Design and Characterisation of Functionally graded Al metal matrix composites reinforced with SiC,Al2O3and MgO2

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**ABSTRACT**

This thesis aims at the processing of functionally graded materials which are increasing used in the present scenario to replace the conventional composite materials. In our work we mainly focused to prepare compacts of Al metal matrix composites having reinforcing elements SiC,MgO2& Al2O3 adopting powder metallurgy methodology. These green compacts are then sintered at 150 torr and 5450c to get the desired hardness to the materials.the laminated functional material is then tested for its compressive strength and micro hardness.SEM & XRD analysis is also conducted to determine the compositions of individual elements and also for the calibration of the implemented manufacturing methodology. Attempt is also made to determine the tribological properties of prepares composites at varying sliding speeds and loading conditions.

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