

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
11 August 2022 (11.08.2022)



(10) International Publication Number
WO 2022/169407 A1

(51) International Patent Classification:

B23K 35/40 (2006.01) **C23C 30/00** (2006.01)

B23K 35/30 (2006.01) **C23C 28/02** (2006.01)

(21) International Application Number:

PCT/SG2021/050060

(22) International Filing Date:

05 February 2021 (05.02.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicants: **HERAEUS MATERIALS SINGAPORE PTE. LTD.**, [SG/SG]; Block 5014, Ang Mo Kio Avenue 5, #07-01 TechPlace II, Singapore 569881 (SG). **HERAEUS DEUTSCHLAND GMBH & CO. KG** [DE/DE]; Heraeusstraße 12 - 14, 63450 Hanau (DE).

(72) Inventors: **SARANGAPANI, Murali**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-07 Techplace II, Singapore 569871 (SG). **LIM, Yee Weon**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-07 Techplace II, Singapore 569871 (SG). **SEE THO, Wai Khee**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-07 Techplace II, Singapore 569871 (SG). **DHAYALAN, Mariyappan**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-07 Techplace II, Singapore 569871 (SG). **TAN, Chee Chow**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-12 Techplace II, Singapore 569871 (SG). **SCHARF, Juergen**; c/o Heraeus Deutschland GmbH & Co. KG, Heraeusstraße 12 - 14, 63450 Hanau (DE). **KANG, Sungsig**; c/o Heraeus Materials Singapore Pte. Ltd., Block 5002, Ang Mo Kio Avenue 5, #04-07 Techplace II, Singapore 569871 (SG).

(74) Agent: **DREW & NAPIER LLC**; 10 Collyer Quay, #10-01, Ocean Financial Centre, Singapore 049315 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: COATED WIRE

(57) Abstract: A wire comprising a wire core with a surface, the wire core having a coating layer superimposed on its surface, wherein the wire core itself is a silver-based wire core, wherein the coating layer is a double-layer comprised of a 1 to 100 nm thick inner layer of nickel or palladium and an adjacent 1 to 250 nm thick outer layer of gold, characterized in that the wire exhibits a total carbon content of ≤ 40 wt.-ppm.



WO 2022/169407 A1