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Experimental investigations on the microstructure of alminium 6063 with copper and gun metal composites

Tony Thomas and Reuter

The authors conducted experimental investigations on the microstructure of alminium 6063 with copper and gun metal composites. A composite is a material containing at least two chemically and physically distinct phases distributed to provide new properties which could not be obtained with either of the two phases. A high temperature resistance and superior strength to weight ratio can be obtain through composites. The objective of their investigations was to make a composite material with copper and gun metal mixed in Al base.Al was choosen for its superior strength to weight ratio, copper for its ability to dishipate heat quickly,gun metal for a ability to with stand high stresses. The composite is fabricated with the help of still casting induction furnace.SEM is used to obtain the microstructure, inoreder to show the dispertion copper and gun metal with Al. They changed the percentage of copper,gun metal with Al and studied the mechanical properties and microstructure. Because of excellent properties of copper and gun metal the material selection is made as Al,Cu and gun metal composites. The specimens had 250 grams in weight, both bar and rod are fabricated.