

Title (en)

METHOD FOR SELECTING COMPOSITION OF STEEL AND ITS USE

Title (de)

VERFAHREN ZUR WAHL DER ZUSAMMENSETZUNG VON STAHL UND VERWENDUNG DAVON

Title (fr)

PROCÉDÉ DE SÉLECTION DE LA COMPOSITION DE L'ACIER, ACIER, ET SON UTILISATION

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Application

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Abstract (en)

[origin: WO2009071752A1] The invention relates to a method for selecting the composition of steel for applications exposed to high temperatures. To facilitate the selection of the steel composition to correspond to the desired fire resistance, yield strength grade and low manufacturing costs, the composition and cooling rate after hot-rolling are selected using the formulas $LP_{95} = -177 + 9000C - 115000C^2 + 750Nb + 71 Mo + 33Ni - 36Cr > 0$, and $R_{p0.2} \text{ (MPa)} = 261 + 2198C + 96Si + 52Mn + 59Cr + 137Mo + 48Ni + 35Cu + 41 BL + (-131 + 86Mn + 58BL)\log_{10}(CR)$, wherein BL refers to the boron level of the steel and CR to the cooling rate after hot-rolling. The invention also relates to a steel for use in applications requiring endurance of high temperatures and heat resistance, and to the use of such a steel.

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