

ABSTRACT

Provided are a chromium-free surface-treatment agent that allows for the formation of a film on a surface of a metal material, the film being excellent in terms of corrosion resistance in bent portions of steel sheets, solvent resistance, and paintability after alkaline degreasing, and that has excellent storage stability in the state of a one-component agent; a method for producing a coated steel sheet using the surface-treatment agent; and a coated steel sheet.

A surface-treatment agent containing a resin compound having a specific bisphenol skeleton, a cationic urethane resin emulsion, a silane coupling agent, an organic titanium chelate compound, a tetravalent vanadyl compound, and water, with predetermined proportions and having a pH of 4 to 5; a method for producing a coated steel sheet using the surface-treatment agent; and a coated steel sheet.