

Title (en)
MULTILAYER STEEL CABLE FOR A TIRE CARCASS

Title (de)
MEHRLAGIGES STAHLSEIL FÜR DIE KARKASSE EINES LUFTREIFENS

Title (fr)
CABLE D'ACIER MULTICOUCHES POUR CARCASSE DE PNEUMATIQUE

Publication
EP 1246964 A1 20021009 (FR)

Application
EP 00991642 A 20001227

Priority
• EP 0013290 W 20001227
• FR 9916842 A 19991230

Abstract (en)
[origin: WO0149926A1] The invention relates to a multilayer cable with an unsaturated outer layer for use as an element for reinforcing the frame of a tire carcass, comprising a core which has a diameter d_0 and which is surrounded by an intermediate layer (C1). Said intermediate layer consists of 4 or 5 wires ($M = 4$ or 5) which have a diameter d_1 and which are wound together in a spiral according to a lay p_1 . Said layer (C1) is itself surrounded by an outer layer (C2) consisting of N wires which have a diameter d_2 and which are wound together in a spiral according to a lay p_2 , N being less than the maximum number N_{max} of wires that can be wound around the layer (C1) in a spiral by 1 to 3. The cable has the following characteristics (d_0 , d_1 , d_2 , p_1 and p_2 in mm): (i) $0,08 < d_0 < 0,28$; (ii) $0,15 < d_1 < 0,28$; (iii) $0,12 < d_2 < 0,25$; (iv) for $M = 4$: $0,40 < (d_0/d_1) < 0,80$; for $M = 5$: $0,70 < (d_0/d_1) < 1,10$; (v) $4,8 \pi (d_0 + d_1) < p_1 < p_2 < 5,6 \pi (d_0 + 2d_1 + d_2)$; (vi) the wires of layers (C1) and (C2) being wound in the same direction of twist. The invention also relates to plastic and/or rubber items or semi-finished products which are reinforced by a multilayer cable of this type, especially tires for industrial vehicles, especially heavy vehicles tires and their carcass belts.

IPC 1-7
D07B 1/06

IPC 8 full level
B60C 9/00 (2006.01); **B60C 9/04** (2006.01); **B60C 9/08** (2006.01); **D07B 1/06** (2006.01)

CPC (source: EP KR US)
D07B 1/0633 (2013.01 - EP US); **H01B 5/00** (2013.01 - KR); **D07B 2201/2031** (2013.01 - EP US); **Y10S 57/902** (2013.01 - EP US); **Y10T 428/249934** (2015.04 - EP US)

Citation (search report)
See references of WO 0149926A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
WO 0149926 A1 20010712; AT E267908 T1 20040615; AU 3366701 A 20010716; BR 0016868 A 20021029; CA 2395899 A1 20010712; CN 1238581 C 20060125; CN 1415036 A 20030430; DE 60011141 D1 20040701; DE 60011141 T2 20050120; EP 1246964 A1 20021009; EP 1246964 B1 20040526; JP 2003519299 A 20030617; JP 4705302 B2 20110622; KR 20020063611 A 20020803; MX PA02006360 A 20030212; RU 2227187 C2 20040420; US 2004108038 A1 20040610; US 6837289 B2 20050104

DOCDB simple family (application)
EP 0013290 W 20001227; AT 00991642 T 20001227; AU 3366701 A 20001227; BR 0016868 A 20001227; CA 2395899 A 20001227; CN 00817912 A 20001227; DE 60011141 T 20001227; EP 00991642 A 20001227; JP 2001550447 A 20001227; KR 20027008442 A 20020628; MX PA02006360 A 20001227; RU 2002120191 A 20001227; US 17814802 A 20020624