

THERMAL BARRIER COATINGS HAVING LOWER LAYER FOR IMPROVED ADHERENCE TO BOND COAT

ABSTRACT

A thermal barrier coatings (22) for the underlying substrate (14) of articles (10) that operate at, or are exposed to, high temperatures. The thermal barrier coating (22) includes a zirconia-containing upper layer (30) stabilized in the cubic crystalline phase to reduce the thermal conductivity of the coating (22). The thermal barrier coating (22) further includes a zirconia-containing lower layer (26) stabilized in the tetragonal crystalline phase that increases the adherence of the upper layer (30) to the bond coat layer (18) that overlies the substrate (14) of the article (10) to improve the resistance of the coating to spallation.

(FIG. 1)