

ABSTRACT**AN APPARATUS AND A METHOD OF DETERMINING THE PRESENCE OF
AN ALUMINA LAYER ON A SURFACE OF A COMPONENT**

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A method of determining the presence of an alumina layer on a surface of a component comprising the steps of:-

- a) illuminating a surface of a component with radiation at a suitable wavelength to produce excitation of electrons from a normal energy state to a
10 higher energy state in any alumina on the surface of the component,
- b) detecting radiation emitted at a particular wavelength by electrons reverting from the higher energy state to the normal energy state in any alumina on the surface of the component,
- c) analysing the radiation emitted by electrons reverting from the higher
15 energy state to the normal energy state in any alumina on the surface of the component to determine the thickness of the alumina at at least one point on the surface of the component,
- d) comparing the determined thickness of the alumina at the at least one point on the surface of the component with a predetermined thickness of alumina
20 at that point on the surface of the component to decide if the thickness of alumina at the at least one point on the surface of the component is satisfactory.

Figure 2