

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 October 2002 (24.10.2002)

PCT

(10) International Publication Number
WO 02/084675 A1

(51) International Patent Classification⁷: **H01B 7/18**, 11/02

(21) International Application Number: PCT/US02/11838

(22) International Filing Date: 16 April 2002 (16.04.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/835,708 16 April 2001 (16.04.2001) US

(71) Applicant (for all designated States except US): **KRONE, INC.** [US/US]; 6950 South Tucson Way, Suite R, Englewood, CO 80112 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HAZY, Lewis, E.**

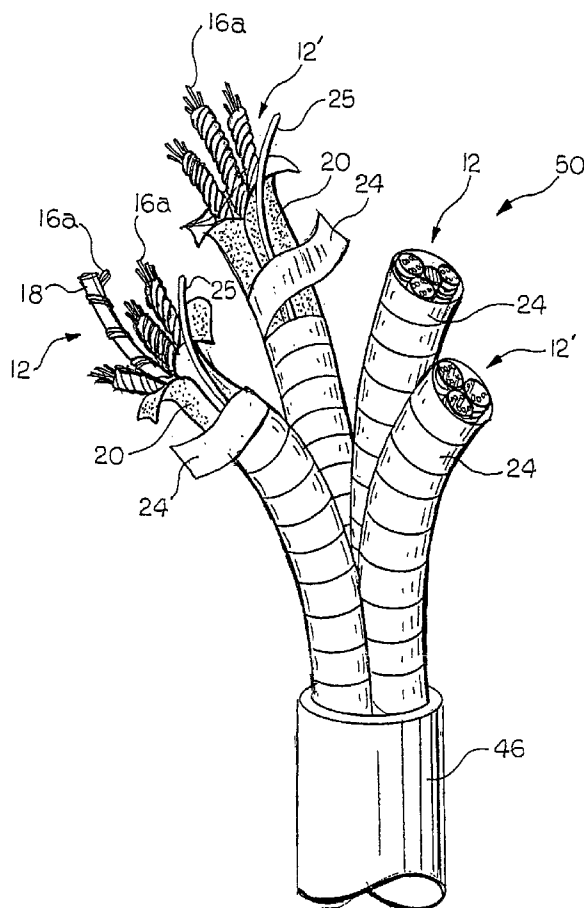
[US/US]; 1143 Newton Street, Sidney, NE 69162 (US). **ROSENBAUM, Janet, M.** [US/US]; 1365 Palomino Place, Sidney, NE 69162 (US). **BERELSMAN, Timothy, N.** [US/US]; 1301 Rose Anna Street, Delphos, OH 45833 (US). **CHEATHAM, Dennis, D.** [US/US]; 2321 Diamond Oaks, Garland, TX 75044 (US). **STUTZMAN, Jeff** [US/US]; 645 William Wy, Sidney, NE 69162 (US). **PILE, Brian** [US/US]; 1624 King Street, Sidney, NE 69162 (US).

(74) Agents: **STEWART, Michael, B.** et al.; Rader, Fishman & Grauer PLLC, Suite 140, 39533 Woodward Avenue, Bloomfield Hills, MI 48304 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,

[Continued on next page]

(54) Title: CABLE WITH TWISTING FILLER AND SHARED SHEATH



(57) Abstract: A cable (10) includes a pre-selected number of binder units (12). Each binder unit includes an even number of paired couples of conductors (16a), evenly divided into quads (14), and an additional twisted pair of conductors (16b), coupled with and encircled around a length of a filler material (18), extended in parallel so the quads of conductor pairs (16a) surround the additional pair of conductors (16b) and the filler material (18). A binder unit wrap (20) encloses each binder unit and a foil free edge tape (24) is applied with the foil facing inwardly and a drain wire (25) pulled between the foil and the unit wrap. An overall core wrap (54) encloses each binder unit, and a shield is applied over the top of the overall core wrap such that the shield (52) surface faces inwardly for improved termination methods. An overall drain wire is placed between the overall core wrap (46) and overall shield (52). The entire cable may be enclosed by a jacket or sheath (46). A method for forming the cable is also disclosed.



WO 02/084675 A1



SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.