Title (en)

Method for creating steel long products through strand casting and rolling

Title (de)

Verfahren zur Erzeugung von Stahl-Langprodukten durch Stranggiessen und Walzen

Title (fr)

Procédé destiné à la production de produits allongés en acier par coulage en continu et laminage

Publication

EP 2025432 B2 20170830 (DE)

Application

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Priority

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Abstract (en)

[origin: EP2025432A1] The process for producing steel long products by continuous casting of high-grade steel to form billet and bloom strands (5) and subsequent rolling of the strands to form long products e.g. steel bar or wire, comprises casting a liquid steel in a continuous-casting permanent mold (3), and feeding the cast billet and bloom strands without subsequent heating directly to a roll train (20). The fed billet strands form a four-round format. The roundness is selected according to the format in such a manner that a strand is produced with temperature distribution for rolling in large casting speed. The process for producing steel long products by continuous casting of high-grade steel to form billet and bloom strands (5) and subsequent rolling of the strands to form long products e.g. steel bar or wire, comprises casting a liquid steel in a continuous-casting permanent mold (3), and feeding the cast billet and bloom strands without subsequent heating directly to a roll train (20). The fed billet strands form a four-round format. The roundness is selected according to the format in such a manner that a strand is produced with temperature distribution for rolling in large casting speed, and is directly rolled without active reheating. The fed billet strands are circularly formed. The continuous-casting mold forms a mold cavity that is open at both ends. The mold cavity at the mold end of the continuous-casting permanent mold has two peripheral sections along a peripheral line of its cross-section. The peripheral sections limit a cross-section increasing of the mold cavity with respect to the corresponding extent sections of the mold cavity-section at the strand end of the mold in the form of projections. The curve height of the projections is reduced in strand direction of travel smaller in such a manner that during the casting process, a casting outer shell formed in the mold cavity is deformed by the mold so that a fast and uniform cooling and/or a homogeneous temperature distribution is ensured along the strand extent. The strand casting speed is 4.2 m/min. A sliding gate (15) for exact regulation of the steel melt is present in the mold during draining of the upper intermediate vessel (2) formed in the mold, where a regulation of the level height of the melt takes place in the mold in dependence of the intake speed into the first roll stand of the roll train and is regulated by the regulating device. An independent claim is included for strand casting mold for producing steel long products by continuous casting of high-grade steel.

IPC 8 full level

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CPC (source: EP US)

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Citation (opposition)

Opponent :

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