

Title (en)
STEEL MEMBER AND PROCESS FOR PRODUCING SAME

Title (de)
STAHELEMENT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
ÉLÉMENT EN ACIER ET PROCESSUS POUR LE PRODUIRE

Publication
EP 2918694 B1 20180110 (EN)

Application
EP 13852994 A 20131029

Priority
• JP 2012247775 A 20121109
• JP 2013079197 W 20131029

Abstract (en)
[origin: EP2918694A1] Provided is a steel member which is obtained using a thick steel plate and in which the inner zone (thicknesswise central zone) of the steel material exhibits high strength and high toughness even in a case where the steel member has undergone high-temperature and long-time post-welding heat treatment. The steel member has a prescribed composition and is characterized in that the texture of a thicknesswise central zone of the plate satisfies all the requirements (a) to (d): (a) the texture is tempered bainite and/or tempered martensite; (b) the mean equivalent circle diameter of grains that are each surrounded by a large-angle grain boundary where the misorientation between two adjacent grains is 15 or more is 20 μm or less; (c) the maximum diameter of grain-boundary carbides is 0.8 μm or less; and (d) the fraction of grain-boundary carbides is 1.0% by area or more.

IPC 8 full level
C22C 38/00 (2006.01); **C21D 6/00** (2006.01); **C21D 9/50** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/42** (2006.01); **C22C 38/44** (2006.01); **C22C 38/46** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR)
C21D 6/00 (2013.01 - EP KR); **C21D 9/50** (2013.01 - EP KR); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP KR); **C22C 38/02** (2013.01 - EP KR); **C22C 38/04** (2013.01 - EP KR); **C22C 38/06** (2013.01 - EP KR); **C22C 38/22** (2013.01 - KR); **C22C 38/42** (2013.01 - EP KR); **C22C 38/44** (2013.01 - EP KR); **C22C 38/46** (2013.01 - EP); **C22C 38/54** (2013.01 - EP KR); **C21D 2211/002** (2013.01 - EP KR); **C21D 2211/008** (2013.01 - EP)

Cited by
EP3889303A4; EP3392365A4; EP3372702A4; JP2020509193A; US10829830B2

Designated contracting state (EPC)
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

DOCDB simple family (publication)
EP 2918694 A1 20150916; **EP 2918694 A4 20160622**; **EP 2918694 B1 20180110**; CN 104781436 A 20150715; CN 104781436 B 20160427; JP 2014095130 A 20140522; JP 5870007 B2 20160224; KR 101811159 B1 20171220; KR 20150055110 A 20150520; KR 20160063415 A 20160603; WO 2014073415 A1 20140515

DOCDB simple family (application)
EP 13852994 A 20131029; CN 201380058040 A 20131029; JP 2012247775 A 20121109; JP 2013079197 W 20131029; KR 20157011688 A 20131029; KR 20167013284 A 20131029