

## عنوان مقاله:

The Influence of Boron Additions on Microstructure and Dry Sliding Wear of Cast FeAl-Based Alloys

## محل انتشار:

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## خلاصه مقاله:

In this research, the influence of boron content on microstructure and dry sliding wear resistance of as-cast FeAl-based alloys was evaluated. The alloying process was carried out using vacuum induction melting and four specimens having different boron content of 0, 0.1, 0.5 and 1 at% were produced. As-cast specimens then were teste using standard pin-on-disk wear tester machine in 20 and 40 N applied load and a distance of 1000 m according to ASTM G99 standard. The surface of worn specimens then were examined using scanning electron microscope to determine the dominated wear mechanism. The investigations revealed that at lower applied load of 20 N, the governing wear mechanism is oxidative wear and for higher applied load of 40 N, delamination is the governing mechanism. Increasing the boron content increases the hardness as well as the wear resistance of the alloy which is related to the formation of Fe<sub>2</sub>B compounds in the material and increasing the hardness

## کلمات کلیدی:

Iron Aluminide- FeAl, Boron Content, Casting, Microstructure, Wear Properties

## لینک ثابت مقاله در پایگاه سیویلیکا:

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