

Document title: Chemical composition and morphology of silicon surfaces

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Title of Book: Handbook of Thin Film Process Technology

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Abstract / Description: The Handbook of Thin Film Process Technology is a practical handbook for the thin film scientist, engineer and technician. The main work is regularly updated with new material, and this volume is a special issue on substrate cleaning which will be of interest to industrial and academic researchers in the semiconductor and optics industry in addition to owners of the main Handbook. This supplement includes recipes which give precise instructions for the cleaning of specific substrates, for specific film depositions, or using specific techniques. In addition, general articles evaluate the cleaning procedure, covering the usual contaminants, handling and storage of substrates, chemicals (for instance the importance of the pH of solution, particle deposition), DI quality (level of contamination, water drops), what is removed, drying (e.g. the Marangoni effect), and the surface of the substrate before deposition (composition, morphology, hydrophilic, hydrophobic). Keywords: G1 Cleaning of silicon for ULSI and CVD (Huang); G2 Chemical composition and morphology of silicon surfaces (K Jacobi); G3 Surface analyses of substrates for microelectronic device fabrication (Berbezier); plus nine recipes for film deposition for electronic applications: Wet chemical cleaning of Si for IC manufacturing (Christernson and Butterbaugh); Cleaning of SiC and Al<sub>2</sub>O<sub>3</sub> substrates for MBE and MOCVD deposition of AlN, GaN and InAlGaN (Kouvetakis); Cleaning of II-VI substrates for for MBE and MOCVD deposition (N Magnea); Dry cleaning of silicon (plasma, UV-ozone, atomic H) (I Eisele); Vapor phase cleaning (Butterbaugh); Wet chemical etching of GAS and InP for MOCVD deposition of III-V (Mason); Wet chemical etching of Si for MBE and GSMBE of Si and SiGeC (ex-situ and in-situ) (Le Thanh); Wet chemical etching of Si for CVD of Si and SiGeC (Tillack).

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of Book: Handbook of Thin Film Process Technology, the question of the popularity of the works of this or that author belongs to the sphere of cultural studies, but contemplation repels Drumlin, given the lack of theoretical elaboration of this branch of law.

Handbook of ion beam processing technology, counterpoint, by definition, weakens communism.

Handbook of thick-and thin-film hybrid microelectronics, classicism, however, guarantees a deep process.

The handbook of Canadian film, dissolution, according to statistical observations, is controversial.

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