

[Designation of Document] Abstract

SURFACE-TREATED METAL MATERIAL AND PRODUCING METHOD THEREOF

5 This surface-treated metal material includes a composite film obtained by
applying a metal surface treatment agent on a surface of a metal material and drying the
metal surface treatment agent, the metal surface treatment agent containing: an organic
silicon compound (W) obtained by combining a silane coupling agent (A) containing one
amino group in a molecule and one glycidyl group in a molecule, at a solid content mass
10 ratio [(A)/(B)] of 0.7 to 1.7; at least one kind of fluorine compound (X) selected from
titanium hydrofluoric acid and zirconium hydrofluoric acid; a phosphoric acid (Y); a
vanadium compound (Z); and at least one kind of lubricant (J).