

Title (en)

Process of forming a coating system, coating system formed thereby, and components coated therewith

Title (de)

Verfahren zur Bildung eines Beschichtungssystems, Beschichtungssystem daraus und damit beschichtete Komponenten

Title (fr)

Procédé de formation d'un système de revêtement, système de revêtement ainsi formé et composants revêtus par celui-ci

Publication

EP 2309024 A2 20110413 (EN)

Application

EP 10186959 A 20101008

Priority

US 57741609 A 20091012

Abstract (en)

A process by which a ceramic coating (14) is entirely formed from a colloidal-based process to have a thickness that would ordinarily be prone to cracks and spallation involves forming a precursor primer layer on a surface region (12,16,18), and then forming at least a precursor coating layer on the precursor primer layer that is thicker than the precursor primer layer. The precursor primer layer contains particles and a precursor of a first ceramic material. The precursor coating layer contains particles and a precursor of a second ceramic material having the same predominant constituent as the first ceramic material. The precursor primer layer and precursor coating layer are then heated to form a ceramic film (20) and a ceramic coating layer (14), respectively, which consist essentially of the particles and matrices of, respectively, the first and second ceramic materials.

IPC 8 full level

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CPC (source: EP)

C23C 18/1208 (2013.01); **C23C 18/1225** (2013.01); **C23C 18/1241** (2013.01); **C23C 18/1254** (2013.01); **C23C 18/127** (2013.01)

Citation (examination)

- DE 102007015635 A1 20081002 - SCHAEFFLER KG [DE]
- VIAZZI C ET AL: "Synthesis by sol-gel route and characterization of Ytria Stabilized Zirconia coatings for thermal barrier applications", SURFACE AND COATINGS TECHNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 201, no. 7, 20 December 2006 (2006-12-20), pages 3889 - 3893, XP024995908, ISSN: 0257-8972, [retrieved on 20061220], DOI: 10.1016/J.SURFCOAT.2006.07.241

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US9562316B2; US9920414B2; WO2013107712A1

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