Title (en)

METHOD OF TREATING A WORKPIECE COMPRISING A TITANIUM METAL AND OBJECT

Title (de)

VERFAHREN ZUR BEHANDLUNG EINES WERKSTÜCKS MIT EINEM TITANMETALL UND OBJEKT

Title (fr)

PROCÉDÉ DE TRAITEMENT D'UNE PIÈCE DE FABRICATION COMPRENANT UN MÉTAL À BASE DE TITANE, ET OBJET

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2017202728A1] Method of treating a workpiece (12) comprising a titanium metal, wherein a titanium metal surface layer of the workpiece is converted to titanium nitrides. The method comprises the following steps: a) heating the workpiece (12) to an initial nitriding temperature (Tn1) and b) subjecting said workpiece to one or more nitriding temperatures (Tn1, Tn2) for predetermined time(s) in a nitrogen containing gas (14) under high pressure at hot isostatic pressing (HIP) conditions for converting the titanium metal surface layer to a first layer portion consisting of titanium nitrides and a second layer portion comprising a nitrogen gradient in the titanium metal. The method further comprises c) quenching the workpiece (12) in the nitrogen containing gas (14) under high pressure at hot isostatic pressing (HIP) conditions, in order to strengthen the titanium metal below the in step b) formed first nitride layer portion.

IPC 8 full level

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CPC (source: EP SE US)

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