Title (en)

Process for preparing a composite metal matrix rotor

Title (de)

Verfahren zur Herstellung eines Metallmatrixverbundrotors

Title (fr)

Procédé de fabrication d'un rotor composite à matrice métallique

Publication

EP 0775754 A1 19970528 (FR)

Application

EP 96402499 A 19961121

Priority

FR 9513832 A 19951122

Abstract (en)

A method is claimed for the fabrication of a rotor in a composite material with a metal matrix (1, 2, 3, 26), made up of a metal block containing fibres arranged in circles. The method comprises: (a) constructing a metal medium (1) made up of a plate and a shaft; (b) placing a metal disc (3) on the shaft with a metal ring (2) that extends around the disc (3); (c) winding the fibres, coated with the matrix material, around the shaft and between the disc (3) and the plate; (d) arranging a metal casing (26) around the plate and the fibres, the ring (2) passing beyond the casing (26) and the shaft and freeing the ring (2) from the disc (3); (e) surrounding the medium (1), the casing (26) and the ring (2) with a sleeve (27) fitted with a degassing aperture (28); (f) compressing the sleeve (27) by hot isostatic compression until the ring (2) embeds itself and attains a determined level; and (g) removing the sleeve (27) and machining the metal block to a desired shape should this be necessary.

Abstract (fr)

Procédé de fabrication d'un rotor composite à matrice métallique (1, 2, 3, 26) renforcée d'enroulements fibreux (25). Pour supprimer le foisonnement des enroulements (25), on procède par une compression isostatique à chaud après avoir posé sur les enroulements (25) une couronne (2) de même surface que le réseau qu'ils forment, et qui s'affaisse en correspondance au dégazage. L'invention s'applique à la fabrication de rotors formés d'un bloc et qui sont ensuite usinés à la forme voulue. <IMAGE>

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IPC 8 full level

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CPC (source: EP US)

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C-Set (source: EP US)

1. B22F 2998/00 + C22C 47/064
2. B22F 2998/00 + C22C 47/04

Citation (applicant)

- FR 2607071 A1 19880527 - TEXTRON INC [US]
- FR 2684578 A1 19930611 - SNECMA [FR]

Citation (search report)

- [AD] FR 2607071 A1 19880527 - TEXTRON INC [US]
- [AD] FR 2684578 A1 19930611 - SNECMA [FR]
- [A] FR 2289425 A1 19760528 - SNECMA [FR]
- [A] EP 0657554 A1 19950614 - SNECMA [FR]

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