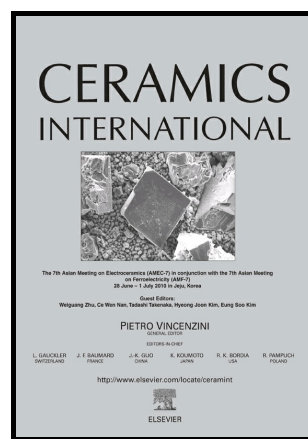


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Influences of hBN content and test mode on dry sliding tribological characteristics of B₄C-hBN ceramics against bearing steel

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Abstract: The dry sliding tribological characteristics of B₄C-hBN ceramics with different contents of hBN against GCr15 bearing steel under two different test modes (upper disc on bottom pin test mode and upper pin on bottom disc test mode) have been evaluated using a pin-on-disc friction and wear tester. The experimental results show that, with increasing hBN content, the dry sliding tribological characteristics of B₄C-hBN/GCr15 bearing steel pairs have different variation rules under two different test modes. Under upper disc on bottom pin test mode, with increasing hBN content, the friction coefficients of B₄C-hBN/GCr15 bearing steel pairs decrease firstly and increase subsequently; however, under upper pin on bottom disc test mode, the friction coefficients of B₄C-hBN/GCr15 bearing steel pairs increase continuously with increasing hBN content. In this paper, the possible reasons for these interesting results are most deeply discussed.

Keywords: Ceramics; Friction; Borides; Steel

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