

## عنوان مقاله:

Microstructure and Tensile Properties of AM100-x%SiC (x=0, 5, 10, 15) Extruded Composites

## محل انتشار:

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## خلاصه مقاله:

AM100 composites with 0, 5, 10 and 15% SiC were made through stir casting process. AM100 alloys were fabricated and then, SiC powder was added to the alloy. The melt was stirred for 15 min to form a vortex and complete mixing of the powder with the matrix. The fabricated composites were then extruded. All extruded composites were characterized by optical and scanning electron microscopy and also hardness and tensile testing. Agglomerated SiC particles were finely distributed in the matrix with performance of extrusion. There was a continuous incremental trend in hardness values with SiC increment; that is with addition of 15% SiC, the brinell hardness value enhanced from 61 to 104. The UTS of as-extruded samples increased from 296 MPa in base alloy to 306 MPa in 10%SiC added composite. Fracture surfaces of the as-extruded samples showed both brittle and ductile features in the composites. The presence of some cracks in SiC particles and considerable deformation of the matrix in their vicinity, showed the proper load transfer from matrix to the reinforcing particles which had led to the better tensile properties of the composites

## کلمات کلیدی:

AM100, SiC, Composite, SEM, Tensile Test, Fractography

## لینک ثابت مقاله در پایگاه سیویلیکا:

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