Title (en)

STEEL FOR MACHINE STRUCTURAL USE EXCELLENT IN FRIABILITY OF CHIPS

Title (de)

STAHL FÜR MASCHINENBAUZWECKE MIT HERVORRAGENDER ZERSPANBARKEIT

Title (fr)

ACIER POUR STRUCTURE DE MACHINE AVEC TRES BONNE FRIABILITE DES EBARBURES

Publication

EP 1553201 A1 20050713 (EN)

Application

EP 03784554 A 20030806

Priority

- JP 0310029 W 20030806
- JP 2002232425 A 20020809

Abstract (en)

Disclosed is a free cutting steel for machine structural use having excellent chip-breakability. The steel consists essentially of, by wt.%, C: 0.05-0.8%, Si: 0.01-2.5%, Mn: 0.1-3.5%, S: 0.01-0.2%, Ca or Ca+Mg: 0.0005-0.02%, Ti:0.002-0.010% and/or Zr: 0.002-0.025%, O: 0.0005-0.010%, and the balance of impurities and Fe. At least five MnS inclusion particles having averaged particles sizes of 1.0 mu m or more exists per mm<2> per 0.01% of S-content in the steel. The steel satisfies the condition that, in the microscopic fields, (areaÃ mu m<2>Ü/aspect ratio)>/=10, and that the the area percentage of Ca-containing sulfide inclusions containing at least 1.0wt.% of Ca is in the range of 15-40% of the area of all the sulfide inclusions. <IMAGE>

IPC 1-7

C22C 38/00

IPC 8 full level

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