

ABSTRACT

This invention relates to a method for treating porous substrates. In the method, at least one surface of a porous carbon-containing substrate is first provided with at least one silicon coating by applying at least one aqueous suspension comprising silicon particles, at least one binding agent, and water to the at least one surface and then subjecting it to a drying process. The at least one silicon coating is then subjected to at least one heat treatment in which the silicon coating melts to form a melt that infiltrates into the pores of the porous carbon-containing substrate, wherein silicon contained in the melt is at least partially converted to silicon carbide. Furthermore, the present invention also relates to a treated substrate and its use.