



(86) Date de dépôt PCT/PCT Filing Date: 2004/01/13
(87) Date publication PCT/PCT Publication Date: 2004/09/02
(45) Date de délivrance/Issue Date: 2012/09/25
(85) Entrée phase nationale/National Entry: 2005/08/16
(86) N° demande PCT/PCT Application No.: DE 2004/000024
(87) N° publication PCT/PCT Publication No.: 2004/075323
(30) Priorité/Priority: 2003/02/18 (DE103 06 649.7)

(51) Cl.Int./Int.Cl. *H01M 8/02* (2006.01),
C23C 30/00 (2006.01), *H01M 8/24* (2006.01)
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(54) Titre : COUCHE PROTECTRICE POUR SUBSTRATS SOUMIS A DES TEMPERATURES ELEVEES ET SON
PROCEDE DE REALISATION
(54) Title: PROTECTIVE COATING FOR SUBSTRATES SUBJECT TO HIGH TEMPERATURE LOADING AND METHOD
FOR MAKING SAME

(57) **Abrégé/Abstract:**

As a rule, chromium-oxide forming materials for high temperatures, in particular chromium-based alloys or chromium-rich alloys based on iron (ferritic steel), are used as interconnector materials that are subjected to high temperatures. At SOFC operating temperatures, said material group forms a chromium-based oxidic top coating, which has the advantage of preventing rapid oxidation damage, but also the disadvantage of continuing to react, forming Cr(VI) compounds. Said volatile compounds react regularly with the cathode material, producing the negative effect of impairing the oxygen reduction. The invention relates to a gas-tight protective coating, devoid of chromium, for chromium-oxide forming substrates, such as for example typical interconnector materials, said coating regularly preventing the evaporation of chromium VI compounds during SOFC operating conditions. The invention also relates to a simple method for producing said gas-tight protective coating that is devoid of chromium.

