

ABSTRACT

A non-oriented electrical steel sheet is provided in which high strength and excellent magnetic flux density are obtained, and furthermore, excellent iron loss is obtained. A non-oriented electrical steel sheet according to the present disclosure has the chemical composition described in the description, and a sheet thickness t is 0.30 mm or less, $F1$ defined by Formula (1) is 10.0 or more, $F2$ defined by Formula (2) is 8.5 or less, $F3$ defined by Formula (3) is an iron loss $W_{5/1000}$ or less at a frequency of 1000 Hz and a magnetic flux density of 0.5 T, and $F4$ defined by Formula (4) is an iron loss $W_{10/400}$ or more at a frequency of 400 Hz and a magnetic flux density of 1.0 T when the non-oriented electrical steel sheet is heat-treated for one hour at 800°C.

$$F1 = 4Si + 3Al + 2Mn \quad (1)$$

$$F2 = 2Si + 3Al + Mn \quad (2)$$

$$F3 = 45 - 12Si - 5Al - 2Mn + 1000 \times t / (5 + 6Si + 5Al + 3Mn) \quad (3)$$

$$F4 = 4 + 800 \times t / (5 + 6Si + 5Al + 3Mn) \quad (4)$$

[No suitable figure]