

Abstract Submitted
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A new method of dry cleaning after plasma etching of MRAM materials TAKUYA KUBO¹, SONG-YUN KANG, Tokyo Electron Ltd., TOKYO ELECTRON LTD. TEAM — This paper describes a new method for dry cleaning after etching of MRAM materials. Problems such as repeatability or particle generation after etching of MRAM materials are due to the non-volatile nature of etch products. A new etch concept for MRAM is to etch each material such as carbon, metal, or silicon compounds step by step. There are 4 steps in this cleaning: 1) carbon removal by N₂/H₂, 2) metal removal by Ar, 3) silicon removal by CF₄/O₂, 4) carbon, oxygen, and fluorine removal by N₂/H₂. Etch repeatability and particle level reduction have been demonstrated to result from this cleaning method.

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