It also seems probable from the tendency of the metastable condition to persist after 500 hr at 100°C that a massive precipitation of the AlLi can be avoided by suitable aging treatment. However, it remains to be positively demonstrated whether precipitation hardening of a sufficiently permanent type can be developed in this region.

Discussion of this paper, if any, will appear in JOURNAL OF METALS, November 1955, and in AIME Metals Branch Transactions, Vol. 203, 1955.

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Technical Note

Magnetic Properties of Manganese-Germanium Alloys

by R. J. Quigg, G. P. Conard, and J. F. Libsch

IN a recent investigation of the Mn-Ge system by Zwicker et al.,¹ it was reported that two intermetallic compounds in this system, Mn₅Ge₂ and Mn₃Ge₃, exhibited ferromagnetic properties. Of these, Mn₃Ge₃ was reported as "strongly magnetic" and Mn₅Ge₂ was said to be "weakly magnetic" but no actual values were given. In a study of magnetic alloys of nonmagnetic elements sponsored by the United States Army Signal Corps at Lehigh University, test bars having the nominal composition of these compounds were prepared by pressing elemental powders and sintering them in a purified helium atmosphere. Magnetic values obtained on these compounds are reported in Tables I and II.

It should be cautioned that the test bars were somewhat porous and that X-ray patterns run on these materials indicated that the homogenization in the samples was not complete, but that in each case the compound reported on was the dominant phase. The (B-H) max and particularly the Br values for pure dense Mn₅Ge₂ can, therefore, be expected to be somewhat higher than those reported herein, while those for Mn₃Ge₃ may be in error in either direction.

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Further details on this investigation are available in previous publications.^{2,3}

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Table I. Induction Values of Mn₅Ge₂ (Nominal*)

Bar No.	(B-H) max H = 4000, Gauss
34	213
39 B	260
36	222
36 retest	209
Apparent average	225

* Values of Br and Hc were found to be unreliable in view of the low (B-H) max. Br was estimated as less than 100 gauss and Hc estimated as 30 to 40 oersteds.

Table II. Magnetic Values of Mn₃Ge₃

Bar No.	B-H max H = 4000, Gauss	Br, Gauss	Hc, Oersteds
37 A	1450 +	90 -	29
37 B	1180	60 +	24
37 B (H = 5000)	1260	30	24
Apparent average	1300	60	26