

Dy-Zn (Dysprosium-Zinc)

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A schematic Dy-Zn phase diagram shown in [Massalski2] was as speculated by [Moffatt] based on the sparse information that was available on this system.

Figure 1 shows the Dy-Zn phase diagram determined by [2003Sac] by means of differential thermal analysis, metallographic analysis, X-ray powder diffraction, and electron probe microanalysis.

Dy-Zn crystal structure data shown in Table 1 were adopted from [Massalski2] and [2003Sac].

Reference

2003Sac: A. Saccone, A.M. Cardinale, S. Delfino, and R. Ferro, The Dy-Zn Phase Diagram, *Metall. Mater. Trans. A*, 2003, **34**, p 743-750

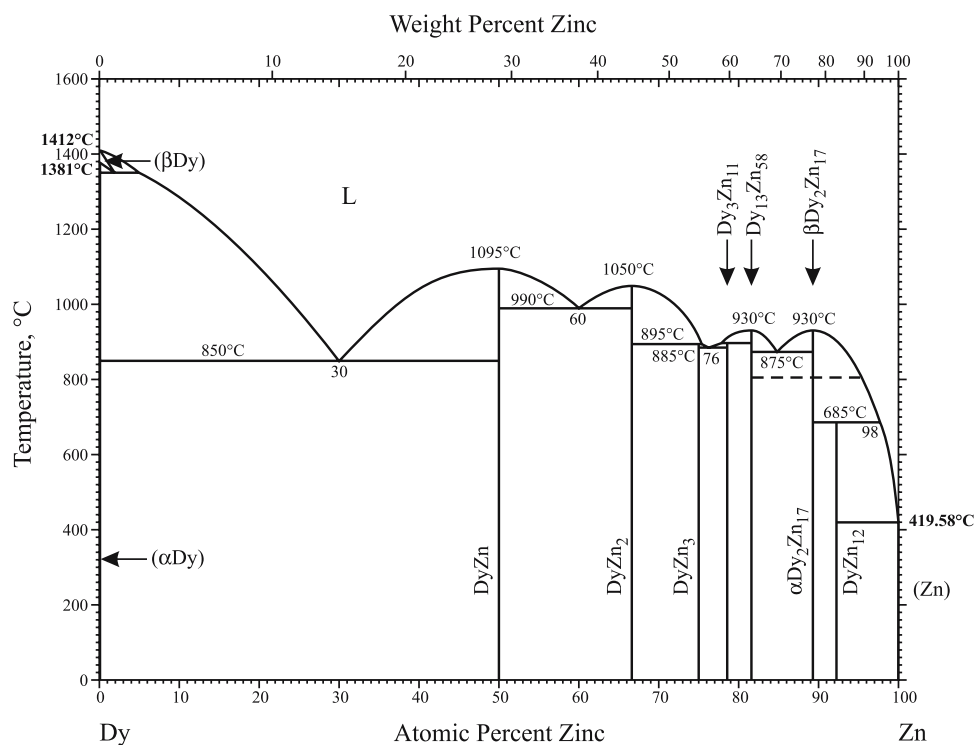


Fig. 1 Dy-Zn phase diagram

Table 1 Dy-Zn crystal structure data

Phase	Composition, at.% Zn	Pearson symbol	Space group	Struktur-bericht designation	Prototype
(β Dy)	0-2	<i>cI2</i>	<i>Im$\bar{3}m$</i>	<i>A2</i>	W
(α Dy)	0	<i>hP2</i>	<i>P6₃/mmc</i>	<i>A3</i>	Mg
DyZn	50	<i>cP2</i>	<i>Pm$\bar{3}m$</i>	<i>B2</i>	CsCl
DyZn ₂	66.7	<i>oI12</i>	<i>Imma</i>	...	CeCu ₂
DyZn ₃	75	<i>oP16</i>	<i>Pnma</i>	...	YZn ₃
Dy ₃ Zn ₁₁	78.6	<i>oI28</i>	<i>Immm</i>	...	La ₃ Al ₁₁
Dy ₁₃ Zn ₅₈	81.7	<i>hP68</i>	<i>P6/m</i>	...	Gd ₁₃ Zn ₅₈
β Dy ₂ Zn ₁₇	89.5	<i>hR19</i>	<i>R$\bar{3}m$</i>	...	Th ₂ Zn ₁₇
α Dy ₂ Zn ₁₇	89.5	<i>hP38</i>	<i>P6₃/mmc</i>	...	Th ₂ Ni ₁₇
DyZn ₁₂	92.3	<i>tI26</i>	<i>I4/mmm</i>	<i>D2_b</i>	Mn ₁₂ Th
(Zn)	100	<i>hP2</i>	<i>P6₃/mmc</i>	<i>A3</i>	Mg