

ABSTRACT

Provided are a high strength cold rolled steel sheet and a high strength plated steel sheet possessing improved
5 geomagnetic shielding properties, that is, having a high relative permeability in a d.c. magnetic field around 0.3 Oe, a process for producing the same, and an explosion-proof band or an outer magnetic shielding material, for television cathode-ray tubes, using the steel sheet.

10 An ultra low carbon steel, which has a carbon content of not more than 0.0060% and has been subjected to solid solution strengthening utilizing silicon and magnesium without relying upon precipitation strengthening, is deoxidized with silicon so that aluminum is substantially absent in the steel. Alternatively,
15 when the ultra low carbon steel is deoxidized with aluminum, boron is added to inhibit the precipitation of AlN. Next, the deoxidized steel is finish rolled at 750 to 980°C, cold rolled with a reduction ratio of 60 to 90%, and then annealed in the temperature range of 750°C to the Ac_3 point in a continuous
20 annealing equipment or an in-line annealing type continuous galvanizing equipment to bring the ferrite grain diameter in the metallographic structure to 10 to 200 μm .