

Development of constructive and technological solutions for the manufacture of blisks turbine by connecting the disk with shrouded blades under hot isostatic pressing

Wednesday, 6 December 2017 17:15 (25)

In order increasing the gas-dynamic and strength characteristics of the turbine wheel gas turbine engines and reducing their weight the bimetallic turbine blisk with shrouded blades was engineered. To connect the separately cast shrouded blades nickel superalloy with disc of heat-resistant alloy powder is suggested a method of hot isostatic pressing (HIP). The complexity of the problem of connecting is caused by the presence of the shrouds on the periphery of the blades. These should provide a good contact on the working faces of the shrouds into the operation condition. To solve this problem a process flow diagram with the calculation of forming a capsule during hot isostatic pressing and a capsule for manufacturing disk piece were developed.

Please choose topic

Aerospace

Primary author(s) : Prof. MAGERRAMOVA, Liubov (Alexandrovna)

Co-author(s) : Dr KRATT, Eugene (Pavlovich)

Presenter(s) : Prof. MAGERRAMOVA, Liubov (Alexandrovna)

Session Classification : Materials

Track Classification : Aerospace