

Title (en)

HOT-ROLLED H-BEAM STEEL BASED ON SPECIAL-SHAPED BILLET ROLLING AND FORMING, AND MANUFACTURING METHOD THEREFOR

Title (de)

WARMGEWALZTER H-TRÄGERSTAHL BASIEREND AUF SPEZIALGEFORMTEM KNÜPPELWALZEN UND UMFORMEN, UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER POUR POUTRE-H LAMINÉ À CHAUD BASÉ SUR LE LAMINAGE ET LE FORMAGE DE BILLETES DE FORME SPÉCIALE, ET PROCÉDÉ DE FABRICATION ASSOCIÉ

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Application

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Abstract (en)

Disclosed in the present invention is a manufacturing method for hot-rolled H-beam steel based on special-shaped billet rolling and forming. The H-beam steel comprises the chemical components in percentage by weight: C: 0.04-0.08; Si: ≤ 0.25 ; Mn: 1.25-1.45; V: 0.04-0.10; Ni: 0.2-1.0; P ≤ 0.02 ; S ≤ 0.01 ; Nb: 0.02-0.06; Al: 0.02-0.06; N ≤ 0.015 ; O ≤ 0.005 ; with the balance being Fe and inevitable impurities. The H-beam steel has the yield strength of the upper and lower flanges being greater than or equal to 420 MPa; the -40°C transverse impact energy being greater than or equal to 34 J, and the -60°C longitudinal impact energy being greater than or equal to 120 J. The manufacturing method for the H-beam steel comprises the following steps: 1) a smelting and continuous casting process: smelting using a converter, LF refining, and casting into a special-shaped continuous casting billet; and 2) a rolling process: heating; rolling; and cooling after the rolling. The low temperature-resistant H-beam steel product for marine engineering provided in the present invention has good mechanical properties, is easy to industrially manufacture, reduces the requirements for rolling equipment; and is suitable for use in an area under extreme temperature conditions.

IPC 8 full level

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