

Title (en)

AUSTENITIC LIGHTWEIGHT STEEL AND USE THEREOF

Title (de)

AUSTENITISCHER LEICHTBAUSTAHL UND SEINE VERWENDUNG

Title (fr)

ACIER AUSTENITIQUE POUR CONSTRUCTION LEGERE ET SON UTILISATION

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2006125412A1] The invention relates to an austenitic lightweight steel and the use thereof. The aim of the invention is achieved by the fact that the inventive austenitic steel is alloyed with silicon, aluminum, and chromium while containing manganese. An improvement of the shaping behavior of said steel is obtained with the aid of alloying measures, especially by adding more than 1.0 percent and up to 4.0 percent of silicon and 0.05 to 4 percent of aluminum while lowering the chromium concentration to less than 18 percent. The inventive austenitic steels contain two different types of steel. The first type of steel comprises stainless austenitic steels containing about 12.0 to 18.0 percent of chromium while the second type of steel encompasses austenitic steels containing more than 2.0 percent and less than 12.0 percent of chromium. Steels of said type are stainless while actually being provided with increased resistance against rusting as a result of the chromium, nickel, and silicon content thereof, thus being different in this respect from previous austenitic TRIP/TWIP steels in spite of potentially similar characteristics. A large number of said steels can therefore be considered as weatherproof or low-corrosive. Particularly steels containing 10 to 12 percent of chromium are provided with distinctly low corrosion rates.

IPC 8 full level

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Citation (search report)

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