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(21) International Application Number: PCT/AU99/01115 (22) International Filing Date: 16 December 1999 (16.12.99) (30) Priority Data: PP 7739 16 December 1998 (16.12.98) AU (71) Applicant (for all designated States except US): VICTORIAN RAIL TRACK [AU/AU]; 589 Collins Street, Melbourne, VIC 3000 (AU). (71)(72) Applicants and Inventors: HE, Da, Hai [CN/AU]; 19 Frederick Street, Caulfield South, VIC 3162 (AU). MANORY, Rafael, R. [AU/AU]; 4/485 New Street, Brighton, VIC 3186 (AU). (72) Inventors; and (75) Inventors/Applicants (for US only): GRADY, Norman, J. [AU/AU]; Victorian Rail Track, 589 Collins Street, Melbourne, VIC 3000 (AU). SINKIS, Harry [AU/AU]; Victorian Rail Track, 589 Collins Street, Melbourne, VIC 3000 (AU). PACHECO, Clim [AU/AU]; Victorian Rail Track, 589 Collins Street, Melbourne, VIC 3000 (AU).		(74) Agents: OBERIN, Colin, James et al.; McMaster Oberin Arthur Robinson & Hedderwicks, 530 Collins Street, Melbourne, VIC 3001 (AU). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, 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 With international search report.
(54) Title: LOW RESISTIVITY MATERIALS WITH IMPROVED WEAR PERFORMANCE FOR ELECTRICAL CURRENT TRANSFER AND METHODS FOR PREPARING SAME (57) Abstract A copper graphite composite material suitable for use in applications such as brushes, switches and contact materials for rail systems and other industrial devices. The composite comprises a copper network matrix having a plurality of pores containing graphite. The composite may have an IACS value of at least 40 % which may even be higher than 70 % and a density value of at least 6.0 g/cm³. The method for preparation of the composite comprises mixing graphite and copper powder under non-oxidising conditions, compacting the mixture and sintering under non-oxidising conditions. The micrograph shows a dark, granular material with a network of lighter-colored copper phase. Large, irregular pores are visible. A label 'Polishing direction' with an arrow points to the right. A scale bar at the bottom indicates 000046 20KV X100 300um.		