

Title (en)

METHOD FOR MANUFACTURING SECTIONS BY GRINDING, AND TURBINE BLADES SO MANUFACTURED

Publication

EP 0290773 B1 19910522 (DE)

Application

EP 88105239 A 19880331

Priority

DE 3714805 A 19870504

Abstract (en)

[origin: EP0290773A1] A grinding method for profiled parts, in particular turbine blades, blades manufactured accordingly and also typical associated intermediate products. In order to reduce the number of operations during manufacture and to make possible efficient production, the contours of base (2), head (3) and convex suction side (4) of a turbine blade are manufactured by deep grinding in one clamping set-up. A blank suitable for this machining has at its ends residual pieces (8, 9) which are used for the clamping and are cut off later. The entire blade contour with the exception of the pressure side is manufactured by rotation and translation of the blank relative to a rapidly rotating grinding wheel. In order to ensure an efficient grinding operation, the volume of metal removed per unit of time follows a predeterminable function during the pre-forming, which function can also be constant if need be. This possibly location-dependent and/or time-dependent function of the volume of metal removed per unit of time takes into account the heat dissipation in the workpiece in the vicinity of the respective grinding point in order to avoid thermal stresses in the surface layer. Finally, the final contour and surface finish is obtained during finish-grinding in the same clamping set-up. <IMAGE>

IPC 1-7

B24B 19/14; B24B 49/00

IPC 8 full level

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CPC (source: EP US)

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Cited by

DE102004021866A1; FR3006616A1; CN105263650A; RU2660436C2; WO9517990A1; US9833834B2; WO2014195634A1

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