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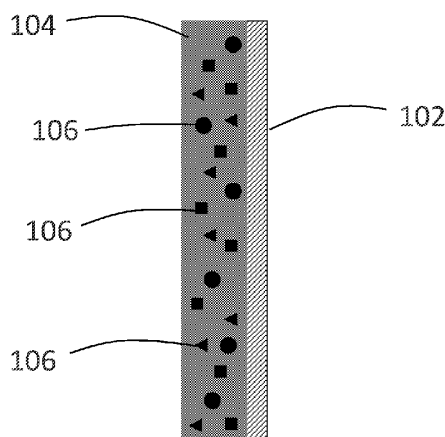


FIG 1B

(57) Abstract: Methods and apparatuses for cleaning semiconductor wafers(202). Thereinto, a method comprises transferring one or more wafers(202) to at least one first tank(201) containing cleaning chemical, one or more second tanks(207) containing cleaning liquid successively for implementing batch cleaning process; taking the one or more wafers(202) out of the cleaning liquid in the one or more second tanks(207) and transferring the one or more wafers(202) to one or more single wafer cleaning modules(510) for implementing single wafer cleaning and drying processes; wherein control and keep a certain thickness of liquid film(204,504) on the one or more wafers(202) from the moment of the one or more wafers out of the cleaning chemical in the at least one first tank(201) till the one or more wafers(202) are immersed in the cleaning liquid of the one or more second tanks(207), and/or from the moment of the one or more wafers(202) out of the cleaning liquid in the one or more second tanks(207) till the one or more wafers(202) are transferred to the one or more single wafer cleaning modules(510).

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WO 2019/232741 A1

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