[What is claimed is]

1. A hot-dip plated steel sheet comprising:

a steel sheet; and

a hot-dip plating layer formed on a surface of the steel sheet,

wherein the hot-dip plated layer contains, in an average composition, 0 to 90 mass% of Al and 0 to 10 mass% of Mg with a remainder including Zn and impurities,

the hot-dip plating layer includes a pattern portion and a non-pattern portion disposed so as to form a predetermined shape,

in a case where a first region and a second region are specified by any one of the following determination methods 1 to 5,

the pattern portion and the non-pattern portion are each composed of one or both of the first region and the second region, and

an absolute value of a difference between an area ratio of the first region in the pattern portion and an area ratio of the first region in the non-pattern portion is 30% or more,

the pattern portion is disposed so as to form a shape of any one of a straight-line portion, a curved line portion, a dot portion, a figure, a number, a symbol, a mark or a letter or a shape consisting of a combination of two or more thereof,

the pattern portion is intentionally formed,

(determination method 1)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a circle having a centroid of each region at a center and having a diameter of 0.5 mm is defined as a measurement region A, an L* value in each measurement region A is measured, when 50 arbitrary points are selected from the obtained L* values, and a 50-point average of the obtained L* values is defined as a reference L* value, regions where the L* value is the reference L* value or more

are defined as the first regions, and regions where the L* value is less than the reference L* value are defined as the second regions,

(determination method 2)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a circle having a centroid of each region at a center and having a diameter of 0.5 mm is defined as a measurement region A, an L* value in each measurement region A is measured, regions where the L* value is 45 or more are defined as the first regions, and regions where the L* value is less than 45 are defined as the second regions,

(determination method 3)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, and, in each of a plurality of regions partitioned by the virtual grid lines, an arithmetic average roughness Sa is measured, regions where the obtained Sa is 1 μm or more are defined as the first regions, and regions where the obtained Sa is less than 1 μm are defined as the second regions,

(determination method 4)

virtual grid lines are drawn at 1 mm intervals or 10 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a diffraction peak intensity I_{0002} of a (0002) plane of a Zn phase and a diffraction peak intensity $I_{10\text{-}11}$ of a (10-11) plane of the Zn phase are measured by an X-ray diffraction method in which an X-ray is incident on each region, an intensity ratio thereof ($I_{0002}/I_{10\text{-}11}$) is defined as an orientation ratio, regions where the orientation ratio is 3.5 or higher are defined as the first regions, and regions where the orientation ratio is lower than 3.5 are defined as the second regions,

(determination method 5)

virtual grid lines are drawn at 1 mm intervals on a surface of the hot-dip plating layer, next, in each of a plurality of regions partitioned by the virtual grid lines, a circle S having a centroid G of each region at a center is drawn, a diameter R of the circle S is set such that a total length of surface boundary lines in the hot-dip plating layer that is included in the circle S reaches 10 mm, an average value of a maximum diameter Rmax and a minimum diameter Rmin of the diameters R of the circles in the plurality of regions is defined as a reference diameter Rave, regions having a circle S with a diameter R of less than the reference diameter Rave are defined as the first regions, and regions having a circle S with a diameter R of the reference diameter Rave or more are defined as the second regions.

2. The hot-dip plated steel sheet according to claim 1,

wherein the hot-dip plating layer contains, in the average composition, 4 to 22 mass% of Al and 1 to 10 mass% of Mg with the remainder including Zn and impurities.

3. The hot-dip plated steel sheet according to claim 1 or 2,

wherein the hot-dip plating layer further contains, in the average composition, 0.0001 to 2 mass% of Si.

4. The hot-dip plated steel sheet according to any one of claims 1 to 3,

wherein the hot-dip plating layer further contains, in the average composition, a total of 0.0001 to 2 mass% of one or more of the group consisting of Ni, Ti, Zr, Sr, Fe, Sb, Pb, Sn, Ca, Co, Mn, P, B, Bi, Cr, Sc, Y, REM, Hf and C.

5. The hot-dip plated steel sheet according to any one of claims 1 to 4,

wherein a total amount of the hot-dip plating layer attached to both surfaces of the steel

sheet is 30 to 600 g/m^2.

6. A hot-dip plated steel sheet comprising:

a steel sheet; and

a hot-dip plating layer formed on a surface of the steel sheet,

wherein the hot-dip plating layer contains, in an average composition, 0 to 90 mass% of Al and 0 to 10 mass% of Mg with a remainder including Zn and impurities,

the hot-dip plating layer includes a pattern portion and a non-pattern portion disposed so as to form a predetermined shape,

the pattern portion and the non-pattern portion each include one or both of a first region and a second region that are determined by any of the following determination methods 1 to 5, and

an absolute value of a difference between an area ratio of the first region in the pattern portion and an area ratio of the first region in the non-pattern portion is 30% or more,

the pattern portion is disposed so as to form a shape of any one of a straight-line portion, a curved line portion, a dot portion, a figure, a number, a symbol, a mark or a letter or a shape consisting of a combination of two or more thereof,

the pattern portion is intentionally formed,

(determination method 1)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a circle having a centroid of each region at a center and having a diameter of 0.5 mm is defined as a measurement region A, an L* value in each measurement region A is measured, when 50 arbitrary points are selected from the obtained L* values, and a 50-point average of the obtained L* values is defined as a reference L* value, regions where the L* value is the reference L* value or more

are defined as the first regions, and regions where the L* value is less than the reference L* value are defined as the second regions,

(determination method 2)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a circle having a centroid of each region at a center and having a diameter of 0.5 mm is defined as a measurement region A, an L* value in each measurement region A is measured, regions where the L* value is 45 or more are defined as the first regions, and regions where the L* value is less than 45 are defined as the second regions,

(determination method 3)

virtual grid lines are drawn at 0.5 mm intervals on a surface of the hot-dip plating layer, and, in each of a plurality of regions partitioned by the virtual grid lines, an arithmetic average roughness Sa is measured, regions where the obtained Sa is 1 μm or more are defined as the first regions, and regions where the obtained Sa is less than 1 μm are defined as the second regions,

(determination method 4)

virtual grid lines are drawn at 1 mm intervals or 10 mm intervals on a surface of the hot-dip plating layer, in each of a plurality of regions partitioned by the virtual grid lines, a diffraction peak intensity I_{0002} of a (0002) plane of a Zn phase and a diffraction peak intensity $I_{10\text{-}11}$ of a (10-11) plane of the Zn phase are measured by an X-ray diffraction method in which an X-ray is incident on each region, an intensity ratio thereof ($I_{0002}/I_{10\text{-}11}$) is defined as an orientation ratio, regions where the orientation ratio is 3.5 or higher are defined as the first regions, and regions where the orientation ratio is lower than 3.5 are defined as the second regions,

(determination method 5)

virtual grid lines are drawn at 1 mm intervals on a surface of the hot-dip plating layer, next, in each of a plurality of regions partitioned by the virtual grid lines, a circle S having a centroid G of each region at a center is drawn, a diameter R of the circle S is set such that a total length of surface boundary lines in the hot-dip plating layer that is included in the circle S reaches 10 mm, an average value of a maximum diameter Rmax and a minimum diameter Rmin of the diameters R of the circles in the plurality of regions is defined as a reference diameter Rave, regions having a circle S with a diameter R of less than the reference diameter Rave are defined as the first regions, and regions having a circle S with a diameter R of the reference diameter Rave or more are defined as the second regions.