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(54) Title: METHOD TO CREATE FUNCTIONAL COATINGS ON MAGNESIUM

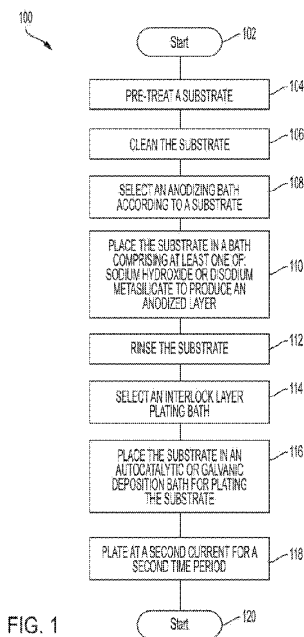


FIG. 1

(57) Abstract: In example implementations, a method for producing a coating is provided. The method includes placing a magnesium substrate into an anodizing bath, applying a voltage for a first amount of time to form a micro-porous anodizing layer having a thickness of between (1) to (50) microns on the magnesium substrate, placing the magnesium substrate with the micro-porous anodizing layer in plating bath, wherein the plating bath comprises a metal and a complexing agent with a pH between (8) and (14), applying a first current to the plating bath for a second amount of time to form an interlock layer on the micro-porous anodizing layer, and applying a second current to the plating bath for a third amount of time to form a coating on the interlock layer.

[Continued on next page]

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