



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : H01B 12/16	A1	(11) International Publication Number: WO 00/39812 (43) International Publication Date: 6 July 2000 (06.07.00)
(21) International Application Number: PCT/EP99/10443 (22) International Filing Date: 22 December 1999 (22.12.99) (30) Priority Data: 98204401.8 24 December 1998 (24.12.98) EP 60/114,546 31 December 1998 (31.12.98) US (71) Applicant (for all designated States except US): PIRELLI CAVI E SISTEMI S.P.A. [IT/IT]; Viale Sarca, 222, I-20126 Milano (IT). (72) Inventors; and (75) Inventors/Applicants (for US only): NASSI, Marco [IT/IT]; Via Cibrario, 36bis, I-10100 Torino (IT). LADIE', Pierluigi [IT/IT]; Corso di Porta Ticinese, 69, I-20123 Milano (IT). (74) Agents: BOTTERO, Claudio et al.; Porta, Checcacci & Associati S.p.A., Viale Sabotino, 19/2, I-20135 Milano (IT).	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	

(54) Title: **SUPERCONDUCTING CABLE**

(57) Abstract

A superconducting cable (1) having at least one phase is described, which comprises: a) a layer (20) of tapes comprising superconducting material; b) a tubular element (6) for supporting said layer (20) of tapes comprising superconducting material, said tubular element comprising at least one portion made of metallic material, and being in electrical contact with the layer (20) of tapes comprising superconducting material; c) a cooling circuit adapted to cool the superconducting material to a working temperature non higher than its critical temperature, comprising a fluid at a predetermined working pressure ranging between a minimum value and a maximum value; wherein the deformation of said tapes comprising superconducting material, consequent to a temperature variation between the room temperature and the working temperature of the cable is lower to the critical deformation of the same tapes, characterized in that a predetermined amount of conductive material of resistive type in electrical contact with the layer (20) of superconducting material is present, such that the maximum temperature reached by the superconducting material in case of short circuit is lower than the minimum temperature between the critical temperature of the superconducting material and the boiling temperature of said cooling fluid at the minimum working pressure of said fluid.

