Process For Preparing A Support Substrate Made Of Polycrystalline Material And Process For Manufacturing A Composite Structure Including Said Support Substrate

Abstract

The invention relates to a method for preparing a support substrate made of polycrystalline material, the preparation method comprising the following steps: a) providing a raw disc made of polycrystalline material, having two faces; b) rough grinding of at least one of the faces of the raw disk in order to obtain a surface-ground disc having at least one surface-ground face, the rough grinding leading to the formation of a damaged superficial region on said surface-ground face; the damaged superficial region comprising a work-hardened superficial layer and a stressed underlying layer; c) applying a heat treatment to the surface-ground disc, the temperature and the duration of the heat treatment being defined so as to relax the stresses present in the stressed layer; step c) leading to the obtaining of an annealed disc comprising, at the at least one surface-ground face, a superficial first annealed layer, instead of the work-hardened layer, and an underlying second annealed layer, instead of the stressed layer; d) thinning the annealed disc, from the at least one surface-ground face, in order to remove the first annealed layer; step d) leading to the obtaining of the support substrate in which all or part of the second annealed layer is preserved.

Fig. 1a