Title (en)

High temperature forging die

Title (de)

Gesenk zum Hochtemperaturschmieden

Title (fr)

Matrice de forgeage à haute température

Publication

EP 1886743 B1 20110615 (DE)

Application

EP 07014357 A 20070721

Priority

DE 102006037883 A 20060811

Abstract (en)

[origin: EP1886743A1] The die for high temperature mild intermetallic component for the production of aircraft engine or stationary gas turbines or its shovel, comprises upper and lower particle or fiber reinforced die parts (4), which are connected with a reinforcement ring (7) over a stop element. Each die part is assigned as the reinforcement ring surrounding with fixture by ambient temperature. The die parts are placed on the ring due to its thermal expansion during heating. A compressive stress is exerted on the die part by the reinforcement ring. The die part is ceramic or graphite. The die for high temperature mild intermetallic component for the production of aircraft engine or stationary gas turbines or its shovel, comprises upper and lower particle or fiber reinforced die parts (4), which are connected with a reinforcement ring (7) over a stop element. Each die part is assigned as the reinforcement ring surrounding with fixture by ambient temperature. The die parts are placed on the ring due to its thermal expansion during heating. A compressive stress is exerted on the die part by the reinforcement ring. The die part is ceramic or graphite and the reinforcement ring consists of a fiber reinforced composite with wrapped carbon fiber. The fixture is designed by ambient temperature under circumstances of the expansion behavior of the die part and the ring in such a way that the constructed compressive stress is implemented by a predetermined value of a mild temperature. The reinforcement ring has an internal bearer ring (9) on which the heated die part adjoins. The bearer ring has projections (11) serving the support of the inserted die part and is sectionally closed at a side. The projection is intended at rotating edge side around 180[deg]. The die parts are intended at forcible guidance cooperated with compatible place of the die part. The guidance has fiber reinforced bolts or plug that is interfered into the bolt- or plug reception at the opposite die part. The bolt or plug exists out of ceramic or graphite. The die parts have die part elements (5, 6) and gravures. The stop element is a peg that is received in corresponding sockets at the reinforced ring and at the die part or the die part element.

IPC 8 full level

B21J 13/02 (2006.01); **B21J 5/02** (2006.01)

CPC (source: EP US)

B21J 5/02 (2013.01 - EP US); **B21J 9/08** (2013.01 - EP US); **B21J 13/02** (2013.01 - EP US)

Cited by

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DOCDB simple family (publication)

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