

Title (en)

Copper plated aluminum stranded cable and its fabrication method

Title (de)

Verkupfertes Aluminium Strangkabel und sein Herstellungsverfahren

Title (fr)

Cable toronne en aluminium cuivre, et procede pour sa fabrication

Publication

EP 1647996 B2 20161116 (FR)

Application

EP 05356180 A 20051005

Priority

FR 0411024 A 20041012

Abstract (en)

[origin: EP1647996A1] An aluminium cable electric conductor, incorporating at least one strand with a base of conducting wires (1) with a core (2) of aluminium coated with an intermediate layer (3) of copper which is coated with a superficial layer (4) of nickel, has the following characteristics : (A) the superficial layer of nickel has a thickness (E) of between 1.3 μm and 3 μm ; (B) the superficial layer of nickel has sufficient continuity to resist a continuity test in a bath of polysulphur for at least 30 seconds without the appearance of zones of attack of the copper, visible at an enlargement of times ten. An independent claim is also included for the production of this conductor.

IPC 8 full level

H01B 1/02 (2006.01); **H01B 9/02** (2006.01); **H01B 13/00** (2006.01)

CPC (source: EP US)

H01B 1/023 (2013.01 - EP US); **H01B 1/026** (2013.01 - EP US); **H01B 13/0006** (2013.01 - EP US); **H01B 13/02** (2013.01 - EP US); **H01B 9/008** (2013.01 - EP US)

Citation (opposition)

Opponent :

- US 5223349 A 19930629 - KUDO KAZUNAO [JP], et al
- DE 2112452 A1 19711007 - BRITISH INSULATED CALLENDERS
- EP 0656071 B1 19970611 - NIEHOFF KG MASCHF [DE]
- US 3915667 A 19751028 - RICKS HERBERT E
- "Annual Book of ASTM Standards", vol. 6, 1980, AMERICAN SOCIETY FOR TESTING AND MATERIALS, PHILADELPHIA, pages: 665 - 669
- "Annual Book of ASTM Standards", 1980, AMERICAN NATIONAL STANDARD, pages: 622 - 627
- W. MACHU, DR. TECHN. HABIL. DIPL.-ING.: "Oberflächenvorbehandlung von Eisen- und Nichteisenmetallen", vol. 2, 1957, AKADEMISCHE VERLAGSGESELLSCHAFT GEEST & PORTIG K.-G., LEIPZIG, pages: 96 - 114
- W. EHLERS, DR. ET AL.: "Kabel-Herstellung", 1956, SPRINGER-VERLAG, BERLIN - GÖTTINGEN - HEIDELBERG, pages: 175-181 216-217 231-233 - 317-319 373-375
- Airbus-Spezifikation ABS0957
- ASTM B559-93
- ASTM B355-06
- ASTM B566-04
- ASTM B8-04
- ASTM B229-04
- "Nickel plating from sulfamate Solutions", METAL FINISHING JOURNAL, June 1970 (1970-06-01), pages 169 - 176
- DIN 50965, Mai 2000

Cited by

CN104064256A; WO2008025547A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1647996 A1 20060419; EP 1647996 A9 20060705; EP 1647996 B1 20080326; EP 1647996 B2 20161116; EP 1647996 B9 20080813;
AT E390694 T1 20080415; CN 1760993 A 20060419; CN 1760993 B 20110511; DE 05356180 T1 20061012; DE 602005005598 D1 20080508;
DE 602005005598 T2 20090430; DE 602005005598 T3 20170406; ES 2259944 T1 20061101; FR 2876493 A1 20060414;
FR 2876493 B1 20070112; PL 1647996 T3 20080930; TW 200626746 A 20060801; TW I391525 B 20130401; US 2006102368 A1 20060518;
US 7105740 B2 20060912

DOCDB simple family (application)

EP 05356180 A 20051005; AT 05356180 T 20051005; CN 200510112745 A 20051012; DE 05356180 T 20051005;
DE 602005005598 T 20051005; ES 05356180 T 20051005; FR 0411024 A 20041012; PL 05356180 T 20051005; TW 94135308 A 20051011;
US 24783405 A 20051011