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(54) Title: METHOD FOR CLEANING DIFFRACTION GRATINGS

(57) Abstract: A method of cleaning a diffraction grating preferably includes exposing the grating surface to an aqueous base to remove an organic photoresist mask thereon; rinsing the grating surface with de-ionized water; oxidizing acid solution (such as Nanostrip™ or Nanostrip™ 2X) to remove metallic contaminants and residue organic compounds; rinsing the grating surface with de-ionized water; exposing the grating surface to an oxygen plasma ashing process using reactive oxygen species to oxidize and remove fluorinated hydrocarbon residue; exposing the grating surface again to an oxidizing acid solution to remove metallic contaminants and residue organic compounds; and rinsing the grating surface with de-ionized water.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/018763

A. CLASSIFICATION OF SUBJECT MATTER
INV. G02B5/18 G03F1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
G02B C11D G02F G03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KECK J ET. AL.: "Manufacture and development of multilayer diffraction gratings" PROCEEDINGS OF SPIE, LASER-INDUCED DAMAGE IN OPTICAL MATERIALS, vol. 5991, 2005, pages 59911G-1-59911G-6, XP002473850 Boulder, CO, United States cited in the application pages 59911G-4, paragraphs 2,3	1-15
X	US 4 740 410 A (MULLER RICHARD S [US] ET AL) 26 April 1988 (1988-04-26) column 5, line 8 - line 40	1
A	EP 1 402 963 A (AIR PROD & CHEM [US]) 31 March 2004 (2004-03-31) paragraph [0004]	1

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☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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