

Title (en)  
CONFORMANCE CONTROL THROUGH STIMULUS-RESPONSIVE MATERIALS

Title (de)  
KONFORMITÄTSKONTROLLE DURCH AUF STIMULUS ANSPRECHENDE MATERIALIEN

Title (fr)  
CONTROLE DE LA CONFORMITE PAR DES MATERIAUX REpondant A UN STIMULUS

Publication  
**EP 2004952 A4 20101215 (EN)**

Application  
**EP 07716256 A 20070104**

Priority  
• US 2007000097 W 20070104  
• US 77208706 P 20060210

Abstract (en)  
[origin: WO2007094897A2] A method, apparatus and production well system that utilize stimulus- responsive materials for "conformance control" and profile control along the fluid flow path in a well as part of a gravel pack or a coating on a well tool. The stimulus- responsive materials are also known as intelligent or smart polymers and are typically polymeric materials that reversibly or irreversibly swell or collapse in the presence of stimulus such as changes in concentration of a fluid media in contact with the stimulus-responsive material, pH or polarity of the media the stimulus-responsive material is in contact with, salinity, current; or temperature. The stimulus-responsive materials may swell upon contact with a first stimulus and shrink or collapse upon contact with a second stimulus or vice-versa. The changes between production and injection profiles may be automatic with the application of the stimulus-responsive materials and may occur without user intervention.

IPC 8 full level  
**C09K 8/80** (2006.01); **C09K 8/508** (2006.01); **C09K 8/512** (2006.01); **C09K 8/575** (2006.01); **C09K 8/60** (2006.01)

CPC (source: EP US)  
**C09K 8/5083** (2013.01 - EP US); **C09K 8/512** (2013.01 - EP US); **C09K 8/5751** (2013.01 - EP US); **C09K 8/5756** (2013.01 - EP US); **C09K 8/80** (2013.01 - EP US); **C09K 8/88** (2013.01 - EP US); **C09K 8/887** (2013.01 - EP US); **E21B 43/04** (2013.01 - EP US); **E21B 43/32** (2013.01 - EP US)

Citation (search report)  
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• [X] US 6105674 A 20000822 - LIAO W ANDREW [US], et al  
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Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**WO 2007094897 A2 20070823; WO 2007094897 A3 20081030**; AU 2007215547 A1 20070823; BR PI0707415 A2 20110503; CA 2636331 A1 20070823; CN 101529051 A 20090909; EA 014125 B1 20101029; EA 200870248 A1 20090227; EP 2004952 A2 20081224; EP 2004952 A4 20101215; MX 2008010008 A 20081120; NO 20083319 L 20081029; US 2010038086 A1 20100218

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**US 2007000097 W 20070104**; AU 2007215547 A 20070104; BR PI0707415 A 20070104; CA 2636331 A 20070104; CN 200780002412 A 20070104; EA 200870248 A 20070104; EP 07716256 A 20070104; MX 2008010008 A 20070104; NO 20083319 A 20080728; US 8657807 A 20070104