PTL 1

Japanese Patent Application Laid-Open No. 2009-1685

Summary of Invention

Technical Problem

[0006] If such a coating film consisting of an inorganic material is thin, however, light reflected on the surface of the metal sheet and light reflected on the surface of the coating film tend to interfere with each other, and hence color unevenness, coloring, or the like (hereinafter, also referred to as "interference patterns") is likely to occur. On the other hand, forming a thick coating film is likely to lead to loss of the texture derived from the metal sheet (such as gloss), and thus to deterioration of the designability. Although inclusion of an aggregate in a coating film is contemplated to prevent generation of interference patterns, however, such inclusion is likely to lower the transparency of the coating film and to lead to deterioration of the designability, similarly.

[0007] The present invention has been made in view of such circumstances. Specifically, an object of the present invention is to provide a coated metal sheet which is superior in stain resistance, does not cause interference patterns, and is superior in designability.

Solution to Problem

[0008] In one aspect, there is provided a coated metal sheet, comprising:

a metal sheet; and

a coating film formed on at least one surface of the metal sheet and substantially consisting of a composition represented by a compositional formula $K_2O \cdot xSiO_2$, where x satisfies $3.5 \leq x < 6.8$, wherein

an average value of coating rates per mm^2 at 10 arbitrary positions having the coating film is 26 to 90%,

an average thickness of the coating film is 0.1 to 0.6 μm.

[0008a] The present invention provides the following coated metal sheet.

[1] A coated metal sheet, comprising:

a metal sheet; and

a coating film formed on at least one surface of the metal sheet and substantially consisting of a composition represented by a compositional formula $K_2O \cdot xSiO_2$, where x satisfies $3.5 \leq x < 6.8$, wherein

CLAIMS

1. A coated metal sheet, comprising:

a metal sheet; and

a coating film formed on at least one surface of the metal sheet and substantially consisting of a composition represented by a compositional formula $K_2O \cdot xSiO_2$, where x satisfies $3.5 \leq x < 6.8$, wherein

an average value of coating rates per mm^2 at 10 arbitrary positions having the coating film is 26 to 90%,

an average thickness of the coating film is 0.1 to 0.6 μm.

2. The coated metal sheet according to claim 1, wherein

the coating film consists of a plurality of films in a form of islands, and

an average maximum width of the films is 500 μm or smaller.