

ANTI-CORROSION STEEL MATERIAL, MANUFACTURING METHOD THEREOF,
METHOD OF PREVENTING CORROSION OF STEEL MATERIAL, AND BALLAST TANK

ABSTRACT

[Problem] To provide an anti-corrosion steel material in which excellent corrosion resistance can be maintained over a long period of time.

[Solution] An anti-corrosion steel material including a steel material, and a coating film having a thickness of 10 μm or larger which is formed on the surface of the steel material; characterized in that the steel material contains, in terms of % by mass, C: 0.001% to 0.20%, Si: 0.01% to 3.0%, Mn: 0.1% to 3.0%, and Cr: 0.1% to 9.99%; the coating film is formed by curing an alkali-silicate inorganic zinc coating composition, the coating film contains a silicon atom, and at least one atom selected from an alkali metal atom and a nitrogen atom, and the molar ratio represented by {the number of moles of silicon atoms Si in the coating film}/{the total number of moles of alkali metal atoms and nitrogen atoms in the coating film} is 2.0 to 125; and the inorganic zinc coating composition contains alkali silicate and zinc particles, and the mass ratio represented by "the solid content mass of a binder component / the mass of zinc particles" is 0.01 to 0.35.

[Fig. 1]