328 A1 19940609; AU 5729794 A 19940622; AU 675687 B2 19970213; BR 9307526 A 19990831; CN 1062004 C 20010214; CN 1126233 A 19960710; EP 0678068 A1 19951025; EP 0678068 A4 19980401; EP 1308263 A2 20030507; EP 1308263 A3 20030521; JP H09507463 A 19970729; KR 100316469 B1 20020228; KR 950704099 A 19951117; NZ 259123 A 19970224; PH 11993047323 B1 19990705; RU 2142878 C1 19991220

DOCDB simple family (application)

US 9311490 W 19931124; AU 5729794 A 19931124; BR 9307526 A 19931124; CN 93120375 A 19931125; EP 03001160 A 19931124; EP 94903306 A 19931124; JP 51340493 A 19931124; KR 19950702104 A 19950525; KR 19957002104 A 19950525; NZ 25912393 A 19931124; PH 11993047323 A 19931125; RU 95114456 A 19931124