

Title (en)

Mix of cellulose wadding and plant and animal fibres, manufacturing method and thermal insulating material

Title (de)

Mischung aus Zellulosewatte und Pflanzen- oder Tierfasern, Herstellungsverfahren und Wärmedämmmaterial

Title (fr)

Mélange de ouate de cellulose et de fibres végétales ou animales, procédé de fabrication et matériau isolant thermique

Publication

EP 2204483 A2 20100707 (FR)

Application

EP 09172212 A 20091005

Priority

FR 0856859 A 20081010

Abstract (en)

The bulk material comprises a stabilized mixture of absorbent cellulose cotton and vegetable or animal fibers, flame retardant additives, and bactericidal-, antifungal- and/or insecticidal agent. The cellulose cotton is present in the form of small particles having an average size of lower than 2 mm. The weight ratio of cellulose cotton is 1/2, with respect to the total weight ratio of the cotton and fibers. The vegetable or animal fibers have an average length of 3-6 cm. The length of the mini-fibers of cellulose cotton is lower than 2 mm. The bulk material comprises a stabilized mixture of absorbent cellulose cotton and vegetable or animal fibers, flame retardant additives, and bactericidal-, antifungal- and/or insecticidal agent. The cellulose cotton is present in the form of small particles having an average size of lower than 2 mm. The weight ratio of cellulose cotton is 1/2, with respect to the total weight ratio of the cotton and fibers. The vegetable or animal fibers have an average length of 3-6 cm. The length of the mini-fibers of cellulose cotton is lower than 2 mm. The material has a density of 20-120 kg/m³, a thermal conductivity of 0.040 W/Km and a phase time of 10 hours, and is mixed with a binder consisting of molten synthetic fibers based on polyester coated with polyethylene or polypropylene, which is melted at a temperature lower than that of the polyester, where the weight ratio of the binder is 18-25% compared to the total weight of the material. An independent claim is included for a process for fabricating a bulk material.

Abstract (fr)

La présente invention concerne un matériau constitué d'un mélange stabilisé de ouate de cellulose et de fibres végétales ou animales dans lequel la ouate de cellulose se présente sous forme de petites particules de taille moyenne inférieure à 5 mm, de préférence inférieure à 2 mm retenues dans un entremêlement de dites fibres végétales ou animales, le rapport pondéral de ouate de cellulose, par rapport au total de la ouate de cellulose et desdites fibres végétales ou animales, étant compris entre 1/3 et 2/3. La présente invention concerne également un procédé de fabrication dudit mélange, dans lequel on réalise les étapes suivantes : a) mélange de la ouate de cellulose et desdites fibres végétales ou animales en l'appliquant sur au moins un tambour cylindrique rotatif équipé de pointes cardieuses de dimension supérieure à 1 cm, de préférence de 2 à 5 cm, et b) on affine et homogénéise le mélange obtenu à l'étape a) en l'appliquant sur au moins un tambour cylindrique rotatif équipé de pointes ou lames en dents de scie de plus petite taille.

IPC 8 full level

D04H 1/00 (2006.01); **D04H 1/42** (2012.01); **D04H 1/425** (2012.01); **D04H 1/4266** (2012.01); **D04H 1/542** (2012.01); **D04H 1/544** (2012.01); **D04H 1/55** (2012.01); **D04H 1/58** (2012.01); **D04H 1/70** (2012.01); **D04H 1/74** (2006.01)

CPC (source: EP US)

D04H 1/02 (2013.01 - EP); **D04H 1/425** (2013.01 - EP); **D04H 1/4258** (2013.01 - EP); **D04H 1/4266** (2013.01 - EP); **D04H 1/4291** (2013.01 - EP); **D04H 1/435** (2013.01 - EP); **D04H 1/43835** (2020.05 - EP US); **D04H 1/542** (2013.01 - EP); **D04H 1/544** (2013.01 - EP); **D04H 1/55** (2013.01 - EP); **D04H 1/58** (2013.01 - EP); **D04H 1/70** (2013.01 - EP); **D04H 1/74** (2013.01 - EP); **E04C 2/16** (2013.01 - EP)

Citation (applicant)

- US 5910367 A 19990608 - KEAN TOD MITCHELL [US], et al
- FR 2886948 A1 20061215 - DE VRIESE ISABELLE [FR], et al

Cited by

WO2024013251A1; IT202000005446A1; ITB120120004A1; FR3137930A1; CN114555876A

Designated contracting state (EPC)

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 SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

FR 2937057 A1 20100416; **FR 2937057 B1 20101210**; EP 2204483 A2 20100707; EP 2204483 A3 20111130

DOCDB simple family (application)

FR 0856859 A 20081010; EP 09172212 A 20091005