

Title (en)

METHOD FOR PRODUCING MULTI-STAGE STRUCTURAL STEEL BLANK FOR ONE STEEL

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES MEHRSTUFIGEN BAUSTAHLROHLINGS FÜR EINEN STAHL

Title (fr)

PROCÉDÉ DE PRODUCTION D'UNE ÉBAUCHE EN ACIER DE CONSTRUCTION À PLUSIEURS ÉTAGES POUR UN ACIER

Publication

EP 4015666 A1 20220622 (EN)

Application

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Abstract (en)

The present disclosure discloses a method for manufacturing a structural steel billet for use in multi-grade steels, which relates to the technical field of steelmaking. A peritectic reaction with $0.08\% \leq C < 0.22\%$ and a medium-carbon composition system design are adopted for the structural steel billet, and the content of alloys is adjusted on the basis, to meet the requirements of the ordered products on the mechanical properties. According to the manufacturing standards, specifications, and performance requirements of ordered products, a unified composition design for a building structural steel, a wind turbine tower steel, a bridge structural steel, and a low-alloy high-strength structural steel is adopted based on a steel grade, and a smelting grade is formulated. The peritectic reaction and the medium-carbon composition design are adopted in a unified manner according to the manufacturing standards and the mechanical properties of the ordered products. Meanwhile, a carbon equivalent is adjusted by adopting C, Mn, Cr, Ni, Mo, Cu, V and other elements according to the requirements of the ordered products, to meet the mechanical properties. In this way, the performance of the ordered products is more stable, the production scheduling is faster and smoother, and the number of remaining billets is significantly reduced.

IPC 8 full level

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