

ABSTRACT

Ni-plated steel sheet FOR BATTERY CAN having excellent press formability

Provided is a Ni-plated steel sheet having excellent press formability. An Fe-Ni diffusion layer and a softened Ni layer formed on the Fe-Ni diffusion layer are formed on a surface of a steel sheet corresponding to an outer surface of a battery can, a semi-bright Ni plating layer is formed on the softened Ni layer, a Ni coating weight of the Fe-Ni diffusion layer and the softened Ni layer formed on the Fe-Ni diffusion layer is set smaller than a Ni coating weight of the semi-bright Ni plating layer, and average roughness Ra of the semi-bright Ni plating layer measured by a traceable roughness gauge is $1.0\mu\text{m}$ or more and $2.0\mu\text{m}$ or less, and a maximum height Ry of the semi-bright Ni plating layer measured by the traceable roughness gauge is $5\mu\text{m}$ or more and $20\mu\text{m}$ or less. Further, in the above-mentioned Ni-plated steel sheet, the Ni coating weight of the Fe-Ni diffusion layer and the softened Ni layer formed on the Fe-Ni diffusion layer is 5 to 8g/m^2 , and the Ni coating weight of the semi-bright Ni plating layer is 8g/m^2 or more. Further, surface roughness Ra' of a surface of the semi-bright Ni plating layer in an area of $2.5\mu\text{m} \times 2.5\mu\text{m}$ which is obtained by an atomic force microscope falls within a range from 5 to 22nm.