

CERAMIC COMPOSITIONS USEFUL FOR THERMAL BARRIER COATINGS HAVING REDUCED THERMAL CONDUCTIVITY

ABSTRACT

Ceramic compositions comprising at least 91 mole % zirconia and up to 9 mole % of a stabilizer component comprising a first metal oxide having selected from the group consisting of yttria, calcia, ceria, scandia, magnesia, india and mixtures thereof. This stabilizer component further comprises a second metal oxide of a trivalent metal atom selected from the group consisting of lanthana, gadolinia, neodymia, samaria, dysprosium, and mixtures thereof and a third metal oxide of a trivalent metal atom selected from the group consisting of erbia, ytterbia and mixtures thereof. These ceramic compositions are useful in preparing thermal barrier coatings (22) having reduced thermal conductivity for the metal substrate (14) of articles (10) that operate at, or are exposed to, high temperatures.

(FIG. 3)