

Title (en)

MICROWAVE HEATING OF HEAT-EXPANDABLE MATERIALS FOR MAKING PACKAGING SUBSTRATES AND PRODUCTS

Title (de)

MIKROWELLENERWÄRMUNG VON WÄRMEEXPANDIERBAREN MATERIALIEN ZUR HERSTELLUNG VON VERPACKUNGSSUBSTRATEN UND PRODUKTEN

Title (fr)

CHAUFFAGE PAR MICRO-ONDES DE MATÉRIAUX THERMO-EXPANSIBLES SERVANT À FABRIQUER DES SUBSTRATS ET PRODUITS D'ENCAPSULATION

Publication

**EP 2874792 A2 20150527 (EN)**

Application

**EP 13742570 A 20130717**

Priority

- US 201261674110 P 20120720
- US 2013050928 W 20130717

Abstract (en)

[origin: WO2014015060A2] Packaging containers (e.g., cups) or protective wraps may be made with two layers of sheet material and an expanded thermal insulation between the layers. The thermal insulation may be made from microencapsulated, heat-expandable particles that are expanded with a microwave heater at some point during processing substrate, building, conveying or packaging the containers. The particles may be applied to blanks formed from die cutting, expanded by heating, and then tampered. The blanks may be outer wraps to a double wall cup, formed by placing and adhering an inner cup to the outer wrap. Alternatively, an adhesive containing the particles are applied to inner cups, which may be adhered to outer wraps to complete formation of the double wall cups. The cups may then be heated with a microwave heater at a subsequent workstation as the cups are conveyed, stacked, placed in bags, the bags in cartons and the cartons stacked and palletized.

IPC 8 full level

**B29C 35/12** (2006.01); **B31B 50/00** (2017.01); **B29C 33/18** (2006.01); **B29C 44/34** (2006.01); **B29C 44/54** (2006.01); **B29C 70/74** (2006.01); **B65D 81/03** (2006.01)

CPC (source: EP)

**B29C 33/18** (2013.01); **B29C 44/3461** (2013.01); **B29C 44/54** (2013.01); **B29C 70/747** (2013.01); **B65D 81/3874** (2013.01); **B29C 2035/0855** (2013.01); **B29L 2031/7132** (2013.01)

Citation (search report)

See references of WO 2014015060A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2014015060 A2 20140123**; **WO 2014015060 A3 20150730**; AR 091843 A1 20150304; CA 2879732 A1 20140123; CN 104903063 A 20150909; EP 2874792 A2 20150527; HK 1213844 A1 20160715; JP 2015528763 A 20151001; KR 20150065665 A 20150615; TW 201410569 A 20140316

DOCDB simple family (application)

**US 2013050928 W 20130717**; AR P130102574 A 20130719; CA 2879732 A 20130717; CN 201380047504 A 20130717; EP 13742570 A 20130717; HK 16101972 A 20160223; JP 2015523229 A 20130717; KR 20157004527 A 20130717; TW 102125727 A 20130718