

Ho-Pt (Holmium-Platinum)

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The Ho-Pt phase diagram in [Massalski2] was re-drawn from [Moffatt] who assumed similarity to the Er-Pt phase diagram. [2005Mac] investigated the Ho-Pt system in the 0 to 50 at.% Pt range by using differential thermal analysis, metallography, x-ray powder diffraction, and electron probe microanalysis. Figure 1 shows the result reported by [2005Mac] for 0 to 50 at.% Pt and the trend shown in [Moffatt] for 50 to 100 at.% Pt.

Table 1 shows Ho-Pt crystal structure data given in [Massalski2].

Reference

2005Mac: D. Macciò, F. Rosalbino, A. Saccone, and S. Delfino, Partial Phase Diagrams of the Dy-Pt and Ho-Pt Systems and Electrocatalytic Behavior of the DyPt and HoPt Phases, *J. Alloys Compd.*, 2005, **391**, p 60-66

Table 1 Ho-Pt crystal structure data

Phase	Composition, at.% Pt	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Ho)	0	<i>hP2</i>	<i>P6₃/mmc</i>	A3	Mg
Ho ₃ Pt	25	<i>oP16</i>	<i>Pnma</i>	<i>D0₁₁</i>	Fe ₃ C
Ho ₂ Pt	33.3	<i>oP12</i>	<i>Pnma</i>	<i>C23</i>	Co ₂ Si
Ho ₅ Pt ₃	37.5	<i>hP16</i>	<i>P6₃/mcm</i>	<i>D8₈</i>	Mn ₅ Si ₃
Ho ₅ Pt ₄	44.4	<i>oP36</i>	<i>Pnma</i>
HoPt	50	<i>oP8</i>	<i>Pnma</i>	<i>B27</i>	FeB
Ho ₃ Pt ₄	57.1	<i>hR14</i>	<i>P3̄</i>
HoPt ₂	66.7	<i>cF24</i>	<i>Fd3̄m</i>	<i>C15</i>	Cu ₂ Mg
HoPt ₃	75	<i>cP4</i>	<i>Pm3̄m</i>	<i>L1₂</i>	AuCu ₃
HoPt ₅	83.3	<i>o*72</i>
(Pt)	100	<i>cF4</i>	<i>Fm3̄m</i>	A1	Cu

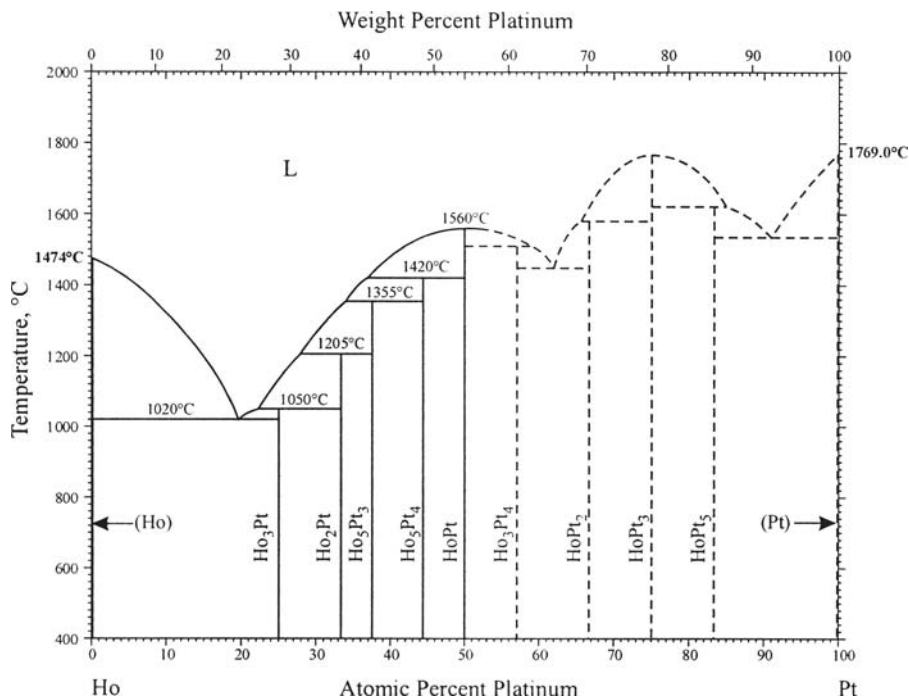


Fig. 1 Ho-Pt phase diagram