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HEAT TREATMENT TEMPERATURE EFFECT ON THE THERMAL-PHYSICAL PROPERTIES OF
CARBON/CARBON COMPOSITES**Abstract**

Carbon fiber/carbon matrix (C/C) material is a carbon fiber reinforced carbon matrix composite, which has high strength and elastic modulus, good thermal conductivity, excellent characteristics of resistance to erosion and high chemical stability, mechanical strength at high temperature. It has been successfully used in the aviation engine nozzle and thermal assemblies of the firebox as well as brake discs for airplane in the aeronautical, astronautical, military, and civil fields. In this paper, C/C composites were treated by different temperatures (1800,2000,2200,2400,2600). The electrical and thermal properties at the range of RT—1300 of these C/C composites were studied. The results show that, when the C/C composites were treated by 1800,2000and 2200,the resistance and thermal conductivity decrease as the increasing of the testing temperature. The resistance and thermal conductivity of the C/C composite treated at 1800 have the largest decline. When the C/C composites were treated by 2400or2600, the resistance and thermal conductivity increase with the testing temperature in the range of RT—1300.