The highest relative density and hardness were found at 25 Wt% Cu without addition of Ni. The most interesting result was found at 5wt% Ni addition to W-Cu composites, where it increases both relative density and hardness by 5% and 6% respectively, compared to the same weight percent of W-Cu composite without addition of Ni.

Morphological investigations revealed that the presence of Ni as activator helps the wetting of copper in tungsten and improves the infiltration efficiency to get uniform distribution of Cu in W matrix.

This uniform distribution of melted Cu binder provided a good interaction between particles of W matrix composites. The optimum 5wt% Ni activator and 25wt% Cu infiltrated fills almost all pores between W particles.

Additionally, the existence in of Ni in the prepared composites was confirmed using the EDX and XRD analysis.

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