

ABSTRACT

CERAMIC ABRADABLE MATERIAL WITH ALUMINA DOPANT

The invention provides an abradable ceramic seal material comprising yttria
5 (Y₂O₃) stabilized zirconia (ZrO₂) doped with alumina (Al₂O₃). Furthermore, the
invention provides a gas turbine system, comprising at least one turbine
blade; an abrasive tip affixed on a top surface of the at least one turbine
blade; a shroud housing the at least one turbine blade; and an abradable seal
deposited between the at least one turbine blade and the shroud, wherein the
10 abradable seal includes yttria stabilized zirconia that is doped with 0.5 to
1 wt. % of alumina. In addition, the invention provides a method of forming a
powder for abradable coatings.