

Title (en)
ULTRAHIGH-STRENGTH DUAL-PHASE STEEL AND MANUFACTURING METHOD THEREFOR

Title (de)
ULTRAHOCHFESTER ZWEIPHASIGER STAHL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
ACIER BIPHASÉ À ULTRA HAUTE RÉSISTANCE ET SON PROCÉDÉ DE FABRICATION

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Application
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Abstract (en)
[origin: EP4159886A1] Disclosed in the present disclosure is an ultrahigh-strength dual-phase steel. The matrix structure of the ultrahigh-strength dual-phase steel is ferrite and martensite, wherein the ferrite and the martensite are evenly distributed in an island shape. The ultrahigh-strength dual-phase steel contains the following chemical elements in percentage by mass: 0.12-0.2% of C, 0.5-1.0% of Si, 2.5-3.0% of Mn, 0.02-0.05% of Al, 0.02-0.05% of Nb, 0.02-0.05% of Ti, and 0.001-0.003% of B. Further disclosed in the present disclosure is a manufacturing method for the ultrahigh-strength dual-phase steel, comprising the steps of smelting and continuous casting, hot rolling, cold rolling, annealing, tempering, and leveling. The ultrahigh-strength dual-phase steel in the present disclosure has not only good mechanical properties but also excellent delayed cracking resistance and low initial hydrogen content, and can be suitable for manufacturing of vehicle safety structural parts.

IPC 8 full level
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