

and completed between 350°C and the recrystallization temperature. The temperature of 350°C agrees with the previous investigation of Nordheim and Grant (1953). The exact ordering temperature is, however, a function of the relative rate of heating and the rate of reaction for reversal.

### § 5. CONCLUSIONS

During annealing after non-equilibrium cooling, the electrical resistivity of nickel-chromium alloys increases towards an equilibrium value which depends on the previous thermal history. Since the effect occurs for alloys with composition corresponding to Ni<sub>3</sub>Cr, there is good reason to believe that a structural change, known as K-state formation, has taken place. Two features of K-state in Ni-Cr are emphasized :

- (1) The existence of a small equilibrium domain size, with LRO within the domains.
- (2) The anomalous higher resistivity of the ordered state than the disordered state.

The present investigation has showed that K-state can be formed in shocked Ni-Cr by isothermal annealing above 350°C.

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