

Title (en)
Edge-polishing apparatus and method

Title (de)
Verfahren und Vorrichtung zum Abfasen

Title (fr)
Procédé et dispositif de polissage d'un chant

Publication
EP 0877418 A3 20000809 (EN)

Application
EP 98108249 A 19980506

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Abstract (en)
[origin: EP0877418A2] An edge-polishing apparatus and method are provided which are capable of not only preventing the surfaces of workpieces such as silicon wafers from being smeared, stained, soiled, damaged or marred by forming hydrophilic oxide films thereon, and but also of storing the workpieces in a dry state. A workpiece W stored in a cassette 10 in a dry state is taken out by means of a first robot 12 of a first transportation section 1, and transported to an oxide-film forming section 2 where it is immersed in ozone water 21 in an oxidation water tank 20 so as to form a hydrophilic oxide film on the surfaces of the workpiece W. The workpiece W thus formed with the hydrophilic oxide film is cleaned with a shower 29 of pure water by means of a cleaning device 28, and then transported to an edge-polishing section 4 by means of a second robot 32 of a second transportation section 3. At the edge-polishing section 4, the edges of the workpiece W are mirror finished by a polishing drum 41. Thereafter, the workpiece W is cleaned with a shower 53 of pure water while being brushed by means of a pair of brushes 51, 51. The workpiece W thus cleaned is transported to a drying section 7 by means of a third robot 60 of a third transportation section 6, and dried there. Subsequently, the dried workpiece W is kept or stored in a cassette 79 in a dry state. <IMAGE>

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Citation (search report)
• [XY] EP 0607940 A2 19940727 - TEXAS INSTRUMENTS INC [US]
• [A] US 5547415 A 19960820 - HASEGAWA FUMIHIKO [JP], et al
• [A] EP 0701275 A2 19960313 - MEMC ELECTRONIC MATERIALS [US]
• [Y] PATENT ABSTRACTS OF JAPAN vol. 1996, no. 06 28 June 1996 (1996-06-28) & US 5837662 A 19981117 - CHAI JING [US], et al
• [Y] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 02 28 February 1997 (1997-02-28) & US 5651160 A 19970729 - YONEMIZU AKIRA [JP], et al

Cited by
CN108284384A; DE102007012359A1; CN108838677A; EP1054457A3

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