

Title (en)  
Metal rope with fibres of liquid-crystal polymer

Title (de)  
Drahtseil mit Kern aus Filamenten aus einem Flüssigkeitskristallpolymer

Title (fr)  
Câble métallique avec des filaments en polymère à cristaux liquides

Publication  
**EP 2067893 A3 20100217 (EN)**

Application  
**EP 08170693 A 20081204**

Priority  
IT MI20072281 A 20071205

Abstract (en)  
[origin: EP2067893A2] The present invention refers to a metal rope with improved features, in particular having high ultimate tensile strength and a high number of sustainable fatigue cycles. The metal rope (10) according to the present invention consists of a plurality of strands (12) wound around a central core (14) and is characterised in that the central core (14) is made of a fibre spun from a liquid-crystal polymer. Preferably, this fibre spun from a liquid-crystal polymer is Vectran #c .

IPC 8 full level  
**D07B 1/06** (2006.01)

CPC (source: EP)  
**D07B 1/0686** (2013.01); **D07B 1/005** (2013.01); **D07B 7/025** (2013.01); **D07B 2201/102** (2013.01); **D07B 2201/1032** (2013.01); **D07B 2201/1044** (2013.01); **D07B 2201/2011** (2013.01); **D07B 2201/2021** (2013.01); **D07B 2201/2023** (2013.01); **D07B 2201/2024** (2013.01); **D07B 2201/2037** (2013.01); **D07B 2201/204** (2013.01); **D07B 2201/2056** (2013.01); **D07B 2201/2066** (2013.01); **D07B 2201/2068** (2013.01); **D07B 2205/20** (2013.01); **D07B 2205/2042** (2013.01); **D07B 2401/2025** (2013.01); **D07B 2401/2055** (2013.01); **D07B 2401/206** (2013.01)

Citation (search report)  
• [A] WO 0050687 A1 20000831 - WIRE ROPE IND LTD IND DE CABLE [CA], et al  
• [XY] US 4034547 A 19770712 - LOOS AUGUST W  
• [XY] US 4176705 A 19791204 - DRICA-MINIERIS OSWALD A [US], et al  
• [Y] DE 3632953 A1 19880414 - TREFILARBED DRAHTWERK [DE]  
• [AP] WO 2008141623 A2 20081127 - CASAR DRAHTSEILWERK SAAR GMBH [DE], et al  
• [E] EP 2000584 A1 20081210 - CONTINENTAL AG [DE]  
• [A] GB 2280686 A 19950208 - BRIDON PLC [GB]  
• [Y] MCKENNA H A ET AL: "Handbook of fibre rope technology, Passage", HANDBOOK OF FIBRE ROPE TECHNOLOGY; [WOODHEAD PUBLISHING IN TEXTILES], WOODHEAD PUBLISHING LTD, BOCA RATON, 1 January 2004 (2004-01-01), pages 47 - 51,77, XP002499746, ISBN: 978-1-85573-606-1  
• [Y] ANONYMOUS: "Vectran Fiber - A Unique Combination of Properties For The Most Demanding Applications", INTERNET ARTICLE, 21 February 2007 (2007-02-21), XP002519408, Retrieved from the Internet <URL:http://web.archive.org/web/20070222140145/http://www.swicofil.com/vectran.html> [retrieved on 20090312]  
• [Y] DATABASE WPI Week 48, Derwent World Patents Index; AN 1978-86940A, XP002519409, "Wire rope having improved tensile strength and flexibility - having core of twisted filaments, around which wire strands, themselves having a similar core, are twisted"

Cited by  
JPWO2022044213A1; JP2015140243A; US11548763B2; WO2022044213A1; US11459209B2

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 MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
**EP 2067893 A2 20090610**; **EP 2067893 A3 20100217**; **EP 2067893 B1 20120711**; ES 2391425 T3 20121126; IT MI20072281 A1 20090606; PT 2067893 E 20121009

DOCDB simple family (application)  
**EP 08170693 A 20081204**; ES 08170693 T 20081204; IT MI20072281 A 20071205; PT 08170693 T 20081204