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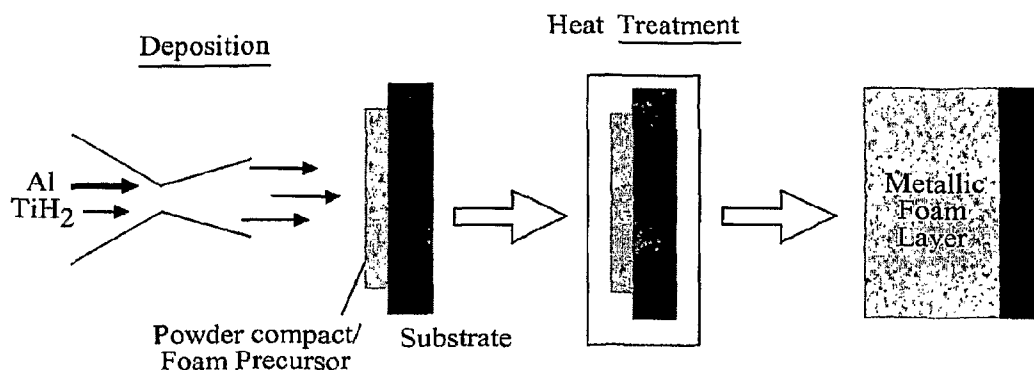
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(54) Title: METHOD OF FORMING METAL FOAMS BY COLD SPRAY TECHNIQUE

PROCESS SCHEMATIC OF USING THE COLD SPRAY PROCESS TO INCORPORATE METALLIC FOAMS AS PART OF EXISTING STRUCTUAL COMPONENTS



(57) Abstract: The present invention relates to a method of forming metallic foams using cold spray processing. The method allows for the formation of metallic foams on existing substrates as a layer. The method includes the steps of providing a substrate for coating of a metallic foam; cold spraying a mixture of metal particles and a foaming agent onto the substrate to form a coating of an unexpanded metallic layer; foam heat treating the substrate and coating at a temperature above the decomposition temperature of the foaming agent for a time sufficient to form a substrate coated with an expanded metal foam layer; and cooling the coated substrate to about ambient temperature to form a cooled substrate coated with an expanded metal foam layer. The method finds application in the oil, gas and chemical industry by being an integral part of casings, pipelines, transfer lines and other flow lines.

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