CLAIMS

[Claim 1] A Zn-Al-Mg-based hot-dip plated steel member comprising: a steel member; and a hot-dip plating layer arranged on a surface of the steel member, wherein

the hot-dip plating layer includes, in terms of mass%,

4 to 22% of Al,

1.0 to 10.0% of Mg,

0.0001 to 2% of Fe,

0 to 2% of Si,

0 to 2% of Ni,

0 to 2% of Ti,

0 to 2% of Zr,

0 to 2% of Sr,

0 to 2% of Sb,

0 to 2% of Pb,

0 to 2% of Sn,

0 to 2% of Ca,

0 to 2% of Co,

0 to 2% of Mn,

0 to 2% of P,

0 to 2% of B,

0 to 2% of Bi,

0 to 2% of Cr,

0 to 2% of Sc,

0 to 2% of Y,

0 to 2% of REM,

0 to 2% of Hf,

0 to 2% of C, and

a balance including Zn and impurities,

in binarized image data of image data obtained by imaging a surface of the hot-dip plating layer, a total area ratio of white pixels is 30% or more and 70% or less,

the binarized image data is obtained by binarizing the image data by Otsu's method,

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of the white pixels is 50 or less.

[Claim 2] The Zn-Al-Mg-based hot-dip plated steel member according to claim 1, wherein a chemical conversion treatment layer is included on a surface of the hot-dip plating layer and

a 60 degree specular gloss Gs (60°) of a surface of the chemical conversion treatment layer corresponding to an aggregate region of the white pixels is 70 or less.

[Claim 3] The Zn-Al-Mg-based hot-dip plated steel member according to claim 2, wherein the chemical conversion treatment layer has a metallic external appearance.

[Claim 4] The Zn-Al-Mg-based hot-dip plated steel member according to claim 1, wherein

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of the white pixels is 150 or less, and

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of black pixels is 1.5 times or more the 60 degree specular gloss Gs (60°) of the surface of the hot-dip plating layer corresponding to the aggregate region of the white pixels.

[Claim 5] The Zn-Al-Mg-based hot-dip plated steel member according to claim 2,

wherein

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of the white pixels is 150 or less, and

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of black pixels is 1.5 times or more the 60 degree specular gloss Gs (60°) of the surface of the hot-dip plating layer corresponding to the aggregate region of the white pixels.

[Claim 6] The Zn-Al-Mg-based hot-dip plated steel member according to claim 1, wherein

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of the white pixels is 70 or less, and

a 60 degree specular gloss Gs (60°) of a surface of the hot-dip plating layer corresponding to an aggregate region of black pixels is 1.5 times or more the 60 degree specular gloss Gs (60°) of the surface of the hot-dip plating layer corresponding to the aggregate region of the white pixels.

[Claim 7] The Zn-Al-Mg-based hot-dip plated steel member according to any one of claims 1 to 6, wherein the hot-dip plating layer includes one or two or more selected from groups A, B, and C below:

Group A: 0.0001 to 2% of Si,

Group B: 0.0001 to 2% in total of any one or two or more of Ni, Ti, Zr, and Sr, and

Group C: 0.0001 to 2% in total of any one or two or more of Sb, Pb, Sn, Ca, Co, Mn, P, B, Bi, Cr, Sc, Y, REM, Hf, and C.

[Claim 8] The Zn-Al-Mg-based hot-dip plated steel member according to claim 7, wherein the hot-dip plating layer includes the group A.

[Claim 9] The Zn-Al-Mg-based hot-dip plated steel member according to claim 7, wherein the hot-dip plating layer includes the group B.

[Claim 10] The Zn-Al-Mg-based hot-dip plated steel member according to claim 7, wherein the hot-dip plating layer includes the group C.