

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 May 2022 (27.05.2022)



(10) International Publication Number
WO 2022/108740 A1

(51) International Patent Classification:

C23C 28/04 (2006.01) C23C 16/455 (2006.01)
C23C 16/40 (2006.01) F01D 5/28 (2006.01)
C23C 16/02 (2006.01)

(21) International Application Number:

PCT/US2021/057514

(22) International Filing Date:

01 November 2021 (01.11.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/951,837 18 November 2020 (18.11.2020) US

(71) Applicant: **APPLIED MATERIALS, INC.** [US/US];
3050 Bowers Avenue, Santa Clara, California 95054 (US).

(72) Inventors: **CHATTERJEE, Sukti**; c/o Applied Materials,
Inc., Law Dept., M/S 1269, 3050 Bowers Avenue, Santa
Clara, California 95054 (US). **BRITZ, David Alexander**;
c/o Applied Materials, Inc., Law Dept., M/S 1269,
3050 Bowers Avenue, Santa Clara, California 95054 (US).
SCUDDER, Lance A.; c/o Applied Materials, Inc., Law
Dept., M/S 1269, 3050 Bowers Avenue, Santa Clara, Cali-
fornia 95054 (US).

(74) Agent: **DOUGHERTY, Chad M.**; Patterson + Sheridan
LLP, 24 Greenway Plaza, Suite 1600, Houston, Texas
77046 (US).

(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: AEROSPACE COMPONENTS HAVING PROTECTIVE COATINGS AND METHODS FOR PREPARING THE SAME

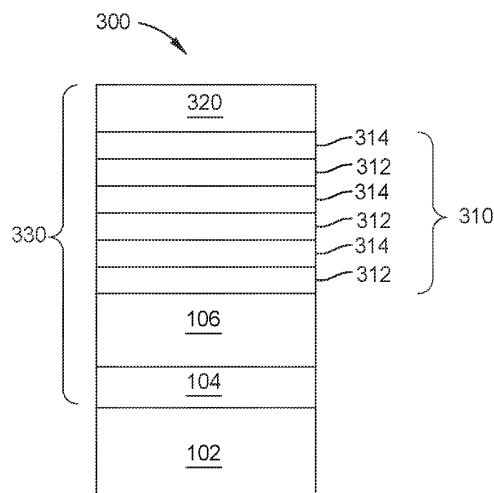


FIG. 3

(57) Abstract: Embodiments of the present disclosure generally re-
late to protective coatings on aerospace components and methods for
depositing the protective coatings. In one or more embodiments, an
aerospace component containing a protective coating is provided and
contains a superalloy substrate and a bond coating disposed on the
superalloy substrate. The protective coating also contains a thermal
barrier coating containing yttria-stabilized zirconia disposed on the
bond coating, an oxide coating disposed on the thermal barrier coat-
ing, and an optional capping layer disposed on the oxide coating. The
oxide coating contains a film stack containing two or more pairs of a
first film and a second film, where the first film contains a first met-
al oxide and the second film contains a second metal oxide, and the
first metal oxide has a different composition than the second metal
oxide. The capping layer contains aluminum oxide, calcium oxide,
magnesium oxide, or any combination thereof.

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