

ABSTRACT OF DISCLOSURE

SURFACE TREATMENT LIQUID FOR ZINC OR ZINC ALLOY COATED
STEEL SHEET, ZINC OR ZINC ALLOY-COATED STEEL SHEET, AND
5 METHOD FOR MANUFACTURING THE SAME

The present invention provides a chromium-free surface treatment liquid which enables forming, on a metal material surface, a film excellent in corrosion resistance at bent portions of a steel sheet, solvent resistance, coating properties after alkaline
10 degreasing, and sweat resistance. The surface treatment liquid contains a resin compound having a specific bisphenol skeleton, a cationic urethane resin emulsion, a silane coupling agent, an organic titanium chelate compound, a quadrivalent vanadyl compound, a molybdate compound, a fluorine compound, and water at predetermined proportions. The pH of the surface treatment liquid is in the range of 4
15 to 5.

Nil