

ABSTRACT

THREE-DIMENSIONAL PRINTING OF COMPOSITE REPAIR PATCHES AND STRUCTURES

5 Methods and apparatus for automating the fiber laying process during the repair of composite structures made of fiber-reinforced plastic material based on the three-dimensional printing technique. Continuous fiber rovings (e.g., carbon fibers) impregnated with liquid epoxy can be directly printed onto the damaged surface of the composite structure (e.g., an aircraft component made of carbon fiber-reinforced plastic) without human manipulation in an autonomous manner.

Fig. 3