Method for Removing Material from Semiconductor Wafer and Apparatus for Performing the Same

Abstract

A pressure is maintained within a volume within which a semiconductor wafer resides at a pressure that is sufficient to maintain a liquid state of a precursor fluid to a non-Newtonian fluid. The precursor fluid is disposed proximate to a material to be removed from the semiconductor wafer while maintaining the precursor fluid in the liquid state. The pressure is reduced in the volume within which the semiconductor wafer resides such that the precursor fluid disposed on the wafer within the volume is transformed into the non- Newtonian fluid. An expansion of the precursor fluid and movement of the precursor fluid relative to the wafer during transformation into the non-Newtonian fluid causes theresulting non-Newtonian fluid to remove the material from the semiconductor wafer.

Fig. 3B