

Title (en)
ROTOR FOR LOW-PRESSURE TURBINE

Title (de)
ROTOR FÜR EINE NIEDERDRUCKTURBINE

Title (fr)
ROTOR POUR TURBINE BASSE PRESSION

Publication
EP 2312127 A1 20110420 (EN)

Application
EP 09806066 A 20090730

Priority
• JP 2009063896 W 20090730
• JP 2008207421 A 20080811

Abstract (en)
The object of the invention is to provide a low-pressure turbine rotor capable of maintaining mechanical strength characteristics, and without problems in terms of quality without increasing manufacturing costs and manufacturing days, even if high temperature steam is introduced into the low-pressure turbine. A low-pressure turbine rotor used in a steam turbine facility including a high-pressure turbine, an intermediate-pressure turbine, and a low-pressure turbine includes a member formed from 1CrMov steel, 2.25CrMoV steel, or 10CrMoV steel arranged on a steam inlet side, and a member formed from 3.5Ni steel arranged on a steam outlet side, which are joined together by welding. Alternatively, the member arranged on the steam inlet side and the member arranged on the steam outlet side, both of which are formed from 3.5Ni steel, are joined together by welding, and the member arranged on the steam inlet side is made of low-impurity 3.5Ni steel containing, by weight %, Si: 0.1% or less, Mn: 0.1% or less, and inevitable impurities containing, by weight %, P: 0.02% or less, S: 0.02% or less, Sn: 0.02% or less, As: 0.02% or less, Sb: 0.02% or less, Al: 0.02% or less, and Cu: 0.1% or less.

IPC 8 full level
F01D 25/00 (2006.01); **F01D 1/04** (2006.01); **F01D 3/02** (2006.01); **F01D 5/02** (2006.01); **F01D 5/06** (2006.01)

CPC (source: EP KR US)
F01D 1/04 (2013.01 - KR); **F01D 3/02** (2013.01 - EP US); **F01D 5/02** (2013.01 - KR); **F01D 5/06** (2013.01 - EP KR US);
F01D 5/063 (2013.01 - EP US); **F01D 25/00** (2013.01 - KR); **F05D 2300/132** (2013.01 - EP US); **F05D 2300/177** (2013.01 - EP US)

Designated contracting state (EPC)
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 SE SI SK SM TR

Designated extension state (EPC)
AL BA RS

DOCDB simple family (publication)
US 2010202891 A1 20100812; CN 101772622 A 20100707; EP 2312127 A1 20110420; EP 2312127 A4 20150107; JP 4995317 B2 20120808;
JP WO2010018773 A1 20120126; KR 20100033421 A 20100329; KR 20130051014 A 20130516; WO 2010018773 A1 20100218

DOCDB simple family (application)
US 67402209 A 20090730; CN 200980100092 A 20090730; EP 09806066 A 20090730; JP 2009063896 W 20090730;
JP 2010502367 A 20090730; KR 20107002529 A 20090730; KR 20137009982 A 20090730