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(54) **LAYER SYSTEM, BIPOLAR PLATE COMPRISING SUCH A LAYER SYSTEM, AND FUEL CELL PRODUCED THEREWITH**

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(57) **ABSTRACT**

A layer system (**1**) for coating a bipolar plate (**2**), including at least one cover layer (**1***a*) made of tin oxide, wherein at least one metal oxide of the group comprising tantalum oxide, niobium oxide, titanium oxide, zirconium oxide, and hafnium oxide is homogenously dissolved in the tin oxide, and the electric conductivity of the cover layer (**1***a*) is greater than or equal to 10^2 S/cm. A bipolar plate (**2**, **2'**) is also provided with an anode side and a cathode side, comprising a substrate (**2***a*, **2***a'*) and such a layer system (**1**), and to a fuel cell (**10**) or an electrolyzer comprising such a bipolar plate (**2**, **2'**).