

Abstract Submitted
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Removal of resist film from wafer surface by steam-water mixture jet TAKASHI MASHIKO, TOSHIYUKI SANADA, Shizuoka University, ITSUO NISHIYAMA, Daipia Wintes, HIDEO HORIBE, Kanazawa Institute of Technology — We have shown that the steam-water mixture jet, a two-fluid jet with its carrier gas being steam, exhibits high cleaning performance when sprayed onto a target. This is a promising technique which requires only simple apparatus and little or no chemicals, but the cleaning mechanism remains unknown. We have conducted a series of experiments to elucidate the mechanism and learn how to meet given industrial requirements (e.g., set parameters for desired detergency). In our recent experiment, we adopted a resist-coated silicon wafer as the target and evaluated the jet performance of resist removal from the wafer. The removal performance proved to be a decreasing function of the resist hardness and of the resist-wafer adhesivity, and an increasing function of the jet duration. These results suggest that the resist removal by the steam-water mixture jet mainly consists of physical processes (e.g., peel-off process), in contrast to the traditional resist-removal techniques utilizing chemical reactions.

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