

ABSTRACT

HIGH-MN STEEL AND METHOD FOR MANUFACTURING SAME

Provided is a high-Mn steel which not only has high strength and excellent low-temperature toughness but also has excellent CTOD property at
5 low temperatures. The high-Mn steel has a chemical composition containing, in mass%, C: 0.10 % or more and 0.70 % or less, Si: 0.05 % or more and 0.50 % or less, Mn: 20 % or more and 30 % or less, P: 0.030 % or less, S: 0.0070 % or less, Al: 0.01 % or more and 0.07 % or less, Cr: 0.5 % or more and 7.0 % or less, Ni: 0.01 % or more and less than 0.1 %, Ca: 0.0005 % or more and
10 0.0050 % or less, N: 0.0050 % or more and 0.0500 % or less, O: 0.0050 % or less, Ti: less than 0.0050 %, and Nb: less than 0.0050 %, the balance consisting of Fe and inevitable impurities, and a microstructure having austenite as a base phase, where the austenite has a grain size of 1 μm or more and a standard deviation of 9 μm or less.