

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 November 2024 (07.11.2024)



(10) International Publication Number
WO 2024/227971 A1

(51) International Patent Classification:

C23C 16/40 (2006.01) C23C 16/455 (2006.01)
C23C 16/44 (2006.01) H01J 37/32 (2006.01)

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.

(21) International Application Number:

PCT/FI2024/050193

(22) International Filing Date:

25 April 2024 (25.04.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20235484 02 May 2023 (02.05.2023) FI

(71) Applicant: **BENEQ OY** [FI/FI]; Olarinluoma 9, 02200 Espoo (FI).

(72) Inventors: **LEPPILAHTI, Lassi**; c/o Beneq Oy, Olarinluoma 9, 02200 Espoo (FI). **SAIKKONEN, Mikko**; c/o Beneq Oy, Olarinluoma 9, 02200 Espoo (FI).

(74) Agent: **PAPULA OY**; P.O. Box 981, 00101 Helsinki (FI).

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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: A PLASMA ETCH-RESISTANT FILM AND A METHOD FOR ITS FABRICATION

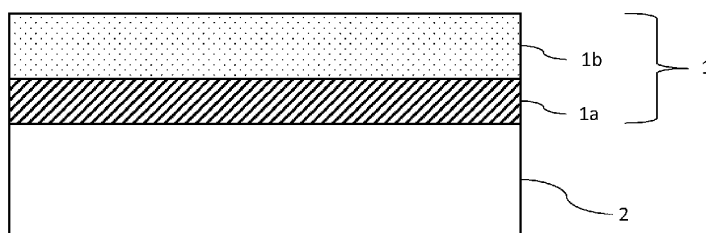


Fig. 1

(57) Abstract: A method for fabricating a plasma etch-resistant film on a surface of a substrate is disclosed. The method comprises the steps of forming, in a reaction space by exposing a deposition surface to alternately repeated, essentially self-limiting surface reactions of precursors, one precursor at a time, - an intermediate layer of dielectric material on the surface of the substrate, and - a protective layer on the intermediate layer, to form a plasma etch-resistant film for hindering current passing through the plasma-etch resistant film to the substrate. Further is disclosed a plasma etch-resistant film and uses thereof.



WO 2024/227971 A1