

Title (en)

TWO-LAYER MULTI-STRAND CABLE HAVING AN IMPROVED SURFACE ENERGY-TO-BREAK

Title (de)

ZWEISCHICHTIGES MEHRADRIGES KABEL MIT EINER VERBESSERTEN OBERFLÄCHENERGIE BIS ZUM BRUCH

Title (fr)

CÂBLE MULTI-TORONS À DEUX COUCHES À ÉNERGIE DE RUPTURE SURFACIQUE AMÉLIORÉE

Publication

EP 4061996 A1 20220928 (FR)

Application

EP 20817463 A 20201105

Priority

- FR 1913078 A 20191122
- FR 2020051999 W 20201105

Abstract (en)

[origin: WO2021099712A1] The invention relates to a multi-strand cable (50) comprising a cable inner layer (CI) consisting of K=1 inner strand (TI) that has two plies (C1, C3), the inner ply (C1) consisting of Q inner metal wires (F1) and the outer ply (C3) consisting of N outer metal wires (F3), and a cable outer layer (CE) consisting of L>1 outer strands (TE) that have two plies (CT, C3') and are wound around the inner layer (CI) of the cable, the inner ply (C1) consisting of Q' inner metal wires (FT) and the outer ply (C3') consisting of N' outer metal wires (F3'). The cable (50) has a surface energy-to-break $ES > 145 \text{ N.mm}^{-1}$, with $ES = \sum f_{St} F_{mi} \times \sum f_{St} A_{ti} / N_{cx} C_{frag} / D$, where $\sum f_{St} F_{mi}$ is the sum of the forces at rupture for Nc wires, $\sum f_{St} A_{ti}$ is the sum of the total elongation of the Nc wires, Cfrag is the coefficient of embrittlement of the cable (50), and D is the diameter of the cable (50).

IPC 8 full level

D07B 1/06 (2006.01)

CPC (source: EP KR US)

D07B 1/0613 (2013.01 - EP KR); **D07B 1/0626** (2013.01 - KR); **D07B 1/0633** (2013.01 - US); **D07B 1/066** (2013.01 - US); **D07B 1/165** (2013.01 - KR); **D07B 1/0626** (2013.01 - EP); **D07B 1/165** (2013.01 - EP); **D07B 2201/1044** (2013.01 - EP KR US); **D07B 2201/1068** (2013.01 - EP KR); **D07B 2201/2009** (2013.01 - US); **D07B 2201/203** (2013.01 - EP KR); **D07B 2201/2032** (2013.01 - EP KR); **D07B 2201/2039** (2013.01 - US); **D07B 2201/2061** (2013.01 - EP KR); **D07B 2201/2065** (2013.01 - EP KR); **D07B 2205/3057** (2013.01 - US); **D07B 2207/4072** (2013.01 - EP KR); **D07B 2401/2005** (2013.01 - EP KR); **D07B 2501/2046** (2013.01 - US); **D07B 2801/12** (2013.01 - KR); **D07B 2801/24** (2013.01 - KR)

C-Set (source: EP)

1. **D07B 2201/2061 + D07B 2801/12 + D07B 2801/24**
2. **D07B 2201/2065 + D07B 2801/24**

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)

WO 2021099712 A1 20210527; CN 114729505 A 20220708; CN 114729505 B 20230623; EP 4061996 A1 20220928; EP 4061996 B1 20240103; FR 3103500 A1 20210528; JP 2023503055 A 20230126; KR 20220098374 A 20220712; US 2022412000 A1 20221229

DOCDB simple family (application)

FR 2020051999 W 20201105; CN 202080080845 A 20201105; EP 20817463 A 20201105; FR 1913078 A 20191122; JP 2022529028 A 20201105; KR 20227019269 A 20201105; US 202017778687 A 20201105