10-----
(Office use only)

ICAM[5]

Optimization of sliding and mechanical performance Ti /NI metal powder particulate reinforced Al 6061 alloy composite using Preference Selection Index method

Ashiwani Kumar[*1]
Feroze Gandhi Institute of Engineering. & Technology., Raebareli, U.P, INDIA

*Presenting /Corresponding author E-mail Id: *ashi15031985@gmail.com*
Mukesh Kumar[2]
Malaviya National Institute of Technolgy, Jaipur, Rajasthan, INDIA

ABSTRACT:

In this study, Ti / Ni reinforced in AA6061 composites were prepared via high vacuum stir casting method. The all composite specimens have been fabricated as per ASTM standard dimensions and the physical, mechanical and tribological performance test were performed. The experimental results have obtained at higher confidence level (95%) and the specimen results have been used to rank the composite of designation using Preference Selection Index (PSI) method (a Multi-Criteria-Decision-Making (MCDM) tool) which is easy to calculate and understand. Many researchers are reported and easy computed to rank the designed material via optimizing properties like tensile strength, flexural strength, impact strength, wear resistance, density etc. The results has been noted that the alloy composite included with an equal presence of both particulate exhibits most excellent properties hence ranked highest by PSI method. Therefore, such method may be used for decision making triumphantly in the material selection.

Keywords: AA6061, Ti / Ni Metal Powder, PSI, MCDM