

Title (en)

STEEL PRODUCT FOR HIGH HEAT INPUT WELDING AND METHOD FOR PRODUCTION THEREOF

Title (de)

STAHLPRODUKT ZUM SCHWEISSEN MIT HOHEM WÄRMEEINTRAG UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

ACIER POUR SOUDURES A FORT APPORT THERMIQUE ET SON PROCEDE DE PRODUCTION

Publication

**EP 1533392 A1 20050525 (EN)**

Application

**EP 02763002 A 20020904**

Priority

JP 0208977 W 20020904

Abstract (en)

A steel enables to secure a high toughness in a weld heat affected zone in welding performed with a high heat input exceeding 400 kJ/cm, and a manufacturing method enables the steel to be manufactured. The steel has a composition including C: 0.03 to 0.15 mass%; Si: 0.05 to 0.25 mass%; Mn: 0.5 to 2.0 mass%; P: 0.03 mass% maximum; S: 0.0005 to 0.0030 mass%; Al: 0.005 to 0.1 mass%; Ti: 0.004 to 0.03 mass%; N: 0.0020 to 0.0070 mass%; and Ca: 0.0005 to 0.0030 mass%. Individual contents of Ca, O (oxygen), and S satisfy the following expression (1), and the balance of the composition comprises Fe (iron) and unavoidable impurities. 
$$0.3 \leq \text{ACR} \leq 0.8$$
 where  $\text{ACR} = (\text{Ca} - (0.18 + 130 \times \text{Ca}) \times \text{O}) / 1.25 / \text{S}$ , where Ca, O, and S each represent the content (mass%) thereof. <IMAGE>

IPC 1-7

**C22C 38/02**; **C22C 38/06**; **C22C 38/04**; **C22C 38/14**; **C22C 38/18**

IPC 8 full level

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CPC (source: EP KR)

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Cited by

US8728257B2; EP3561106A4; EP2412839A4; EP2272994A4; US9757780B2; CN108603267A; EP3378962A4; US11326238B2

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