

عنوان مقاله:

Manufacturing Al/Cup composites produced by accumulative roll-bonding (ARB) process

محل انتشار:

دومین کنفرانس بین المللی آلومینیوم (سال: 1391)

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خلاصه مقاله:

In the present work, accumulative roll bonding (ARB) process was used to produce Al/Cup composite. Nanostructured Al/Cu composites with high-strength, finely dispersed and highly uniform were successfully produced in the form of sheets, through ARB process. Structural and mechanical properties of these composites were studied during various ARB cycles by scanning electron microscopy (SEM) and the tensile test, respectively. Vickers microhardness test was done on samples. The microstructure of the composites revealed properly distributed Cu particles in the aluminum matrix. It was found that by increasing the numbers of cycles, the yield and tensile strength of these composites increase, but their elongation decrease at the first cycle and then increase. It should be noted that enhancement of the strength is higher than the tensile strength of Al strips produced by ARB process without the Cu particles.

کلمات کلیدی:

Nanostructured Composites; Accumulative Roll Bonding; Mechanical properties

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