

ABSTRACT

FUNCTIONALLY GRADIENT MATERIALS AND THE MANUFACTURE THEREOF

This invention relates to the synthesis of Al/SiC based functionally gradient materials using a new technique termed here as gradient slurry disintegration and deposition. Gradients of SiC were successfully established using this technique for the starting weight percentages up to 20%. The results were confirmed using microstructural characterization techniques and microhardness measurements. Functionally gradient materials synthesized using this method holds the promise where differential tribological characteristics and the strength/toughness combinations may be required from the opposite surfaces.

Figure 1 and Figure 2 are to be published.