ABSTRACT

HIGH-MN STEEL AND MANUFACTURING METHOD THEREFOR

Provided is high-Mn steel having high strength, and excellent low-temperature toughness and ductility, the high-Mn steel having a chemical composition containing, in mass%, C:0.10–0.70%, Si:0.10–0.90%, Mn:20–30%, P:0.030% or less, S:0.0070% or less, Al:0.01–0.07%, Cr:1.8–7.0%, Ni:0.01% or more and less than 1.0%, Ca:0.0005–0.010% or less, N:0.0050–0.0500%, O:0.0050% or less, Ti:0.0050% or less and Nb:0.0050% or less, satisfying Ca/S≥1.0, with the balance being Fe and inevitable impurities; a microstructure containing austenite as a matrix; a yield stress of 400MPa or more; and an average Charpy impact absorbed energy at −196°C of 100J or more for a full-sized test piece and 20J or more for a half-sized test piece.