

Title (en)

SURFACE-MODIFIED GLASS FIBERS FOR REINFORCING CONCRETE, AND METHOD FOR PRODUCING SAME

Title (de)

OBERFLÄCHENMODIFIZIERTE GLASFASERN ZUR BETONVERSTÄRKUNG UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)

FIBRES DE VERRE À SURFACE MODIFIÉE POUR LE RENFORCEMENT DU BÉTON ET PROCÉDÉ POUR LEUR FABRICATION

Publication

EP 3638717 A1 20200422 (DE)

Application

EP 18733539 A 20180614

Priority

- DE 102017113205 A 20170615
- EP 2018065804 W 20180614

Abstract (en)

[origin: WO2018229186A1] The invention pertains to the field of chemistry and construction and relates to surface-modified glass fibers for reinforcing concrete, such as those which can be used in textile-reinforced concrete (textile concrete) for example. The aim of the invention is to provide surface-modified glass fibers for reinforcing concrete, said glass fibers being at least substantially protected from an exposure to alkali due to calcium hydroxide which is released during the cement reaction process and/or dissolution and leaching processes generated thereby. This is achieved by surface-modified glass fibers for reinforcing concrete, said glass fibers being at least partly coated at least with hydrolysis-stable and alkali-resistant cationic polyelectrolytes and/or a hydrolysis-stable and alkali-resistant cationic polyelectrolyte mixture and/or a hydrolysis-stable and alkali-resistant polyelectrolyte complex and coupled to the glass fiber surface via a (polyelectrolyte) complex formation process by means of an ionic bond, thereby forming the hydrolysis-stable and alkali-resistant polyelectrolyte complex A, wherein at least one additional (co)polymer at least partly coats the polyelectrolyte complex A and is coupled to the polyelectrolyte complex A via ionic and/or covalent bonds.

IPC 8 full level

C03C 25/1025 (2018.01); **C03C 25/50** (2006.01); **C08J 5/08** (2006.01); **C08J 5/24** (2006.01); **E04C 5/07** (2006.01)

CPC (source: EP US)

C03C 25/103 (2013.01 - EP US); **C03C 25/16** (2013.01 - EP US); **C03C 25/30** (2013.01 - EP US); **C03C 25/323** (2013.01 - US); **C03C 25/326** (2013.01 - EP US); **C03C 25/36** (2013.01 - EP US); **C03C 25/50** (2013.01 - EP US); **C04B 14/44** (2013.01 - US); **C04B 20/0068** (2013.01 - US); **C04B 20/1033** (2013.01 - US); **C04B 20/1037** (2013.01 - US); **C08J 5/08** (2013.01 - EP); **E04C 5/073** (2013.01 - EP US)

Citation (search report)

See references of WO 2018229186A1

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 2018229186 A1 20181220; CN 110753719 A 20200204; DE 102017113205 A1 20181220; EP 3638717 A1 20200422; US 2020216358 A1 20200709

DOCDB simple family (application)

EP 2018065804 W 20180614; CN 201880040170 A 20180614; DE 102017113205 A 20170615; EP 18733539 A 20180614; US 201816622487 A 20180614