

Mechanically Alloyed High Performance Magnesium Alloys

Disclosure Number

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Technology Summary

The present invention comprises a rare-earth (RE) free, mechanical alloy of AZ31, commercial Mg-3Al-1Zn alloy with Ti, and a method of making the same. The alloy is characterized by increased strength and ductility compared to conventional AZ31 and other rare-earth containing commercial wrought magnesium alloys. The near-net-shape process allows continuous production of wires and extrusions as well as surface modification of magnesium components for imparting corrosion protection. The invention can be extended to produce unique alloys with varying mechanical and corrosion resistance properties depending on the end application.

Inventor

RADHAKRISHNAN, BALASUBRAM

Computer Science and Mathematics Div

Licensing Contact

DETRANA, ALEXANDER G

UT-Battelle, LLC

Oak Ridge National Laboratory

Rm 139, Bldg 4500N, MS: 6196

1 Bethel Valley Road

Oak Ridge, TN 37831

Office Phone: (865) 576-9682

E-mail: DETRANAAG@ORNL.GOV

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