

ABSTRACT

HOT-DIP Al-Zn-Si-Mg COATED STEEL SHEET AND PRODUCTION METHOD
THEREFOR, SURFACE-TREATED STEEL SHEET AND PRODUCTION
5 METHOD THEREFOR, AND PREPAINTED STEEL SHEET AND PRODUCTION
METHOD THEREFOR

Provided is a hot-dip Al-Zn-Si-Mg coated steel sheet having
consistently excellent corrosion resistance. A hot-dip Al-Zn-Si-Mg coated steel sheet
10 comprises a coating having a composition containing Al: 45 mass% to 65 mass%, Si:
1.0 mass% to 4.0 mass%, and Mg: 1.0 mass% to 10.0 mass% with a balance
consisting of Zn and inevitable impurities, wherein Co content in the inevitable
impurities is 0.080 mass% or less with respect to a total mass of the coating, and
respective diffraction intensities of Si and Mg₂Si in the coating by an X-ray
15 diffraction method satisfy the following relationship (1):

$$\text{Si (111)/Mg}_2\text{Si (111)} \leq 0.8 \quad \dots (1)$$

where Si (111) is a diffraction intensity of (111) plane of Si with interplanar
spacing $d = 0.3135$ nm, and Mg₂Si (111) is a diffraction intensity of (111) plane
of Mg₂Si with interplanar spacing $d = 0.3668$ nm.

(No suitable figure)