

[54] METHOD OF FORMING CONTOURED REPAIR PATCHES

FOREIGN PATENT DOCUMENTS

59-67007 4/1984 Japan ..... 264/571

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[57] ABSTRACT

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This invention includes an apparatus and method for molding and curing a curable composite patch used for repairing damaged contoured surface structures. The molding apparatus has a fluid impermeable outer container having a flexible outer wall. A flexible, fluid impermeable inner container containing a moldable granular material is positioned within the outer container and has a flexible molding wall on which the composite patch can be placed. Inner and outer ports are located on the inner and outer containers for evacuating the inner and outer containers. A model of an undamaged surface is formed by positioning the molding wall of the inner container against an unaffected surface and evacuating the inner container so that the granular material is rigidly held in a molded form. The patch is placed on the molding wall and the outer container is sealed with the outer wall positioned over the patch and molding of the inner container. The outer container is then evacuated so that the outer wall is forced against the patch, keeping the patch in a contoured form. The molding apparatus is then placed into a collapsible heating chamber of the invention to cure.

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[58] Field of Search ..... 264/101, 220, 221, 225, 264/227, 257, 258, 317, 510, 553, 571, 36; 156/94, 285

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17 Claims, 9 Drawing Sheets

