

ABSTRACT OF THE DISCLOSURE
REMOVAL OF SURFACE OXIDES BY ELECTRON ATTACHMENT FOR WAFER
BUMPING APPLICATIONS

The present invention relates to a method for removing metal oxides from a substrate surface. In one particular embodiment, the method comprises: providing a
5 substrate, a first, and a second electrode that reside within a target area; passing a gas mixture comprising a reducing gas through the target area; supplying an amount of energy to the first and/or the second electrode to generate electrons within the target area wherein at least a portion of the electrons attach to a portion of the reducing gas and form a negatively charged reducing gas; and contacting the substrate with the
10 negatively charged reducing gas to reduce the metal oxides on the surface of the substrate.

Figure 1

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