

SURFACE-TREATED STEEL SHEET AND METHOD FOR MANUFACTURING THE SAME

ABSTRACT

5 There is provided a surface-treated steel sheet having a steel sheet
and a nickel-cobalt-iron diffusion layer formed as an outermost surface
layer on the steel sheet, wherein when a content of Ni, a content of Co
and a content of Fe of the nickel-cobalt-iron diffusion layer are
determined based on a Ni intensity, a Co intensity and a Fe intensity each
10 sequentially measured in the depth direction from the surface side of the
nickel-cobalt-iron diffusion layer by a radio frequency glow discharge
optical emission spectrometry, a content of Co at a specific depth
position D, In_{Co_D} , is 5% by mass or higher and a content of Fe at the
specific depth position D, In_{Fe_D} , is 11% by mass or higher, the specific
15 depth position D being a position where the Ni intensity is 0.5% of the
maximum value of the Ni intensity.

Fig. 3