

Title (en)  
CONCRETE ELEMENT REINFORCED WITH IMPROVED OXIDATION PROTECTION

Title (de)  
BETONELEMENT MIT BEWEHRUNG MIT VERBESSERTEM OXIDATIONSSCHUTZ

Title (fr)  
ÉLÉMENT EN BÉTON ARMÉ AYANT UNE PROTECTION AMÉLIORÉE CONTRE L'OXYDATION

Publication  
**EP 3619178 A1 20200311 (DE)**

Application  
**EP 18723452 A 20180503**

Priority  
• DE 102017109476 A 20170503  
• EP 2018061370 W 20180503

Abstract (en)  
[origin: WO2018202785A1] The invention relates to a concrete element with improved fire resistance and having a textile reinforcement, preferably made from carbon fibers. The concrete covers the textile reinforcement typically around 10 to 25 mm, the concrete being made from binding agents based on geopolymers or calcium-aluminate cements or Portland cement or blast furnace cement combined with an increased concentration of more than 2 kg/m<sup>3</sup> polypropylene fibres and high temperature resistant aggregates. It comprises a textile reinforcement with fibers/filaments that are impregnated with an impregnation mass/resin, the impregnation mass ensuring, even at very high temperatures of for example up to 1000°C, a transmission of force between the fibres and the impregnation mass and protecting against the entry of oxygen. It also contains an organic fraction of, for example, a maximum of 20wt. %, wherein the impregnation masses being used, have a filler which is stable at high temperatures in an added amount of, for example, at least 12.5% in the form of particles.

IPC 8 full level  
**C04B 20/12** (2006.01); **C04B 20/10** (2006.01); **C04B 28/00** (2006.01); **C04B 28/02** (2006.01)

CPC (source: EP US)  
**C04B 14/386** (2013.01 - US); **C04B 16/0633** (2013.01 - US); **C04B 20/1051** (2013.01 - EP US); **C04B 20/12** (2013.01 - EP US); **C04B 28/006** (2013.01 - EP US); **C04B 28/02** (2013.01 - EP US); **C04B 2103/608** (2013.01 - US); **C04B 2111/20** (2013.01 - EP); **C04B 2111/28** (2013.01 - EP US); **Y02P 40/10** (2015.11 - EP)

C-Set (source: EP)  
1. **C04B 20/1051 + C04B 14/386**  
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5. **C04B 28/02 + C04B 14/386 + C04B 41/5077 + C04B 2103/608**

Citation (search report)  
See references of WO 2018202785A1

Cited by  
CN109776000A

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 2018202785 A1 20181108**; CA 3059281 A1 20181108; EP 3619178 A1 20200311; RU 2019138720 A 20210603; RU 2019138720 A3 20210909; US 2020055776 A1 20200220

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