

# H-Mg (Hydrogen-Magnesium)

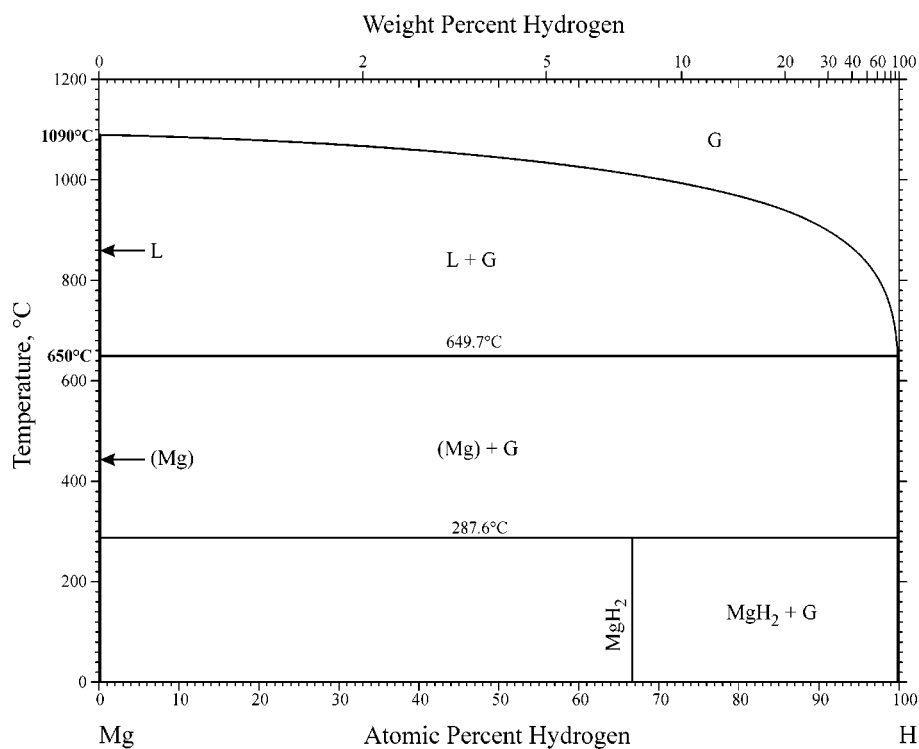
H. Okamoto

[1999Zen] calculated the Mg-H phase diagram at 1 bar for the entire composition range (Fig. 1). The solubility of H in liquid and solid Mg was assumed to be negligible. Earlier, [1987San] evaluated the solubility of H in Mg, which had been reported variously by many investigators. Their result was adopted in [Massalski2] (dashed lines in Fig. 2). Because the available experimental data were inconsistent, [1993Sha] redetermined the solubility of H in Mg by the equilibration and quenching method with special precaution not to vaporize H during quenching. The result is shown in

Fig. 2 with solid lines. The maximum solubility of H in liquid Mg is indicated to be 0.131 at.-%.

## References

- 1987San:** A. San-Martin and F.D. Manchester: *Bull. Alloy Phase Diagrams*, 1987, vol. 8 (5), 431-37.  
**1993Sha:** V.I. Shapovalov, A.P. Semik, and A.G. Timchenko: *Russ. Metall.*, 1993, vol. 3, pp. 21-24.  
**1999Zen:** K. Zeng, T. Klassen, W. Oelerich, and R. Bormann: *J. Alloys Compounds*, 1999, vol. 283, pp. 213-24.



**Fig. 1** H-Mg phase diagram

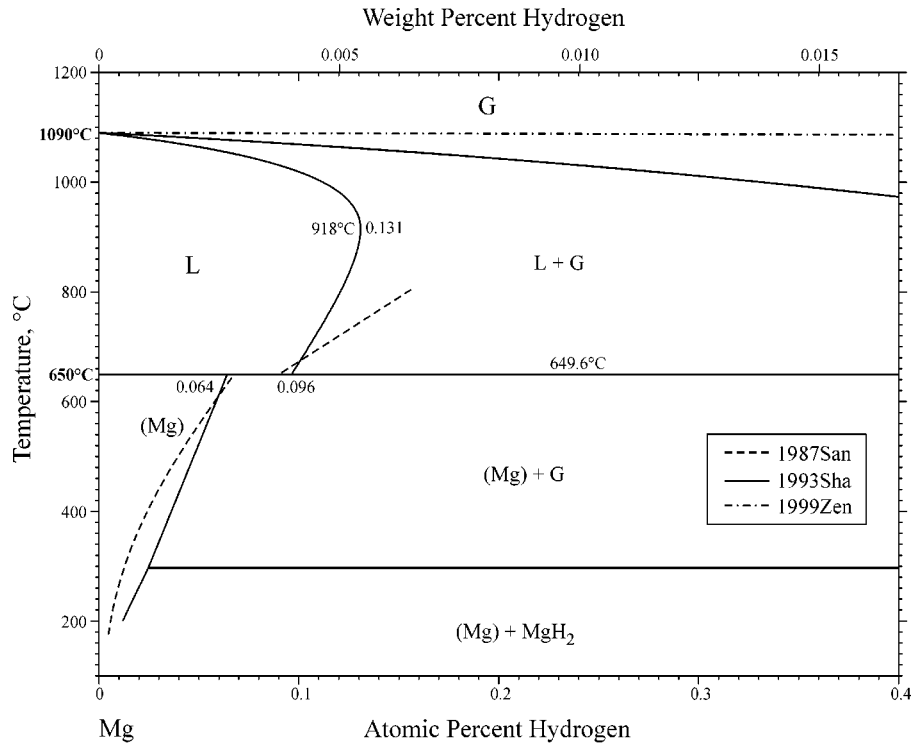


Fig. 2 Solubility of H in liquid and solid Mg