

What is claimed is:

1. A method of forming a hardmask, comprising:
 - performing a first plasma-enhanced surface treatment in a process chamber;
 - subsequent to performing the first plasma-enhanced surface treatment, depositing a season material on a plurality of exposed surfaces of the process chamber;
 - subsequent to depositing the season material on the plurality of exposed surfaces of the process chamber, positioning a substrate in the process chamber and in contact with the season material;
 - performing a treatment on the substrate, the treatment comprising at least one of:
 - performing a second plasma-enhanced surface treatment;
 - forming a barrier layer on the substrate; and
 - performing a low frequency RF treatment; and
 - forming, subsequent to performing the at least one treatment, a metal hardmask film on the substrate,
- wherein forming the barrier layer comprises at least one cycle of soaking the substrate in a precursor for a first period of time to form a target barrier layer thickness and, subsequently, performing a plasma-enhanced treatment for a second period of time, wherein, during the second period of time, a plurality of gases employed in the plasma-enhanced treatment is ramped up to a target gas flow rate over a predetermined period of gas flow time and wherein the predetermined period of gas flow time is from about 5 seconds to about 30 seconds.