

ABSTRACT

HIGH TENSILE STRENGTH STEEL PLATE HAVING EXCELLENT WELD
HEAT-AFFECTED ZONE LOW-TEMPERATURE TOUGHNESS AND METHOD FOR
PRODUCING SAME

The present invention provides a high tensile strength steel plate having excellent low-temperature toughness (CTOD property) in the multi-layer weld, and a method for producing the same. Specifically, the high tensile strength steel plate has a chemical composition containing, in percent by mass, 0.03% to 0.12% of C, 0.01% to 0.30% of Si, 0.5% to 1.95% of Mn, 0.008% or less of P, 0.005% or less of S, 0.015% to 0.06% of Al, 0.011% to 0.05% of Nb, 0.005% to 0.02% of Ti, 0.001% to 0.006% of N, 0.0005% to 0.003% of Ca, optionally, one or two or more of Cr, Mo, V, Cu, and Ni, in which C_{eq} is 0.44 or less, Ti/N is 1.5 to 3.5, and parameter formulas composed of specific elements for controlling the sulfide morphology and the degree of center segregation in the steel are satisfied, and the balance being Fe and incidental impurities, in which the hardness of the center segregation area of the steel sheet is further specified.

Nil