

Title (en)

METHOD AND DEVICE FOR THE MANUFACTURE OF A STEEL STRAND HAVING A THREE-LAYER STRUCTURE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR HERSTELLUNG EINER DREILAGIGEN STAHLITZE

Title (fr)

PROCEDE ET DISPOSITIF DE FABRICATION D'UN CABLE A TROIS COUCHES

Publication

EP 2414582 B1 20150902 (FR)

Application

EP 10711225 A 20100329

Priority

- EP 2010054062 W 20100329
- FR 0952018 A 20090331

Abstract (en)

[origin: WO2010112444A1] The invention relates to a method for producing a metal cord having three concentric layers (C1, C2, C3), of the type that is rubberized in situ, i.e. during the production thereof. The cord comprises a first inner layer or core (C1), around which N strands of diameter d2 are wound together in the form of a helix with a pitch p2 to form an intermediate layer (C2), N varying between 3 and 12. In addition, P strands of diameter d3 are wound together around this second layer in the form of a helix with a pitch p3 to form a third outer layer (C3), P varying between 8 and 20. The method includes the following steps: a first step in which the core (C1) is coated with a rubber composition known as "filling rubber" in the non-crosslinked state; a step in which the N strands of the second layer (C2) are assembled and twisted around the thus coated core (C1), so as to form an intermediate cord, known as the "core strand" (C1+C2), at a point known as the "assembly point"; a step in which the P strands of the third layer (C3) are assembled and twisted around the core strand (C1+C2); and a final twist value balancing step. The invention also relates to the device used to implement one such method.

IPC 8 full level

D07B 1/06 (2006.01); **D07B 1/16** (2006.01); **D07B 3/02** (2006.01); **D07B 5/12** (2006.01); **D07B 7/14** (2006.01)

CPC (source: EP KR US)

D07B 1/06 (2013.01 - KR); **D07B 1/0606** (2013.01 - KR); **D07B 1/0633** (2013.01 - EP US); **D07B 1/16** (2013.01 - KR); **D07B 3/02** (2013.01 - KR); **D07B 5/12** (2013.01 - EP US); **D07B 7/14** (2013.01 - KR); **D07B 7/145** (2013.01 - EP US); **D07B 2201/1012** (2013.01 - KR); **D07B 2201/202** (2013.01 - EP US); **D07B 2201/2023** (2013.01 - EP KR US); **D07B 2201/2025** (2013.01 - EP US); **D07B 2201/2028** (2013.01 - EP US); **D07B 2201/203** (2013.01 - EP US); **D07B 2201/2031** (2013.01 - EP US); **D07B 2201/204** (2013.01 - EP US); **D07B 2201/2046** (2013.01 - EP US); **D07B 2201/2059** (2013.01 - EP US); **D07B 2201/2065** (2013.01 - EP US); **D07B 2201/2081** (2013.01 - EP US); **D07B 2205/2082** (2013.01 - KR); **D07B 2205/3021** (2013.01 - KR); **D07B 2207/205** (2013.01 - EP US); **D07B 2207/4072** (2013.01 - EP US); **D07B 2401/2015** (2013.01 - EP US); **D07B 2401/2025** (2013.01 - EP US); **D07B 2401/207** (2013.01 - EP US); **D07B 2501/2046** (2013.01 - EP US)

Citation (examination)

- JP 2008202196 A 20080904 - TOYO TIRE & RUBBER CO
- JP 2006283249 A 20061019 - TOYO TIRE & RUBBER CO
- WO 2010054791 A1 20100520 - MICHELIN SOC TECH [FR], et al

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 MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

FR 2943690 A1 20101001; **FR 2943690 B1 20110819**; BR PI1016036 A2 20160510; BR PI1016036 A8 20171010; BR PI1016036 A8 20180102; CN 102365403 A 20120229; CN 102365403 B 20140618; EP 2414582 A1 20120208; EP 2414582 B1 20150902; JP 2012522143 A 20120920; JP 5591908 B2 20140917; KR 101622432 B1 20160518; KR 20120012453 A 20120209; US 2012110972 A1 20120510; US 8720177 B2 20140513; WO 2010112444 A1 20101007

DOCDB simple family (application)

FR 0952018 A 20090331; BR PI1016036 A 20100329; CN 201080013956 A 20100329; EP 10711225 A 20100329; EP 2010054062 W 20100329; JP 2012502611 A 20100329; KR 20117022901 A 20100329; US 201013262051 A 20100329