

SURFACE-TREATED STEEL SHEET AND PRODUCTION METHOD THEREFOR

ABSTRACT

A surface-treated steel sheet is provided, which comprises: a steel sheet; and a nickel-cobalt-iron diffusion layer formed on the steel sheet as an outermost layer, wherein when the intensities for Ni, Co, and Fe are consecutively measured from a surface of the nickel-cobalt-iron diffusion layer in the depth direction by radio frequency glow discharge optical emission spectrometry, and the concentration of Ni, the concentration of Co, and the concentration of Fe at each of depth positions of the nickel-cobalt-iron diffusion layer are determined based on the intensities for Ni, Co, and Fe, a Co concentration gradient ΔP_{Co} ranging from a depth position D_{Co_MAX} to a depth position $D_{Co_15\%}$ is 33% by mass/0.1 μm or less, where a depth position at which the concentration of Co is maximum is defined as D_{Co_MAX} and a depth position which is located closer to the steel sheet than the depth position D_{Co_MAX} and at which the concentration of Co is 15% of the maximum value is defined as $D_{Co_15\%}$

[No Suitable Figure]