1.26 wt.-% Ga used in the compositional studies were employed. Prior to compressing with 150,000 lb/in^2, the alloys were annealed for 150 h at 450°C to ensure complete homogenization. The density measurements after the anneal and after the compression are presented in Table 6-IV with the approximate percentages of alpha phase produced. For compositions greater than 0.99 wt.-% Ga the amount of alpha phase produced was 1% or less.

Wt.-% Ga	Density, g/c.c.		% Alpha after Compression	T_f (3) °C
	After Anneal (1)	Annealed (1) & Compressed (2)		
0.37	15.83	18.11	62.0	250
0.62	15.81	17.08	35.0	260
0.78	15.78	16.40	17.0	230
0.99	15.76	15.92	4.5	240
1.12	-	15.75	-	-
1.26	15.73	15.78	1.0	-

(1) 150 hours at 450°C

(2) 150,000 lb/in^2

(3) Minimum anneal temperature required for completion of reaction

Table 6-IV Alpha Phase Formation During Compression of Homogenized Pu-Ga Alloys

3.4.8 The effect of annealing temperature on percent alpha phase retained to room temperature is illustrated in Fig 6-H. Again the proportion of delta phase forming from alpha, beta and gamma phases is related to anneal temperature. Complete transformation to delta phase occurs only after heating to approximately 260°C. In contrast to the cored alloys, it was determined that the delta phase thus formed in homogenized systems containing as little as 0.37 wt.-% Ga is stable. There was no measurable density change with respect to storage at room temperature for times up to three months.

3.4.9 The alpha $\rightleftharpoons$ delta transformation has been considered