

عنوان مقاله:

Assessment of optimal conditions in centrifugally cast of Aluminum-Brassbimetal composite

محل انتشار:

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خلاصه مقاله:

Excellent corrosion resistance and long working life have caused bimetal composites find more usage in different fields such as marine and automotive industries. In this study, pure aluminum melt which is lighter and cheaper compared to brass, was centrifugally cast into the brass bush known as a corrosion resistance shell. To achieve acceptable component, at first, brass bushes were preheated at various temperature between 100-400 °C and then aluminum melt with 1.5 and 2.5 melt-to-solid volume ratio was cast into cylindrical bush rotating at 800, 1600, and 2000 (rpm), respectively. Obtained samples were studied using X-ray diffraction analysis (XRD), optical microscope (OM), scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS) and Image J software. Metallurgical joint is probably due to particular dissolving condition that is provided by multiple mechanical forces involved and also possible solid diffusion at the end of solidification process

کلمات کلیدی:

Bimetal composite, Aluminum, Brass, Centrifugal casting, Dissolution

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