

SILICON-BASED FILMS AND
METHODS OF FORMING THE SAME

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ABSTRACT OF THE DISCLOSURE

Disclosed herein are containing silicon-based films and compositions and methods for forming the same. The silicon-based films contain <50 atomic % of silicon. In one aspect, the silicon-based films have a composition $\text{Si}_x\text{C}_y\text{N}_z$ wherein x is about 0 to about 55, y is about 35 to about 100, and z is about 0 to about 50 atomic weight (wt.) percent (%) as measured by XPS. In another aspect, the silicon-based films were deposited using at least one organosilicon precursor comprising two silicon atoms, at least one Si-Me group, and an ethylene or propylene linkage between the silicon atoms such as 1,4-disilapentane.

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