

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 June 2003 (05.06.2003)

PCT

(10) International Publication Number
WO 03/046951 A2

(51) International Patent Classification⁷: **H01L**

(US). **EGGUM, Shawn, D.** [US/US]; 1458 82nd Street, Victoria, MN 55386 (US).

(21) International Application Number: PCT/US02/37966

(74) Agents: **CHRISTENSEN, Douglas, J.** et al.; Patterson, Thunte, Skaar & Christensen, P.A., 4800 IDS Center, 80 South Eighth Street, Minneapolis, MN 55402-2100 (US).

(22) International Filing Date:
26 November 2002 (26.11.2002)

(25) Filing Language: English

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(26) Publication Language: English

(30) Priority Data:
60/333,685 27 November 2001 (27.11.2001) US

(71) Applicant (*for all designated States except US*): **ENTEGRIS, INC.** [US/US]; 3500 Lyman Boulevard, Chaska, MN 55318 (US).

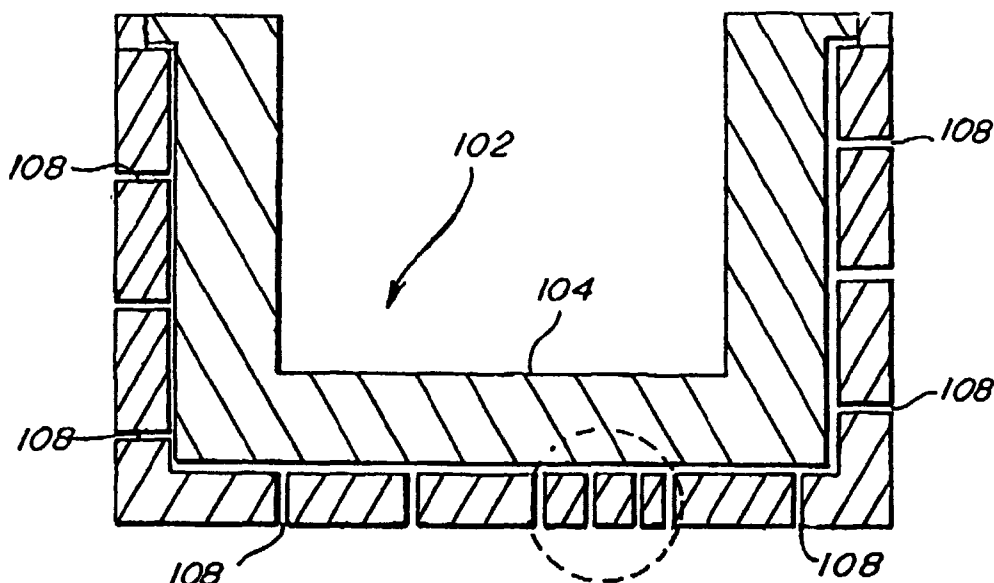
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BHATT, Sanjiv, M.** [IN/US]; 5894 Red Cherry Lane, Minnetonka, MN 55345

[Continued on next page]

(54) Title: PERFORMANCE POLYMER FILM INSERT MOLDING FOR FLUID CONTROL DEVICES



(57) Abstract: The present invention relates generally to a system and method for including a thin protective containment polymer film, such as PEEK, in the molding process for fluid processing devices utilized in the semiconductor processing industry. The thermoplastic film of predetermined size and shape is selectively placed along a shaping surface in a mold cavity for alignment with a desired target surface of a moldable material. The molding process causes a surface of the film to bond to a contact surface of the moldable material such that the film is permanently adhered to the moldable material. As a result, a compatible polymer film can be selectively bonded only to those target surfaces where performance characteristics such as abrasion resistance, heat resistance, chemical resistance, outgassing prevention, rigidity enhancement, fluid absorption prevention, ultraviolet resistance, friction reduction and the like is needed.



WO 03/046951 A2



Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.