

Title (en)  
INORGANIC POLYMERS AND USE THEREOF IN COMPOSITE MATERIALS

Title (de)  
ANORGANISCHE POLYMERE UND IHRE VERWENDUNG IN VERBUNDSTOFFEN

Title (fr)  
POLYMÈRES INORGANIQUES ET LEUR UTILISATION DANS DES COMPOSITES

Publication  
**EP 4003928 A1 20220601 (DE)**

Application  
**EP 20746597 A 20200722**

Priority  
• DE 102019005107 A 20190723  
• EP 2020070704 W 20200722

Abstract (en)  
[origin: WO2021013383A2] Described is a solid body formed with Si, Al, Ca, O and at least one of Na and K, said body exhibiting in the <sup>27</sup>Al MAS NMR spectrum a signal additional to the <sup>27</sup>Al MAS NMR spectrum of pure calcium aluminate, with a chemical shift sited between that of the main peak of calcium aluminate and the peak next upfield to the main peak of calcium aluminate. Possible uses of the solid body include use as a building material with aggregates, as a coating, as an adhesive for joining two components for sanitary ceramic units, for high-temperature applications, for renovating existing edifices, especially for underwater renovation, for the erection and/or repair of built structures, particularly when high compressive strengths are needed or chemically aggressive conditions arise. It can be produced by bringing waterglass, sodium hydroxide and/or potassium hydroxide, calcium aluminate, one or more aggregates and optionally water, especially sea water, into contact, even at temperatures below 0 °C without heating.

IPC 8 full level  
**C04B 12/00** (2006.01); **C04B 12/04** (2006.01); **C04B 28/00** (2006.01); **C04B 28/06** (2006.01); **C04B 28/24** (2006.01); **C04B 28/26** (2006.01)

CPC (source: CN EP KR US)  
**C04B 7/32** (2013.01 - KR); **C04B 12/005** (2013.01 - CN EP KR); **C04B 12/04** (2013.01 - CN EP KR); **C04B 14/06** (2013.01 - KR US); **C04B 22/062** (2013.01 - US); **C04B 22/165** (2013.01 - US); **C04B 24/26** (2013.01 - KR); **C04B 24/42** (2013.01 - US); **C04B 28/006** (2013.01 - CN KR); **C04B 28/06** (2013.01 - CN EP KR US); **C04B 28/24** (2013.01 - CN EP KR); **C04B 28/26** (2013.01 - CN EP US); **C04B 40/0071** (2013.01 - US); **C04B 2111/00008** (2013.01 - CN EP KR); **C04B 2111/00181** (2013.01 - EP KR US); **C04B 2111/00189** (2013.01 - CN EP KR); **C04B 2111/00482** (2013.01 - US); **C04B 2111/00525** (2013.01 - US); **C04B 2111/00637** (2013.01 - US); **C04B 2201/20** (2013.01 - CN); **C04B 2201/50** (2013.01 - CN); **Y02P 40/10** (2015.11 - EP KR); **Y02P 40/18** (2015.11 - EP); **Y02W 30/91** (2015.05 - KR)

C-Set (source: CN EP)  
CN  
1. **C04B 28/26 + C04B 7/32 + C04B 14/06**  
2. **C04B 28/26 + C04B 7/32 + C04B 14/366**  
EP  
1. **C04B 28/26 + C04B 7/32 + C04B 22/062**  
2. **C04B 28/26 + C04B 7/32 + C04B 14/06 + C04B 14/106 + C04B 14/30 + C04B 14/46 + C04B 16/06 + C04B 18/0463 + C04B 18/22 + C04B 18/26 + C04B 22/062 + C04B 22/142 + C04B 22/16**  
3. **C04B 28/06 + C04B 12/04 + C04B 14/06 + C04B 14/106 + C04B 14/30 + C04B 14/46 + C04B 16/06 + C04B 18/0463 + C04B 18/22 + C04B 18/26 + C04B 22/062 + C04B 22/142 + C04B 22/16**  
4. **C04B 28/26 + C04B 14/06 + C04B 14/106 + C04B 14/30 + C04B 14/46 + C04B 16/06 + C04B 18/0463 + C04B 18/22 + C04B 18/26 + C04B 22/0093 + C04B 22/062 + C04B 22/142 + C04B 22/16**  
5. **C04B 28/24 + C04B 7/32 + C04B 14/06 + C04B 22/062**  
6. **C04B 28/06 + C04B 14/06 + C04B 14/062 + C04B 14/064 + C04B 14/066 + C04B 18/146 + C04B 22/062**

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)  
**DE 102019005107 A1 20210128**; AU 2020321450 A1 20220224; BR 112022001144 A2 20220607; CA 3148234 A1 20210204; CN 114616217 A 20220610; CN 114616217 B 20240305; EP 4003928 A1 20220601; EP 4003935 A2 20220601; JP 2022541063 A 20220921; KR 20220054304 A 20220502; MX 2022000823 A 20220704; US 2022267212 A1 20220825; US 2022274878 A1 20220901; WO 2021013383 A2 20210128; WO 2021013383 A3 20210318; WO 2021018694 A1 20210204

DOCDB simple family (application)  
**DE 102019005107 A 20190723**; AU 2020321450 A 20200722; BR 112022001144 A 20200722; CA 3148234 A 20200722; CN 202080053377 A 20200722; EP 2020025341 W 20200722; EP 2020070704 W 20200722; EP 20746597 A 20200722; EP 20750591 A 20200722; JP 2022503937 A 20200722; KR 20227005965 A 20200722; MX 2022000823 A 20200722; US 202017629003 A 20200722; US 202017629547 A 20200722