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Nadolink

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[54] FABRICATION PROCESS FOR COMPLEX COMPOSITE PARTS

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[52] U.S. Cl. **29/889.6; 29/527.2; 29/889.71; 427/456**

[58] Field of Search **29/889.71, 889.6, 527.2, 29/530; 427/446, 456, 299, 404**

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[57] **ABSTRACT**

A method for manufacturing a composite part is provided. A polymer material is formed into a shape whose outer surface has a desired part configuration. A base coating is applied to substantially all of the outer surface leaving at least one access to the polymer material. The base coating includes a selected metal existing as a constituent thereof. The same selected metal is then sprayed in atomized form on the base coating covered outer surface. The selected metal in atomized form molecularly bonds only to the selected metal existing as a constituent of the base coating. The polymer material is then contacted with a polymer solvent by means of the access. The polymer solvent molecularly breaks down the polymer material such that it exits the access. As a result, the selected metal in atomized form bonded with the selected metal existing as a constituent of the base coating forms a metallic shell substantially void of the polymer material. Fill material selected design performance characteristics is introduced into the metallic shell thereby forming the composite part.

15 Claims, 3 Drawing Sheets

