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Models of Toughening of Ceramic/Graphene Composites: a Brief Review

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Abstract. We briefly review the analytical models that describe toughening and fracture toughness reduction in ceramic/graphene composites. We consider such mechanisms of toughening as crack deflection and crack bridging. We examine the effect of pores and fracture along ceramic/graphene interfaces on the fracture toughness reduction at a high graphene volume fraction. The effect of grain boundary sliding on the fracture toughness of ceramic/graphene composites is also considered.

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