

Title (en)  
Process for making a turbine wheel and shaft assembly

Title (de)  
Verfahren zur Herstellung eines Turbinenrades und Wellenanordnung

Title (fr)  
Procédé de fabrication d'une roue de turbine et ensemble d'arbre

Publication  
**EP 2859969 A3 20150429 (EN)**

Application  
**EP 14185162 A 20140917**

Priority  
US 201314048767 A 20131008

Abstract (en)  
[origin: EP2859969A2] A process for making a turbine rotor includes steps of providing a shaft made of a first metal composition and having an integral pin projecting axially therefrom, providing a mold that defines a cavity for investment casting a turbine wheel, disposing the pin within the cavity of the mold, pre-heating the mold and the pin to a mold temperature, pouring a molten second metal composition into the cavity of the pre-heated mold such that the molten second metal composition envelopes the pin within the cavity, and controlling the process so that the pin acts as a chill member causing the second metal composition around the chill member to solidify with a finer equiaxed grain structure than would be the case without the chill member. The turbine wheel is joined to the shaft via the casting of the turbine wheel about the pin.

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CPC (source: CN EP US)  
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Citation (search report)  
• [XII] JP 2000061613 A 20000229 - DAIDO STEEL CO LTD  
• [XII] DE 10209347 A1 20030925 - DAIMLER CHRYSLER AG [DE]  
• [XI] GB 2462275 A 20100203 - CUMMINS TURBO TECH LTD [GB]

Cited by  
CN114888090A; US11859267B2

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AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
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