

Title (en)
MANUFACTURING METHOD AND MANUFACTURING EQUIPMENT FOR SEAMLESS STEEL PIPE OR TUBE WITH EXCELLENT TOUGHNESS

Title (de)
FERTIGUNGSVERFAHREN UND FERTIGUNGSVORRICHTUNG FÜR NAHTLOSE STAHLROHRE MIT AUSGEZEICHNETER ZÄHIGKEIT

Title (fr)
PROCÉDÉ ET ÉQUIPEMENT DE FABRICATION POUR CONDUITE OU TUBE EN ACIER SANS SOUDURE AVEC UNE EXCELLENTE DURETÉ

Publication
EP 2952592 B1 20190612 (EN)

Application
EP 14746700 A 20140122

Priority
• JP 2013016459 A 20130131
• JP 2014000297 W 20140122

Abstract (en)
[origin: EP2952592A1] It is difficult in the related art to realize not only a decrease in material variability due to non-uniform microstructure distribution in the wall thickness direction of a pipe body but also the maintenance of satisfactory productivity of the whole heat treatment line at the same time. A method includes determining in advance whether or not the pipe body is made of a steel grade having an Ms point lower than 200 °C; leaving the pipe body of a steel grade having an Ms point lower than 200 °C additionally at room temperature (it is preferable to be transported to a holding bed 6 and left) until the temperature difference between the portion having the highest temperature and the portion having the lowest temperature in a cross section in a direction at a right angle to the pipe axis becomes less than 2.0 °C after the quenching treatment has been performed, and then performing the tempering treatment; and, on the other hand, performing a tempering treatment on the pipe body of a steel grade not having an Ms point lower than 200 °C without leaving the pipe body at room temperature after a quenching treatment has been performed.

IPC 8 full level
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CPC (source: EP US)
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Cited by
CN111304429A; US11193179B2

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