

Title (en)
Steam-turbine power plant and steam turbine

Title (de)
Dampfturbinenkraftanlage und Dampfturbine

Title (fr)
Installation de turbines à vapeur et turbine à vapeur

Publication
EP 0759499 A1 19970226 (EN)

Application
EP 95113119 A 19950821

Priority
EP 95113119 A 19950821

Abstract (en)
A steam turbine in which principal components to be exposed to high temperatures are all made of ferritic steel, whereby the temperatures of main steam and reheat steam can be increased to 610 - 660 (DEG C). The rotor shaft (23 in Fig. 1) of the steam turbine is made of ferritic forged steel whose 100,000-hour creep rupture strength is at least 15 (kg/mm<2>) at the service temperature of the rotor shaft. Likewise, the casing (18) is made of ferritic cast steel whose 100,000-hour creep rupture strength is at least 10 (kg/mm<2>). The steam turbine of high thermal efficiency can be applied to a steam-turbine power plant.

IPC 1-7
F01D 5/28; F01D 3/02; F01D 5/06; F01K 7/00

IPC 8 full level
F01D 5/28 (2006.01)

CPC (source: EP)
F01D 5/28 (2013.01)

Citation (applicant)
• JP S62180044 A 19870807 - HITACHI LTD
• JP S6123749 A 19860201 - HITACHI LTD
• JP H04147948 A 19920521 - HITACHI LTD, et al
• JP H02290950 A 19901130 - HITACHI METALS LTD
• JP H04371551 A 19921224 - NIPPON STEEL CORP

Citation (search report)
• [DXAY] EP 0384433 A1 19900829 - HITACHI METALS LTD [JP]
• [A] EP 0639691 A1 19950222 - TOSHIBA KK [JP]
• [A] EP 0384181 A2 19900829 - HITACHI LTD [JP]
• [A] EP 0298127 A1 19890111 - HITACHI LTD [JP]
• [A] US 3880549 A 19750429 - SCHRIEKEN JAN
• [A] DE 383253 C 19231011 - KARL ROEDER DR ING
• [A] DE 407717 C 19250102 - MELMS & PFENNINGER KOMM GES
• [A] WO 9313298 A1 19930708 - ABB CARBON AB [SE]
• [A] EP 0129167 A2 19841227 - HITACHI LTD [JP], et al
• [A] EP 0523466 A1 19930120 - SIEMENS AG [DE]
• [Y] GB 2096713 A 19821020 - HITACHI LTD
• [L] PATENT ABSTRACTS OF JAPAN vol. 95, no. 009

Cited by
US7404699B2; EP1849881A3; EP2671959A1; EP2671957A3; EP2623713A1; CN109356663A; EP1559872A1; CN100404794C; EP0767250A3; US5961284A; FR2823226A1; AU2002302671B2; CN1317415C; CZ299079B6; AU2002302671B8; US7651318B2; US9297277B2; US9039365B2; WO2005073517A1; WO02081766A1

Designated contracting state (EPC)
CH DE FR GB IT LI

DOCDB simple family (publication)
EP 0759499 A1 19970226; EP 0759499 B1 20020227; EP 0759499 B2 20051214; DE 69525621 D1 20020404; DE 69525621 T2 20021017; DE 69525621 T3 20060824

DOCDB simple family (application)
EP 95113119 A 19950821; DE 69525621 T 19950821