

## Fabricating Sheets of Mg-Zn Alloys by Thermomechanical Process

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**Abstract :** In the present study, hot-rolled sheets of Mg-xZn alloy s(x=6, 8, and 10 weight percent) were produced by employing casting, homogenization heat treatment, hot rolling, and annealing processes subsequently. Effect of Zn addition on the microstructure and mechanical properties of Mg-Zn alloys were also investigated in each process. Through calculation of phase equilibria of Mg-Zn alloys, solution treatment temperature was decided as temperatures from 350 oC, where supersaturated solid solution can be obtained. After solution treatment, hot rolling was successfully conducted by reduction of 60%. Compression and tension tests were carried out at room temperature on the samples as-cast, solution treated, hot-rolled and recrystallized after rolling.

**Keywords :** Mg-Zn alloy, heat treatment, microstructure, mechanical properties, hot rolling

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