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

(72) Inventors: **BEAUDRY, Christopher Laurent**; 3050
Bowers Avenue, Santa Clara, California 95054 (US).
FIROUZDOR, Vahid; 3050 Bowers Avenue, Santa Clara,
California 95054 (US). **SOMMERS, Joseph Frederick**;
3050 Bowers Avenue, Santa Clara, California 95054 (US).
WILANTEWICZ, Trevor Edward; 3050 Bowers Ave-
nue, Santa Clara, California 95054 (US). **DOH, Hyun-Ho**;
3050 Bowers Avenue, Santa Clara, California 95054 (US).

BEHNKE, Joseph Frederick; 3050 Bowers Avenue, San-
ta Clara, California 95054 (US).

(74) Agent: **KIMES, Benjamin A.** et al.; LOWENSTEIN SAN-
DLER LLP, One Lowenstein Drive, Roseland, New Jersey
07068 (US).

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(54) Title: YTTRIUM OXIDE BASED COATING AND BULK COMPOSITIONS

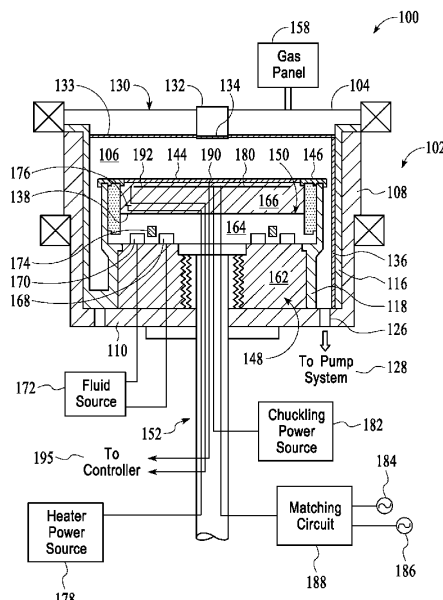


FIG. 1

(57) Abstract: Described herein is a plasma resistant protective coating composition and bulk composition that provides enhanced erosion and corrosion resistance upon the coating composition's or the bulk composition's exposure to harsh chemical environment (such as hydrogen based and/or halogen based chemistries) and/or upon the coating composition's or the bulk composition's exposure to high energy plasma. Also described herein is a method of coating an article with a plasma resistant protective coating using electronic beam ion assisted deposition, physical vapor deposition, or plasma spray. Also described herein is a method of processing wafer, which method exhibits a reduced number of yttrium based particles.

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