ABSTRACT OF THE DISCLOSURE 06320PUSA

APPARATUS AND METHOD FOR REMOVAL OF SURFACE OXIDES VIA FLUXLESS TECHNIQUE INVOLVING ELECTRON ATTACHMENT AND REMOTE ION GENERATION

The present invention provides a method and apparatus for the dry fluxing of at least one component and/or solder surface via electron attachment. In one embodiment, there is provided a method for removing oxides from the surface of a component comprising: providing a component on a substrate wherein the substrate is grounded or has a positive electrical potential to form a target assembly; passing a gas mixture comprising a reducing gas through an ion generator comprising a first and a second electrode; supplying an amount of voltage to at least one of the first and second electrodes sufficient to generate electrons wherein the electrons attach to at least a portion of the reducing gas and form a negatively charged reducing gas; and contacting the target assembly with the negatively charged reducing gas to reduce the oxides on the component.

Figure 1