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(54) Title: PRE-ALLOYED STABILIZED ZIRCONIA POWDER AND IMPROVED THERMAL BARRIER COATING

(57) Abstract: A pre-alloyed stabilized zirconia powder suitable for use in thermal barrier applications is formed by alloying zirconia with a stabilizer, such as yttria, and processing the alloyed stabilized zirconia to form a very fine powder. The raw powder is then spray-dried to produce an agglomerated powder having an average particle size suitable for use in spray coating applications. The resulting powder can be used in a thermal-spray application to produce a porous thermal barrier coating having a substantially decreased thermal conductivity when compared to conventional coatings, such as those produced using plasma densified powders.

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