

عنوان مقاله:

Physical and mechanical properties of aluminium composite reinforced with SIC and Clay and combination of both

محل انتشار:

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خلاصه مقاله:

In the industry today, the need to produce of light components with lower cost, increases the use of composite materials. Therefore, in this study, the properties of aluminium Nano-composite reinforced with 5, 10 and 15 WT% Sic and Clay nanoparticles and combination of both, with the production method of powder metallurgy is investigated. The pressure is 400 Mpa and the sinter temperature of produced specimens is 600 C. finally in order to identify the physical and mechanical behaviours of the produced Nano-composites, various tests have been taken place to verify density, hardness, tension and compressive strength. Also the micro structure is specified by electronic microscope (SEM). The results show that the behavior and properties of Nano-composites depend on the type and also the percentage of reinforcing. Silicon carbide Nano-composite for example has the highest hardness and compressive strength, clay Nano- composite, has the lowest porosity and highest percentage of increase of the length and composition of Nano-composite silicon carbide and clay has the lowest density and also the highest tensile strength

کلمات کلیدی:

composite materials, Nano-particles, reinforce, Aluminum powder metallurgy, mechanical test

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