

THIN 7YSZ, INTERFACIAL LAYER AS CYCLIC DURABILITY (SPALLATION)
LIFE ENHANCEMENT FOR LOW CONDUCTIVITY TBCs

ABSTRACT

A spallation resistant metallic article comprising a metallic substrate, at least one ceramic thermal barrier coating comprising a zirconia base and at least one other element selected from the group consisting of La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, In, Y, Mo and C, rare earth oxides, scandium, and indium, and a ceramic bond coat located on at least a portion of the substrate and between the metallic substrate and the at least one ceramic thermal barrier coating wherein the ceramic bond coat is composed of yttria stabilized zirconia (YSZ).

Figure 1