

Title (en)

Method of manufacturing deep drawing steel sheets by direct casting of thin strips

Title (de)

Verfahren zur Herstellung von Tiefziehblechen durch Direktgiessen von dünnen Stahlbändern

Title (fr)

Procédé de fabrication de tôles d'acier aptes à l'emboutissage par coulée directe de bandes

Publication

EP 1061139 B1 20041103 (FR)

Application

EP 00401369 A 20000519

Priority

FR 9907660 A 19990617

Abstract (en)

[origin: EP1061139A1] Stampable steel sheets are produced by: direct casting of a steel strip; first hot rolling in one or more steps at 950 degrees C to the Ar3 temperature, with total reduction $\geq 10\%$; second hot rolling in one or more steps in ferritic phase at 850 degrees C, with total reduction $\geq 50\%$ using a lubricant to obtain a sheet of thickness of ≤ 2 mm; and complete recrystallization throughout the thickness at 700-800 degrees C. The composition of the molten steel used to produce the steel strip comprises (in weight %): carbon $\leq 0.1\%$, manganese 0.03-2, silicon 0-0.5, phosphorus 0-0.1%, boron 0-0.002%, titanium 0-0.15, and iron and inevitable impurities the remainder. Most preferably, the cast steel strip has carbon content less than 0.007%, the sum of carbon and nitrogen less than 0.007%, the sum of Ti and Nb less than 0.04%, manganese content 0.3-2. Casting of the strip is performed between two cooled horizontal rolls rotating in opposite directions. Between casting and the first hot rolling the strip is passed through a non-oxidizing atmosphere and/or is subjected to descaling. Forced cooling of the strip and can be carried out between the first and second hot rolling stages. Between the first hot rolling and the second hot rolling the strip is passed through a non-oxidizing atmosphere and/or is subjected to descaling. An Independent claim is given for a sheet produced by the above process.

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IPC 8 full level

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