

**INTERCONNECTS FOR SOLID OXIDE FUEL CELLS AND FERRITIC
STAINLESS STEELS ADAPTED FOR USE WITH SOLID OXIDE FUEL CELLS**

ABSTRACT

Various embodiments relate to interconnects for solid oxide fuel cells ('SOFCs') comprising ferritic stainless steel and having at least one via that when subjected to an oxidizing atmosphere at an elevated temperature develops a scale comprising a manganese- chromate spinel on at least a portion of a surface thereof, and at least one gas flow channel that when subjected to an oxidizing atmosphere at an elevated temperature develops an aluminum-rich oxide scale on at least a portion of a surface thereof. Other embodiments relate to interconnects comprising a ferritic stainless steel and having a fuel side comprising metallic material that resists oxidation during operation of the SOFCs, and optionally include a nickel-base superalloy on the oxidant side thereof. Still other embodiments relate to ferritic stainless steels adapted for use as interconnects comprising ≤ 0.1 weight percent aluminum and/or silicon, and > 1 up to 2 weight percent manganese. Methods of making interconnects are also disclosed.

No Suitable Figure