

METHOD AND APPARATUS FOR CONTROLLING DIFFUSION COATING OF INTERNAL PASSAGES

ABSTRACT OF THE DISCLOSURE

A method and apparatus for controlling the thickness of a coating deposited on internal passages (18) of a component (14). The coating is a diffusion coating, preferably a diffusion aluminide coating, deposited by a vapor phase process that entails placing a component (14) within a coating chamber (20) so that first and second conduits (26,28) fluidically communicate with first and second openings (44,46) in the component (14). The component (14) is heated within the coating chamber (20), at least one reactive vapor is generated within the coating chamber (20), and a carrier gas is delivered through the first conduit (26) to force the reactive vapor to enter the internal passages (18) through the first opening (44) in the component (14) and exit through the second opening (46). Flow of the carrier gas is then reversed so that the carrier gas is then delivered through the second conduit (28) to force the reactive vapor to enter the internal passages (18) through the second opening (46) and exit through the first opening (44).

Fig. 1.